

**SCHEDULE OF RATES**  
**FOR**  
**DISTRICT TERM CONTRACT**  
**OF**  
**HONG KONG HOUSING AUTHORITY**

**2024 Edition**

**QUANTITY SURVEYING MANAGEMENT UNIT**  
**ESTATE MANAGEMENT DIVISION**  
**HOUSING DEPARTMENT**  
**HONG KONG**

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## GENERAL REGULATIONS

### GR01

#### Associated documents

This Schedule of Rates (herein referred to as “this Schedule”) shall be read and used in conjunction with :

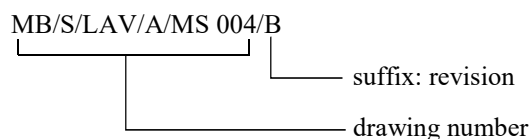
- (a) The Conditions of Contract and the appendices to the Conditions of Contract.
- (b) The Conditions of Tender, the Form of Tender and the Articles of Agreement.
- (c) The Specification, including :
  - (i) The General Specification for Building Works 2024 Edition, Estate Management Division, Housing Department issued by Hong Kong Housing Authority (hereinafter referred to as the “General Specification” (G.S.)); and
  - (ii) The Particular Specification (P.S.) included in the Contract.
- (d) Drawings.
- (e) The General Specification for Electrical Installation for Hong Kong Housing Authority Contracts in Estate Manage Division, 2022 Edition.
- (f) Code of Practice, other general specification and all other specification requirements including all current amendments issued thereto and referred to in Specification and/or issued and referred to in the Contract.

Items of works, services and materials in this Schedule are compiled in accordance with the conditions and stipulations as provided in the above associated documents unless otherwise stated.

### GR02

#### Drawings

For the purpose of the Contract, the suffix in the drawing number of any Drawing shall be regarded as drawing revision, as illustrated below :



When Drawing is referred to in this Schedule by drawing number only, it shall deem to be referred to the Drawing with the corresponding drawing number and revision issued and referred to in the Contract.

**GR03****Definitions generally**

Where any of the definitions given in the General Regulations are at variance with those given in the Special Conditions of the Sections throughout this Schedule, the definitions given in the Special Conditions shall take precedence. The Special Conditions of any Section in this Schedule shall apply to items in other Sections where appropriate. For the purpose of this Schedule, the following words and expressions shall have the meaning hereby assigned to them except when the context otherwise requires :

“Approved” shall mean approved in writing by the Contract Manager but this approval shall not relieve the Contractor of any of his duties, responsibilities, obligation or liabilities under the Contract.

"ditto" shall mean the whole of the work described in detail in the preceding item, except as qualified in the description in which it occurs.

"origin" shall mean the place or country where the natural material is originally produced.

"proprietary" shall mean patent owned or controlled by an owner of material, article or product which is protected by Intellectual Property Rights.

“Rates” shall mean the rates in this Schedule of Rates.

“Schedule” shall mean this Schedule of Rates.

"specified" shall mean specified in the Specification, Drawings and other associated documents as referred to in Clause GR01.

"submission" shall mean the submission of any document (e.g. design, calculation, working drawings, shop drawings, records and the like) as required in the Special Conditions of each Section of this Schedule, including obtaining the approval of the Contract Manager on the submission.

**GR04****Abbreviations**

"exc." shall mean exceeding.

"n.e." shall mean not exceeding.

" xx - yy " shall mean a range of dimensions exceeding the first dimension as stated but not exceeding the second, for example: "1.50 - 3.00" shall mean exceeding 1.50 but not exceeding 3.00.

"bore" shall mean nominal internal diameter.

"diameter" shall mean nominal diameter.

"mm" shall mean millimetre.

"cm" shall mean centimetre.

"m" shall mean linear metre.

"m<sup>2</sup>" shall mean square metre.

"m<sup>3</sup>" shall mean cubic metre.

"kg" shall mean kilogram.



**GR04                      Abbreviations (Cont'd)**

"pair"	shall mean 2 numbers.
"G.S."	shall mean the General Specification referred to in Clause GR01(c).
"P.S."	shall mean the Particular Specification referred to in Clause GR01(c).
"B.S."	shall mean British Standard.

**GR05                      Method of measurement**

All items of works under this Schedule shall be measured in accordance with the conditions and rules detailed in this Schedule irrespective of the principles of measurement laid down in the prevailing Hong Kong Standard Method of Measurement or any local or trade custom.

All works shall be measured net as completed or fixed, and all materials to be supplied shall be the net quantities specified in a Works Order.

Measurement shall be rounded to the nearest two decimal places of a unit and quantities shall be rounded to and billed to the nearest two decimal places of a unit.

**GR06                      Deduction for voids**

Where a minimum area is defined for the deduction of voids, such minimum shall refer only to openings or wants detached from the boundaries of the area measured. Openings and wants caused by projections or recesses from the boundary of the area measured shall always be deducted, irrespective of size.

**GR07                      Imperial equivalents where required or necessary**

Whenever practicable, the Contractor shall supply materials in metric sizes and execute the works strictly in accordance with the metric dimensions specified. Imperial equivalents may be accepted only when circumstances prohibit the compliance with this Clause GR07 (for example, statutory obligations) or when the Contract Manager considers it impracticable, undesirable or impossible to use metric sizes or dimensions or when suitable materials are not available in metric sizes.

The provision of this Clause GR07 shall not apply to materials which are specified in this Schedule by their actual manufactured sizes or their metric equivalents (for example, plywood, building boards, polyvinyl chloride (PVC) pipes, mosaic tiles) or classified in accordance with the relevant B.S. (for example, copper pipes) or other international standards.

**GR08****Rates**

The Rates shall include for :

- (a) All works and services executed and materials supplied strictly in accordance with all requirements on workmanship, materials, plants and any other requirements as stipulated in the associated documents list in Clause GR01; and the provision or execution of all samples of materials, preparatory work, testing and submission of test reports, certificates and the like as required.
- (b) Curved or circular works, finished works in patterns, works in small quantities, narrow widths, short lengths and isolated patches, and all incidental works unless otherwise specifically ordered by the Contract Manager in writing.
- (c) Provision of all materials, cutting and wastage on the same, except where otherwise stated, and all costs in connection therewith, including collection, loading, conveyance, delivery, unloading, stacking and storage of the same, multi-handling between positions as directed on Site and provision of storage accommodation, handling, hoisting, lowering, distributing and the like to specified location.
- (d) Provision of all labour and all costs in connection therewith, including meal break and rest periods, carrying out work in any district, provision and maintenance of hand tools and appliances, non-mechanical plant and equipment, protective clothing and safety equipment, mobile communication devices including all charges incurred, submission of documentary proof in accordance with the Construction Workers Registration Ordinance (Cap. 583), contributions to Mandatory Provident Fund, insurances, paid leave, travelling expenses, lodging allowance or living accommodation and any other allowances as required.
- (e) Provision of all tools, plant, equipment, temporary water and power supply, lighting, security measures and workshops.
- (f) Executing work in any position, height, location (e.g. above or below ground, confined areas and the like), whether internally or externally, on-Site or off-Site unless otherwise stated.
- (g) Imperial equivalents wherever required or necessary.
- (h) Provision, erection, maintenance, alteration, dismantling and clearing away of all scaffolding, ladders, platforms, trench covers and similar items necessary for the execution of the works, and all coverings, screens, dust sheets, barricades, fences, hoardings, adequate public lighting and similar measures which are necessary to protect the works and surrounding areas or to protect the public from harm or nuisance except for the Special Temporary Works under Clause GR22 or works specifically stated under the Special Conditions of Temporary Works Section of this Schedule.
- (i) Clearing away debris and surplus materials arising from the works including cleaning for dust and small particles, removal of all debris and other arisings off the Site to a disposal ground designated in the Contract or directed or approved by the Contract Manager, leaving the works and surrounding areas clean and tidy at all times and on completion of the works to the satisfaction of the Contract Manager.
- (j) All superintendence, establishment charges, overhead expenses and profit.

**GR08****Rates (Cont'd)**

- (k) Dismantling, disconnecting, setting aside and all necessary multi-handling of tenants' or occupants' movable furniture, fixtures, fittings, electrical appliances, lighting and the like in occupied domestic or non-domestic units associated with the execution of the works and subsequent re-fixing of the same upon completion to the satisfaction of the Contract Manager.
- (l) Disconnecting, setting aside existing earth bonding and subsequent re-fixing of the same upon completion to the satisfaction of the Contract Manager, including replacement of any sub-standard earth bonding, and relocation of light fittings and electrical appliances as required.
- (m) Supplying and installing earth bonding.
- (n) Reinstatement and making good disturbed and damaged areas.
- (o) Any other expenses incurred in conforming with the Contract.

**GR09****Application of Rates**

Unless Approved by the Contract Manager in writing, Rates of each Section shall be restricted to valuation of works contained within such Section.

**GR10****Application of Tendered Percentage Adjustment**

Rates are derived from the cost of basic provisions including labour, materials and plant and all other provisions as listed in Clause GR08 with due consideration of factors including market trends, trade practices, management efficiency and bidding strategies of contractors as reflected in the past contracts procurement, and the like.

Any disadvantage which may be entailed by items being performed under exceptional circumstances must be regarded as being offset by other items which may be exceptionally advantageous, and due allowance is deemed to have been made in the Tendered Percentage Adjustment.

Where the Contractor considers any Rate is insufficient or inadequate, the Contractor is deemed to have made all necessary allowances in the Tendered Percentage Adjustment in the Contract for executing the works and in compliance with all requirements as stipulated in the Contract.

The Tendered Percentage Adjustment shall be deemed to include the Contractor's profits and overheads, attendance, all other costs and expenses that are necessary in fulfilling the requirements of the Contract but are not separately itemised or stated in this Schedule, including those works or services valued with Agreed Rates and Star Rates.

**GR11****Valuation of works**

All works shall be valued in accordance with the following principles :

- (a) Any work, service or material ordered under any Works Order which is the same or similar in form, character or quality as and is executed under the same or similar conditions and circumstances as any item of work, service or material in this Schedule shall be valued at the Rate for such item of work, service or material, subject to Tendered Percentage Adjustment and any other adjustment stipulated in the Contract.
- (b) Agreed Rates : Any work, service or material ordered under any Works Order which is varied in form, character or quality as or is not executed under same or similar conditions and circumstances as any item of work, service or material in this Schedule shall be valued at a rate based on or deduced from the Rate(s) so far as may be applicable, failing which, at a reasonable rate agreed between the Contract Manager and the Contractor.

Where Rate(s) of an item of work, service or material is employed for ascertainment, the following rules shall apply :

- (i) If a range of dimensions (e.g. "10 - 20 mm thick....") is stated in the description of the item of work, the mean dimension shall be regarded as the nominal dimension of the item (i.e. "15 mm thick...." for the example given) and such nominal dimension shall be used.
- (ii) If a minimum dimension (e.g. "10 mm (minimum) thick....") is stated in the description of the item of work, the minimum dimension so stated shall be regarded as the nominal dimension of the item (i.e. "10 mm thick...." for the example given) and such nominal dimension shall be used.
- (iii) If a maximum dimension (e.g. "10 mm (maximum) thick....") is stated in the description of the item of work, the maximum dimension so stated shall be regarded as the nominal dimension of the item (i.e. "10 mm thick...." for the example given) and such nominal dimension shall be used.

Provided that in applying the Rate(s) in ascertaining the Agreed Rate, the Rate(s) shall be subject to Tendered Percentage Adjustment and any other adjustment stipulated in the Contract.

Where no Rate(s) of an item of work, service or material is applicable for ascertaining an Agreed Rate, then a reasonable rate shall be established and agreed between the Contract Manager and the Contractor. The Contractor if required by the Contract Manager shall submit quotations, receipts or accounts and the like as may be necessary to establish the Agreed Rate. Such Agreed Rates shall not be subject to Tendered Percentage Adjustment and any other adjustment stipulated in the Contract.

Agreed Rates can only be applied to specific Works Order(s) as instructed by the Contract Manager.

- (c) Star Rates : Star Rates shall be ascertained in the same way as Agreed Rates and can be applied to any Works Order issued under the Contract for a specified period or the whole contract period.

**GR12 Material supplied by the Hong Kong Housing Authority or Government stores**

When materials are supplied to the Contractor by the Hong Kong Housing Authority or Government stores, no allowance shall be made to the Contractor other than the payment for "Fix only" ("Lay only" or "Set only" and the like) under the appropriate items of this Schedule.

**GR13 "Supply only"**

The term "Supply only" throughout this Schedule shall mean the provision to be completed by the Contractor of an article, a fitting or material. The Rates for such items shall include for, where applicable, obtaining and taking delivery of the articles, fittings or materials, transporting to the Site or store at any location as directed by the Contract Manager, and all necessary unloading and moving into the Site or store.

**GR14 "Take down and clear away"**

The term "Take down and clear away" throughout this Schedule shall mean the execution to be completed by the Contractor of the work of taking down an existing article, fitting or material either in whole or in part and removing from the Site and disposing of the same. The Rates for such items shall include for :

- (a) Taking down the articles, fittings or materials (either in whole or in part) together with incidental items, associated plugs, holdfasts, lugs, brackets and other fixings and including all necessary cutting out and disposal.
- (b) Making good any disturbed and damaged areas including filling up all mortices, holes and the like or alternatively leaving the areas ready to receive new articles, fittings or materials.
- (c) Preparing edges, ends or surfaces of remaining portion to receive junction of new articles, fittings or materials.
- (d) Obtaining access by taking down covers, access doors and the like for the execution of the works and re-fixing the same on completion.

The articles, fittings, or materials taken down shall become the property of the Contractor. Due allowance for credit has been considered in the Rates where applicable.

**GR15 "Take down and set aside for re-use"**

The term "Take down and set aside for re-use" throughout this Schedule shall mean the execution to be completed by the Contractor of the work of taking down an existing article, fitting or material either in whole or in part and setting the same aside on the Site or transporting to other stores or Sites for subsequent re-use. The Rates for such items shall include for :

- (a) Taking down the articles, fittings or materials (either in whole or in part) together with incidental items, associated plugs, holdfasts, lugs, brackets and other fixings and including all necessary cutting out and disposal.
- (b) Making good any disturbed and damaged areas including filling up all mortices, holes and the like or alternatively leaving the areas ready to receive new articles, fittings or materials.
- (c) Preparing edges, ends or surfaces of remaining portion to receive junction of new articles, fittings or materials.

**GR15 “Take down and set aside for re-use” (Cont’d)**

- (d) Obtaining access by taking down covers, access doors and the like for the execution of the works and re-fixing the same on completion.
- (e) Repairing or replacing at the Contractor's own cost any damage caused to the articles, fittings, or materials during taking down, transportation and the like.
- (f) Thoroughly cleaning, oiling and adjusting the articles, fittings or materials ready for re-use including dismantling and reassembling as necessary and moving and stacking or putting into store on the Site or alternatively loading, transporting, unloading and moving to other stores or Sites.

**GR16 “Fix only” (“Lay only” or “Set only” and the like)**

The term "Fix only" ("Lay only" or "Set only" and the like) throughout this Schedule shall mean the execution to be completed by the Contractor of the work of fixing, laying, setting and jointing an article, a fitting or material. The Rates for such items shall include for :

- (a) Taking delivery of the articles, fittings or materials and incidental items at any store at any location, loading, transporting to the Site, unloading, checking and examining the same and storing on the Site and returning any crate and other packings to any store at any location, if required.
- (b) Taking the articles, fittings or materials and incidental items from store on the Site, sorting, cutting and fitting, fabricating, assembling, moving, hoisting, distributing at locations, fixing, laying or setting and jointing in new or existing work, opening and position.
- (c) Taking the articles, fittings or materials and incidental items previously taken down at the same location, refixing, relaying or re-setting and re-jointing in the existing work, opening and position.
- (d) Providing all fixing and jointing materials such as nails, bolts, nuts, washers, screws, gaskets, mastic, adhesive, mortar and the like.
- (e) Executing all plugging and screwing, jointing, cutting all mortices and grouting the same, and executing all cutting, fitting, easing or adapting necessary to the articles, fittings or materials and incidental items to the positions in which the same are to be fixed, and oiling and leaving in good working order.
- (f) Making good any damage to the articles, fittings or materials, disturbed and damaged areas.

**GR17 “Re-secure”**

The term "Re-secure" throughout this Schedule shall mean the execution to be completed by the Contractor of the work of re-fixing an article, a fitting or material in its existing position when no prior taking down of the article, fitting or material is involved. The Rates for such items shall include for tightening all existing fixings, providing all new fixing materials required such as plugs, nails, screws, mastic, mortar and the like, drilling new holes, making good any disturbed and damaged areas and easing, oiling and adjusting the same as necessary.

**GR18 Composite units**

For “Take down and clear away”, “Take down and set aside for re-use”, “Fix only” and “Re-secure” of composite unit or built in fittings that are fabricated and can be moved in their entirety, it shall be measured as a whole unit in the appropriate items in the respective Sections of this Schedule and shall not be broken into components and measured separately.

**GR19 Designated Sub-contract Works**

Where specified in this Schedule, the Specification and/or the Contract, for work to be executed by Designated Sub-contractors, the Contractor shall employ such sub-contractors defined in Clause 1.1 of the General Conditions of Contract. Due allowance is deemed to have been made in the Tendered Percentage Adjustment for complying with this requirement.

When works or services are executed or materials are supplied by a Designated Sub-contractor, the Contractor shall provide all necessary facilities to the Designated Sub-contractor for the execution of such works or services or supply of such materials. Percentage Addition as stated in the Form of Tender for "Profit and Attendance on Designated Sub-contract Works" is allowed to the Contractor on the net cost of such works or services or materials, which is deemed to be full payment for the Contractor's profit, overheads, costs for providing all necessary facilities to the Designated Sub-contractor and all other expenses arising out of or in connection with such works or services or materials.

The net cost of works or services executed or materials supplied by Designated Sub-contractors together with such Percentage Addition shall not be subject to further Percentage Addition for Emergency Works and Works at Specific Properties and Locations.

**GR20 “Making good”**

The term "Making good" throughout this Schedule shall include the provision of all labour and materials necessary to restore the disturbed and damaged areas as to the same plane, colour, texture and the like, in the same condition as the surrounding areas to the satisfaction of the Contract Manager.

**GR21 Overtime**

Overtime work may be specifically ordered by the Contract Manager in writing, detailing the type and number of workers to be employed, and the length of time to be worked continuously.

When overtime work is ordered, the work shall be measured and valued using the Rates under the appropriate items of this Schedule plus additional payment for overtime work which shall be calculated based on Rates in the Labour Section of this Schedule with Tendered Percentage Adjustment and in accordance with the following :

Hours worked from 6:00 p.m. to midnight ..... Hourly Rate

Hours worked from midnight to 8:00 a.m. .... Twice the Hourly Rate

For the purpose of measurement and valuation of overtime work in this Schedule, no additional payment for overtime shall be made in respect of the following :

- (a) Works carried out within working hours from 8:00 a.m. to 6:00 p.m.
- (b) Overtime work ordered by the Contract Manager in accordance with the Conditions of Contract to expedite slow progress of the work caused by default, negligence or omission by the Contractor.

**GR21 Overtime (Cont'd)**

- (c) Watchmen or security guards at any time.
- (d) Items in this Schedule for which the Rates include specifically for works or duties carried out outside the working hours or on a General Holiday.
- (e) Items in this Schedule for which the Rates include carrying out works or duties at a specific time.

Overtime payment described in this Clause GR21 is not applicable to Works Orders specified as Emergency Works and Works at Specific Properties and Locations unless otherwise stated. The Percentage Addition for Emergency Works and Works at Specific Properties and Locations in the Form of Tender shall be deemed to cover all extra costs for overtime work, provision of extra labour and other measures which are necessary for timely completion of the Works, extra overheads, superintendence and establishment.

**GR22 Special Temporary Works**

Special Temporary Works specified in the Contract are not included in the Rates unless otherwise stated and shall be measured under appropriate items of this Schedule and paid for if such Special Temporary Works are specifically ordered and stated as "Special Temporary Works" in Works Orders and the Contractor has carried out the Special Temporary Works in compliance with the requirements of the Contract and has provided record photographs.

**GR23 Materials and products**

Rates of all materials, products or works in this Schedule are prepared based on the corresponding properties and/or performance standards as specified and set out in this Schedule.

Certain materials, products or works in this Schedule are specified as "proprietary" or "Approved" or by their origins, properties and/or performance standards without brand names. Certificates of origins, technical literatures and catalogues, compliance test reports, manufacturers' guarantees or warranties, samples and mock-ups of these materials, products or works shall be submitted by the Contractor for the Contract Manager's Approval before purchase, delivery and execution. Any of these materials, products or works delivered to the Site or executed without the Contract Manager's prior Approval shall be removed and reinstated by the Contractor at his own expenses.

The Contract Manager's Approval of the materials, products or works with brand names in the Contractor's submissions shall not constitute as specifying the use of such brand names. The said materials, products or works shall be construed as "equal and approved" to the work item as specified. Under no circumstances, Agreed Rates shall be ascertained for materials, products or works according to their brand names unless such brand names are specifically stated in the Works Orders.

**GR24 Latest standards, Specification and Drawing referred to in this Schedule**

Where materials, workmanship and works are specified in this Schedule to be in conformity with certain B.S. or other international standards, or to be in accordance with certain G.S. clauses, Code of Practice, Drawings and the like, they shall deem to be referred to the latest relevant and equivalent standards and amendments as specified in the Specification; or where no such edition, version and revision are specified, they shall be deemed to refer to the latest relevant and equivalent standards, Specification and Drawings published before the Tender Closing Date unless otherwise specified. If conflict occurs between various standards, the more onerous shall apply.



**GR25****Disclaimer**

This Schedule is compiled for use in the Hong Kong Housing Authority building works district term contracts. The information contained in this Schedule is not intended to be used for other purposes nor relied upon other than for the purpose expressly stated herein. Neither the Hong Kong Housing Authority nor his agency or entities assumes any liability or responsibility for the accuracy, completeness, or usefulness of any information contained in this Schedule. Entities using this Schedule for their own purposes shall use it at their own discretion and shall acknowledge and shall deem to have acknowledged any risk and consequence resulted from such use.

## EXCAVATION SPECIAL CONDITIONS

### MEASUREMENT RULES

#### SC01.M01

##### Generally

Excavation shall be measured net with no allowance for working space or bulkage of material.

All excavation shall be measured from the reduced levels or existing ground levels, whichever is the lower.

#### SC01.M02

##### Oversite excavation

Where excavation over areas exceeds an average of 300 mm deep, it shall be measured as excavation to reduce level from existing ground level (i.e. no surface excavation item shall be measured).

#### SC01.M03

##### Pipes, cables and the like

Excavation for pipes, cables and the like shall be measured to the nearest 1.00 m average depth.

#### SC01.M04

##### Excavating in brickwork, concrete, rock and the like

Extra over excavation items for excavating in rock shall be measured net quantity of rock to be actually cut, split and excavated in any isolated individual portion exceeds 0.20 m<sup>3</sup> in volume.

When measuring "Extra over pipe or cable trench excavation for excavating in brickwork, concrete, rock and the like", the net width of trench excavation measured shall be in accordance with the following table :

Pipe bore or cable diameter	Net width to be allowed in any depth
n.e. 300 mm	0.70 m
300 mm – 600 mm	1.00 m
Over 600 mm	Diameter +0.40 m
Two pipes each n.e. 150 mm diameter	0.90 m
Three pipes ditto	1.20 m

#### SC01.M05

##### Filling

Filling with Approved materials, hardcore, granular and reconstituted soil shall be measured net as laid.

#### SC01.M06

##### Spreading or removal of spoil

Where the spoil to be removed has not been excavated by the Contractor, as in the case of landslips, debris or rubbish and the like, the actual cubic contents shall be measured.

#### SC01.M07

##### Cutting undergrowth and felling trees

Cutting down shrubs, undergrowth and the like, shall only be measured when the work is not in conjunction with any excavation work.

The girth of trees to be felled shall be measured at a height of 1.00 m above ground.

**SC01.M08 Filter layer**

Filter layer shall be measured as the net area of the surface to be covered. No deduction shall be made for an area not exceeding 1.00 m<sup>2</sup>.

**COVERAGE RULES****SC01.R01 Excavation**

Rates for excavation shall further include for :

- (a) Excavating in any level or sloping ground including loose boulders and rock not exceeding 0.20 m<sup>3</sup> in volume, earth, clay, sand, gravel, hardcore and the like.
- (b) Allowance for working space and increase in bulk of all materials arising from excavation.
- (c) Setting out the work and all profiles, and the like.
- (d) Grubbing up undergrowth, roots and the like, including small trees not exceeding 150 mm girth, and clearing away.
- (e) Removing old drains and sealing off connections, cable ducts, disused utilities and associated pipe surround.
- (f) Getting out excavated material by any means necessary and deposit excavated material in heaps including multi-handling within the Site.
- (g) Keeping excavations free from water by providing temporary drainage system, pumping and the like.
- (h) Levelling, grading and ramming bottoms, and trimming sides vertical or battered as required and cleaning away loose rock.
- (i) Planking, strutting or shoring and supporting faces of excavation.
- (j) Steel plate or other Approved covering to trenches, or pits and the like, where required to provide crossings for pedestrian and vehicular traffic including providing traffic lights, warning lights, signs and the like and payment of all charges incurring.
- (k) Digging trial pits, locating and temporarily supporting drain pipes, cables and the like, during excavation and making good any damage that may be caused to the same.
- (l) Filling with concrete or other suitable material as required where excavation has been executed wider or deeper than instructed or specified or where concrete is placed in lieu of trimming rock bottoms to exact level.
- (m) Returning, filling in and well ramming selected excavated materials around foundations, pipes, cables and the like including removing from the Site any material not suitable for meeting the backfilling requirements and replacing the same with imported materials to suit such requirements.
- (n) Spreading and levelling selected excavated materials on site in layers not exceeding 250 mm thick including ramming and consolidating.
- (o) Loading and carting away surplus excavated material to dumping sites Approved by the Government.
- (p) Making good with lean concrete to any surface irregularities under the formation of rock cuttings which remain after trimming of rock excavation.
- (q) Preparation of survey records as instructed or specified.

**SC01.R02      Excavating in brickwork, concrete, rock and the like**

Rates for “Extra over excavation items for excavating in brickwork, concrete, rock and the like” shall further include for saw-cutting, trimming the faces or edges of the remaining portions of the same and making good all disturbed and over excavated areas.

Rates for “Extra over excavation items for excavating in rock” shall further include for excavation by any specified means or blasting as Approved and all necessary protection measures.

**SC01.R03      Filling**

Rates for filling shall further include for :

- (a)      Ramming and compacting as specified.
- (b)      Additional filling materials required to allow for compaction and subsequent settlement.
- (c)      All multi-handling on or off the Site to final position including the provision of temporary storage of filling materials off the Site as required.
- (d)      Temporary retaining boards to edges and slopes and any necessary handpacking at steppings and the like.
- (e)      Removing, replacing or making good placed or compacted filling material where filling material subsequently becomes damaged or unsuitable.
- (f)      Overfilling of embankments or areas of fill and subsequently trimming to final profile including importation and removal of additional suitable filling materials if required.
- (g)      Protecting the exposed surfaces of filling by any means necessary.
- (h)      Keeping and maintaining the exposed surfaces clean.
- (i)      Preparation of survey records as instructed or specified.
- (j)      All requirements for sampling and testing of filling materials.

**SC01.R04      Filter layer**

Rate for filter layer shall further include for allowance for laps, surface irregularities or other local peculiarities.

## ITEM

## GENERAL EXCAVATION

Per square metre.

A  
\$

0100100 Excavate over surface not exceeding average 300 mm deep ..... 120

Per cubic metre.

0100200 Excavate over areas to reduce levels exceeding average 300 mm deep..... 613

Per cubic metre.

That portion of excavation			
n.e. 1.50 m deep	1.50 - 3.00 m deep	3.00 - 4.50 m deep	4.50 - 6.00 m deep
A \$	B \$	C \$	D \$
476	656	811	967

0100300 Excavate trenches of any width (other than those measured under items 0100500 to 0100700), column or stanchion bases, isolated piers, manholes and the like...

Each.

A  
\$0100400 Excavate post or similar hole not exceeding 0.30 m<sup>3</sup> in each excavation ..... 269

## PIPE OR CABLE TRENCH EXCAVATION

Excavate trench for pipe or cable with or without concrete bed under :

Per linear metre.

0100500	Trench not exceeding 1.00 m deep. .	377	526	625	971	413	540
0100600	Trench 1.00 – 2.00 m deep.....	674	949	1,133	1,776	752	993
0100700	Trench 2.00 – 3.00 m deep.....	1,160	1,644	1,966	3,095	1,308	1,733

## EXCAVATING IN BRICKWORK, CONCRETE, ROCK, AND THE LIKE

Per cubic metre.

A  
\$

0100800 Extra over items 0100100 to 0100700 for excavating in chunam plaster, masonry, brickwork, tarmac road, parade ground surfaces, concrete block paving, plain concrete foundations, surface beds, and the like ..... 310

0100900 Ditto for excavating in reinforced concrete foundations, surface beds and the like, including cutting reinforcement ..... 517

0101000 Ditto for excavating in rock as specified..... 603

## ITEM

**FILLING****Per cubic metre.**

		A \$
0101100	Approved filling material of specified types (other than those measured under items 0101200 to 0101400) suitable for filling and backfilling, brought to Site from the Contractor's own source and wheeled, spread, levelled, watered, rammed and consolidated in layers as filling .....	345
0101200	Hardcore filling wheeled spread, levelled and consolidated in beds under floors and pavings or in layers not exceeding 150 mm thick to make up levels, including levelling, or grading top surface to falls and blinding to receive concrete or other finish .....	793
0101300	Granular filling with 75 - 150 mm coarse aggregate, spread, levelled, rammed and consolidated in layers not exceeding 225 mm thick to make up levels including levelling, or grading top surface to falls.....	538
0101400	Reconstituted soil filling thoroughly mixed including wheeling, depositing, consolidating, spreading, levelling and the like .....	1,051

**REMOVAL**

(Note : The following item 0101500 will only be paid for when executed not in connection with excavation works, and supported with record photos.)

**Per cubic metre.**

		A \$
0101500	Load spoil, debris, rubbish and the like, not arising from the works, transport to any distance and deposit at dumping sites Approved by the Government including multi-handling and temporary spoil heaps between excavation and final position (total volume of material actually loaded and transported measured) .....	394

**REMEDIAL WORK TO BANKS, LANDSLIPS AND THE LIKE****Per cubic metre.**

		A \$
0101600	Excavate as necessary to trim and cut back eroded, fissured or overhanging banks, slopes and sides of slips at any height to revised profile including the erection, use and subsequent clearing away of any temporary access, shoring and the like, move earth, boulders, shrubs and other debris arising to any convenient location for handling and break or cut up these arisings together with any former material and debris which had been washed down, into a suitable size for handling, and load and transport to any distance and deposit at dumping sites Approved by the Government including initial removal from slope bottom to lorry (total volume of material actually loaded and transported measured).....	536

## ITEM

**CUTTING UNDERGROWTH**

(Note : The following items 0101700 to 0101800 will only be paid for when executed not in connection with excavation work.)

**Per square metre.**

0101700	Cut down shrubs, undergrowth and the like, including trees not exceeding 150 mm girth, grub up roots, cut up and clear away arisings and make good ground surface .....
0101800	Cut down shrubs, undergrowth and the like, including trees not exceeding 150 mm girth, from face of slope and clean out weep holes, clear away arisings and leave surface of slope clean .....

A  
\$

24

28

**FELLING TREES****Each.**

0101900	Fell tree 150 - 450 mm girth, grub up roots, cut up and clear away arisings, fill in voids and make good ground surface .....
0102000	Ditto 450 - 900 mm girth .....
0102100	Ditto 900 - 1,350 mm girth .....
0102200	Ditto 1,350 - 1,800 mm girth .....

A  
\$

1,071

1,751

2,271

3,687

**SUNDRIES****Per square metre.**

0102300	25 - 50 mm Aggregate or light weight aggregate filling not exceeding 200 mm thick to planter including leveling or grading top surface to falls.....
0102400	Permeable, non-woven, thermally bonded geotextile filter layer, lapped at joints .....

A  
\$

452

67

**Each.**

0102500	Clean out mud vegetation and the like from weep hole approximately 600 mm deep from slopes, retaining walls and the like .....
0102600	Supply Approved sackcloth sandbag size 300 x 600 mm and filled with clean sand and place in position .....
0102700	Construct weephole through concrete/chunam slope comprising PVC drain pipe of any diameter and length including excavating into slope to form pocket, filling with hardcore, and finishing with 150 mm thick stabilised soil and concrete/chunam rendering with all necessary formwork .....

14

105

199

## CONCRETE WORK SPECIAL CONDITIONS

### MEASUREMENT RULES

#### SC02.M01

##### Generally

Concrete shall be measured net as laid or cast.

No deduction shall be made for :

- (a) Voids not exceeding  $0.05 \text{ m}^3$ .
- (b) The volume of reinforcement, steel joists, stanchions and the like cast in.
- (c) Openings in walls, floors, roof slabs, roadways and the like not exceeding  $0.10 \text{ m}^2$  in work with thickness not exceeding  $0.50 \text{ m}$ .

#### SC02.M02

##### Cutting and taking down existing concrete

Measurement for cutting and taking down existing concrete shall include the thickness of any plastering, rendering or other finish on the surface of the concrete.

#### SC02.M03

##### Reinforcement

- (a) Reinforcement shall be measured as fixed. No allowance shall be made in the weight for rolling margin.
- (b) Fabric reinforcement shall be measured the net area covered. No deduction shall be made for openings and voids not exceeding  $1.00 \text{ m}^2$ .

#### SC02.M04

##### Formwork

Formwork shall be measured the actual surface in contact with the concrete. No deduction shall be made for openings not exceeding  $1.00 \text{ m}^2$  or junctions of beams with walls, columns, other beams or similar surfaces.

#### SC02.M05

##### Building paper

Building paper shall be measured net as laid.



**COVERAGE RULES****SC02.R01****Concrete**

Rates for all concrete shall further include for :

- (a) Concrete (including prebatched concrete) of any grade of designed mixes, site-mixes or ready-mixes of required workability and under any exposure condition as specified.
- (b) Use of plain or white cement.
- (c) Use of recycled aggregate and/or recycled water in concrete, when required.
- (d) Control of alkali-aggregate reaction in concrete.
- (e) Batching, mixing, conveying, pumping, placing in position, curing and hand tamping or mechanical vibrating to achieve the specified strengths.
- (f) Forming all construction joints including additional formwork, separation barriers, water bars and waterstops.
- (g) Laying beds or slabs in alternate bays including temporary formwork.
- (h) Finishing surfaces level or to falls, currents and cambers as required.
- (i) Forming in-situ kickers monolithically with base slab where required at base of walls and columns including all necessary formwork.
- (j) Providing precast concrete kicker blocks as required.
- (k) Forming all chases, grooves, notches, rebates, mortices, holes and the like, grouting in ends with cement mortar.
- (l) Forming all angles, ends, junctions, intersections, outlets and similar labours to kerbs, channels and the like.
- (m) Casting in, building in and grouting in work to concrete inserts, puddle flanges, water stops, ducts and pipes, bolts and cramps, dowels, baluster ends and the like and making good.
- (n) All requirements for trial mixes, testing and sampling as specified.
- (o) Filling and sealing holes left by formwork ties with Approved materials including all requirements for testing of these materials and tie holes after filling and sealing.
- (p) Keeping records for concreting including delivery notes for each delivery of concrete to the Site and submitting records for approval for ready-mixed concrete.

**SC02.R02****Reinforced concrete**

Rates for all reinforced concrete shall further include for tamping around reinforcement.

**SC02.R03****Reinforcement**

Rates for reinforcement shall further include for :

- (a) Cutting to length and bending.
- (b) Spacer blocks, U bars, mild steel chairs and annealed iron tying wire or tack welding.

Rates for fabric reinforcement shall further include for allowance for laps.

**SC02.R04 Formwork**

Rates for formwork shall further include for :

- (a) Submission of design on falsework and formwork when required by a Registered Structural Engineer.
- (b) Provision of all necessary materials and labour for erection including splayed edges, notching, allowance for overlaps, passing at angles, battens, fillers for chase, recesses and the like and splayed angles, supporting with falsework and strutting at any height, easing, coating surface retarders or release agents, striking, propping and removal.
- (c) Collecting from utility companies, delivery and erection of special metal formwork/moulding for the reservation of standard openings through walls for the passing of cables and the like, taking down the same and returning to utility companies on completion of such work.
- (d) Boxing out to form holes for pipes, cables and the like, and openings not exceeding 1.00 m<sup>2</sup>.
- (e) Preparing and applying wood preservatives to all surfaces of left-in timber formwork.
- (f) Provision of sheet lining to produce even and smooth appearance free from board marks, voids, holes and other imperfections.

**SC02.R05 Precast concrete**

Rates for precast concrete shall further include for :

- (a) All reinforcement and formwork.
- (b) Lifting hooks, anchors and the like.
- (c) Pre-installed conduits, fittings, boxes and the like including draw wires.
- (d) Equipotential bonding connections and the like.
- (e) Surface finishes ready to receive finishing.
- (f) Treatment to concrete surfaces.
- (g) Fillets, chamfers, splays, drips, rebates, recesses, grooves and the like.
- (h) Priming and backing rod, bond breaker and sealant.
- (i) Forming holes, ducts, pockets, mortices and the like, and cast-in items as required.
- (j) Hoisting, setting, building and jointing in position including all temporary supports.
- (k) Bedding, jointing and pointing in mortar or other specified materials as required.
- (l) Caulking and sealing between and under units and members including patching up.

**SC02.R06 Finishings and sundry labours**

Rates for finishings and sundry labours shall further include for :

- (a) Float surface even including any additional cement required and scratch to give a slightly roughened even texture.
- (b) Float surface fair and even with a wood float including any additional cement required.
- (c) Trowel surface hard and smooth with a steel trowel including any additional cement required.
- (d) Score surface with parallel anti-slip grooves.
- (e) Punch small anti-slip pattern in surface.
- (f) Heavily tamp surface to form corrugated non-slip finish.
- (g) Treat surface with anti-skid road dressing as specified.
- (h) Treat surface with two coats of Approved surface hardener.

**SC02.R07      Cutting and taking down existing concrete**

Rates for cutting and taking down existing concrete shall further include for :

- (a)      Cutting, saw cutting, coring, taking down and clearing away existing concrete by hand and/or mechanical plant.
- (b)      Providing all necessary supports, props, struts and shores during taking down process and until the stability of the affected works is Approved by the Contract Manager.
- (c)      Providing all necessary protection as required.
- (d)      Trimming, bending straightening and cleaning of reinforcement for connection of new reinforcement as required.
- (e)      Providing keys for bonding of new surface.
- (f)      Preparing and applying bonding agent or primer as required.
- (g)      Submission of method statements for approval.
- (h)      Submission of records as required.

**SC02.R08      Movement joints and the like**

Rates for movement joints and the like shall further include for all necessary materials and components including but not limited to water stops, joint filler, bond breaker, back-up materials and sealants, and the like.

**SC02.R09      Building paper**

Rates for building paper or polythene sheeting shall further include for allowance for laps.

## ITEM

**PLAIN CONCRETE****Per cubic metre.**A  
\$

0200100	Plain concrete .....	1,951
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**REINFORCED CONCRETE****Per cubic metre.**A  
\$

0200200	Reinforced concrete Grade 20D .....	1,957
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0200300	Ditto Grade 30D .....	2,000
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0200400	Ditto Grade 35D .....	2,024
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0200500	Ditto Grade 45D .....	2,060
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(Note : The following items 0200600 to 0200900 will only be paid for when specifically ordered by the Contract Manager in writing.)

**Per cubic metre.**

0200600	Reinforced concrete Grade 20D in recasting including preparing existing concrete surfaces, applying bond coats, installation of dowel bars grouting, and cutting, bending, straightening, cleaning, preparing, priming existing reinforcement.....	2,738
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0200700	Ditto Grade 30D ditto.....	2,780
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0200800	Ditto Grade 35D ditto.....	2,804
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0200900	Ditto Grade 45D ditto.....	2,840
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**WATERPROOFING CONCRETE****Per cubic metre.**A  
\$

0201000	Extra over concrete for mixing with Approved waterproofing material .....	176
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**COLOURING CONCRETE****Per cubic metre.**A  
\$

0201100	Extra over concrete for using coloured cement other than white or plain cement.....	509
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## ITEM

## STEEL REINFORCEMENT

Per kg.

		A \$
0201200	Mild steel or high tensile steel reinforcement of any size .....	16
0201300	Fabric reinforcement with wire and mesh of any size, lapped at joints.....	20

## FORMWORK

Per square metre.

		A \$
0201400	Erect, maintain, take down and clear away formwork .....	567
0201500	Extra over item 0201400 for "left in" formwork (Note : This item will only be paid for when specifically ordered by the Contract Manager in writing.).....	59
0201600	Erect, maintain, take down and clear away combined formwork platform comprising timber falsework supported on Approved props, for reconstruction of concrete slab including initial retaining demolished concrete and, upon clearing of debris and the like, subsequent jacking up to the required level as formwork for concreting as directed by the Contract Manager (net surface area of new concrete slab measured) (Note : This item will only be paid for when specifically ordered by the Contract Manager in writing.) .....	482

## SURFACE WATER CHANNELS

Per cubic metre.

		A \$
0201700	Concrete surface water channel, level or stepped, including excavation, depositing, spreading and levelling on site, or loading, transporting and depositing at dumping site Approved by Government, ramming bottoms, forming waterway in any shape to falls, haunching, top edges rebated if required, all necessary formwork, finishing all exposed surface with fair-faced finish and forming all angles, ends, junctions and outlets (no deduction for void of waterway) .....	6,079
0201800	Add to item 0201700 if breaking up existing surface water channel is required.....	323

## ITEM

**"NO FINES" CONCRETE****Per cubic metre.**A  
\$

0201900

"No Fines" concrete .....

1,664

**LIGHTWEIGHT CONCRETE****Per cubic metre.**A  
\$

0202000

Cement and vermiculite or other Approved lightweight concrete.....

2,190

**PRECAST CONCRETE****Per cubic metre.**

Supply and Fix	Take down and clear away or take down and set aside for re-use	Fix only
A \$	B \$	C \$
0202100	Precast concrete item laid or placed in position .....	5,076430619
0202200	Ditto but cast into concrete or built in or bedded in cement mortar .....	5,7846191,327

## ITEM

**FINISHINGS AND SUNDRY LABOURS ON NEW CONCRETE****Per square metre.**

0202300

Finishings and sundry labours on new concrete .....

A  
\$

27

**FORMING CHANNELS ON NEW CONCRETE****Per linear metre.**

0202400

Form channel in any shape of any girth finished to falls including angles, ends, junctions, outlets, and similar labours and trowelling smooth .....

A  
\$

38

**TAKING DOWN CONCRETE (ABOVE FOUNDATIONS)****Per cubic metre.**

0202500

Take down and clear away concrete of any thickness .....

A  
\$

861

## ITEM

**CUTTING AND SUNDRY LABOURS ON EXISTING CONCRETE**

Cutting and sundry labours on existing concrete :

A  
\$**Per cubic metre.**

0202600	Cut through wall, floor slab or the like exceeding 0.05 m <sup>3</sup> for new door, window or other opening, or for enlarging existing opening, or for recasting of slab, including trimming surfaces to receive new concrete structure, plaster or other finish (net volume of concrete cut out measured) .....	6,998
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0202700	Cut out surround to Asiatic type W.C. pan including trimming and levelling exposed surfaces to receive new rendering or concrete (no deduction for voids of W.C. pan and piping) .....	3,962
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**Per square metre.**

0202800	Hack surface or edge to provide key for new concrete (Note : This item will only be paid for when specifically ordered by the Contract Manager in writing and <u>not</u> included in other items.) .....	37
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0202900	Cut parallel anti-slip grooves approximately 15 mm wide x 15 mm deep at 100 mm centres, or cut small anti-slip holes in surface approximately 15 mm deep at 150 mm centres staggered, including making good.....	55
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0203000	Cut into surfaces all over not exceeding 25 mm deep, trim and level surface to receive concrete or screed.....	179
---------	--	-----

0203100	Add to item 0203000 for each additional 25 mm or part thereof in depth .....	153
---------	--	-----

0203200	Cut sinking exceeding 0.10 m <sup>2</sup> but not exceeding 25 mm deep into surface, including trimming and making good back face and edges (net size of required sinking measured) ...	319
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0203300	Add to item 0203200 for each additional 25 mm or part thereof in depth .....	179
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**Per linear metre.**

0203400	Cut chase, groove, rebate and the like not exceeding 0.01 m <sup>2</sup> sectional area and make good, including pinning in and bedding and pointing edges of slabs, cills, steps, pipes, and similar items .....	73
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0203500	Cut surface to form channel in any shape of any girth, finished to falls, and make good including rendering with cement mortar and forming all angles, ends, junctions, outlets and similar labours .....	93
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**Each.**

0203600	Cut sinking not exceeding 0.10 m <sup>2</sup> and in any depth into surface, including trimming back face and edges (net size of required sinking measured) .....	34
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0203700	Cut hole through concrete for pipe, air brick, access panel or similar article not exceeding 0.05 m <sup>3</sup> (net size of pipe or article measured) and grout in or render around reveals in cement mortar .....	130
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0203800	Cut or drill mortice for dowel, baluster end, bracket end, fixing cramp, bolt or similar article not exceeding 0.0002 m <sup>3</sup> (net size of article or end measured) and grout in cement mortar or Approved grouting material .....	34
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## ITEM

**CORING HOLES IN EXISTING CONCRETE**

(Note : The following items 0203900 to 0204200 will only be paid for when specifically ordered by the Contract Manager in writing and not included in other items.)

Core holes in existing concrete of any grade including all necessary preparation works, cutting through reinforcement (if any), removal of debris from site and making good of all disturbed works :

**Per linear metre.**

		A \$
0203900	Core hole not exceeding 50 mm diameter .....	1,211
0204000	Ditto 50 - 75 mm diameter .....	1,388
0204100	Ditto 75 - 100 mm diameter .....	1,559
0204200	Ditto 100 - 200 mm diameter .....	2,250

**Each.**

0204300	Fill cored hole in concrete structure with cement mortar or concrete of same strength to that of the parent concrete including necessary formwork, touching up finishes and painting to match existing .....	84
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## ITEM

## MOVEMENT JOINTS AND THE LIKE

## Per linear metre.

A  
\$

0204400	Form horizontal or vertical expansion joint through full thickness of slab, wall, and the like not exceeding 150 mm thick including formwork to one edge, providing Approved water stop 150 mm (minimum) wide and casting in one edge, coating concrete edge with bitumen or with Approved proprietary primer at rate recommended by the manufacturer when formwork removed, supporting and casting in the other edge of the water stop to the abutting slab, wall, and the like, and forming cut and welded joints at all junctions of the water stop in accordance with the manufacturer's recommendations.....	198
0204500	Add to item 0204400 for each additional 75 mm thick, or part thereof, of slab, wall, and the like.....	20
0204600	Thoroughly rake out existing mastic pointing to expansion joint and enlarge groove in plaster, paving, concrete, and the like, as necessary ready for re-pointing.....	20
0204700	Approved joint filler of any thickness placed and supported in position against horizontal or vertical slab edge, wall end, and the like, not exceeding 150 mm thick, including splitting into two parts if necessary to accommodate water stop .....	35
0204800	Add to item 0204700 for each additional 75 mm thick, or part thereof, of slab, wall, and the like.....	19
0204900	Thoroughly rake out existing expansion joint filler of any thickness in horizontal or vertical slab edge, wall end, and the like, not exceeding 150 mm thick .....	24
0205000	Polyethylene foam backing rod of any diameter .....	26
0205100	Point horizontal or vertical joint of any size with Approved sealant, including cleaning and preparing surfaces of joint and priming surfaces.....	79
0205200	Bitumen solution filling to joint of any size .....	16
<b>Each.</b>		
0205300	25 mm Diameter mild steel dowel 675 mm long with rubber washer, one end fitted with Approved metal cap infilled with 25 mm deep cotton waste or other Approved compressible material, bar coated with bitumen emulsion paint for a length of 375 mm and cast in at mid-depth of slab .....	46

## ITEM

**REPAIR OF CRACKS IN CONCRETE**

(Note : The following items 0205400 to 0205600 will only be paid for when specifically ordered by the Contract Manager in writing.)

**Per linear metre.**

0205400	Locate the crack at any location and cut 'V'-groove along the crack and filled up with Approved repair mortar and make good all disturbed surfaces to match surrounding.....	72
0205500	Locate the crack at any location and seal up the crack of any depth with Approved low viscosity polymer resin and make good all disturbed surfaces to match surrounding.....	86
0205600	Locate the crack at any location and seal up the crack of any depth with Approved epoxy resin by injection under pressure and make good all disturbed surfaces to match surrounding .....	273

A  
\$**CHUNAM SURFACING****Per square metre.**

0205700	Chunam surfacing laid and well beaten down to consolidated 50 mm thick (minimum) and finished to a uniform surface including sprinkling with water and all edge boards .....	79
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A  
\$**BUILDING PAPER****Per square metre.**

0205800	Reinforced waterproof building paper or polythene sheeting lapped at joints .....	17
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A  
\$**SHRINK RESISTANT MODIFIED CEMENTITIOUS GROUT****Per square metre.**

0205900	Shrink resistant modified cementitious grout 10 mm thick in accordance to the manufacturer's recommendations .....	175
0206000	Add to item 0205900 for each additional 5 mm or part thereof in thickness .....	78

A  
\$

## CONCRETE REPAIRS SPECIAL CONDITIONS

### GENERAL RULES

#### SC03.G01 Payment of items in this Section

Items in this Section will only be measured and paid for when specifically ordered by the Contract Manager in writing.

#### SC03.G02 Application of rates in this Section

Items in this Section are only applicable to concrete repairs. The rates for concrete repairs shall not be used for the assessment of rates for items not specifically mentioned in this Section.

### MEASUREMENT RULES

#### SC03.M01 Patch repair works

The area for patch repairs works shall be measured as net area over the cracked, spalled or bulged surface and agreed by the Contract Manager.

Where the shortest distance between two isolated patches does not exceed 200 mm, the total area of these isolated patches shall be added together and measured as one whole patch area.

### COVERAGE RULES

#### SC03.R01 Repair Mortar System

Rates for repair mortar system generally shall further include for carrying out void detection surveys, marking out patch or open up areas, taking and providing video and the like.

## ITEM

**REPAIR MORTAR SYSTEM FOR PATCH REPAIR WORKS**

Cut into spalled concrete slabs, beams, walls or columns of any grade and of minimum 10 mm behind the reinforcement in depth with saw-cutting, trim and level surface to receive repair mortar, prepare and apply an Approved prebagged repair mortar in repairs to fill up area of spalling, including cleaning all exposed reinforcement, preparing and applying an Approved primer on all exposed reinforcement, preparing and applying an Approved bond coat on existing concrete substrate and primed reinforcement and including any necessary replacement of failed reinforcement and dubbing out of irregularities with similar material in the surface being covered, all necessary preparation between layers, curing and shuttering or soffit boards all in strict accordance with the manufacturer's recommendations :

**Per square metre.**

0300100	Repair mortar Class 25 to area exceeding 1.00 m <sup>2</sup> .....	A \$ 1,676
0300200	Ditto but Class 40 .....	1,702

Each.		n.e. 0.01 m <sup>2</sup>	0.01 - 0.04 m <sup>2</sup>	0.04 - 0.09 m <sup>2</sup>	0.09 - 0.20 m <sup>2</sup>	0.20 - 0.36 m <sup>2</sup>	0.36 - 0.56 m <sup>2</sup>	0.56 - 0.81 m <sup>2</sup>	0.81 - 1.00 m <sup>2</sup>
		A	B	C	D	E	F	G	H
		\$	\$	\$	\$	\$	\$	\$	\$
0300300	Repair mortar Class 25 to patch.....	55	108	182	319	544	834	1,247	1,541
0300400	Ditto but Class 40 .....	55	108	184	323	552	847	1,266	1,566

**REPAIR MORTAR SYSTEM FOR OPEN-UP WORKS**

Cut into concrete slabs, beams, walls or columns of any grade and of minimum 10 mm behind the reinforcement in depth with saw-cutting, trim and level surface to receive repair mortar, prepare and apply an Approved prebagged repair mortar in repairs to fill up area of open-up, including cleaning all exposed reinforcement, preparing and applying an Approved primer on all exposed reinforcement, preparing and applying an Approved bond coat on existing concrete substrate and primed reinforcement and including any necessary dubbing out of irregularities with similar material in the surface being covered, all necessary preparation between layers, curing and shuttering or soffit boards all in strict accordance with the manufacturer's recommendations :

**Per square metre.**

0300500	Repair mortar Class 25 to area exceeding 1.00 m <sup>2</sup> .....	A \$ 1,829
0300600	Ditto but Class 40 .....	1,856

Each.		n.e. 0.01 m <sup>2</sup>	0.01 - 0.04 m <sup>2</sup>	0.04 - 0.09 m <sup>2</sup>	0.09 - 0.20 m <sup>2</sup>	0.20 - 0.36 m <sup>2</sup>	0.36 - 0.56 m <sup>2</sup>	0.56 - 0.81 m <sup>2</sup>	0.81 - 1.00 m <sup>2</sup>
		A	B	C	D	E	F	G	H
		\$	\$	\$	\$	\$	\$	\$	\$
0300700	Repair mortar Class 25 to patch.....	63	118	204	393	631	950	1,370	1,674
0300800	Ditto but Class 40 .....	64	119	206	397	638	963	1,389	1,699

## ITEM

**SACRIFICIAL ANODES**

Sacrificial Anodes to reinforcement bars inside concrete in accordance with the manufacturer's recommendations :

**Each.**

0300900

Sacrificial Anodes .....

Design, supply and fix	Take down and clear away	Fix only
A \$	B \$	C \$
579	57	87

## BRICKWORK AND BLOCKWORK SPECIAL CONDITIONS

### MEASUREMENT RULES

#### SC04.M01

##### **Brickwork and blockwork**

Brickwork and blockwork shall be measured net as built. Where exceeding 225 mm thick, it shall be measured in cubic metres, and where 225 mm thick or less, it shall be measured in square metres. Apertures and voids for ranges, grates, cookers, boilers and the like, shall be deducted. Deductions shall also be made for string courses, cills, lintols and the like, but only to the extent of the full brick or block courses in the height.

No deduction shall be made for :

- (a) Openings not exceeding 0.10 m<sup>2</sup>.
- (b) String courses, cills, lintols and the like, less than a full brick or block course in height.

#### SC04.M02

##### **Damp proof course**

Damp proof course shall be measured as the net area of the surface to be covered.

#### SC04.M03

##### **Cutting and taking down brickwork and blockwork**

Measurement for cutting and sundry labours and taking down existing brickwork and blockwork shall include the thickness of any plastering, rendering and the like, except that in the case of taking down walls 225 mm thick or less which are measured in square metres, the net thickness of the brickwork or blockwork (exclusive of finishings) shall be stated.

#### SC04.M04

##### **Labours on stonework**

Measurement for cutting mortices, holes and the like on stone shall include the thickness of any plastering, rendering and the like.

### COVERAGE RULES

#### SC04.R01

##### **Brickwork and blockwork**

Rates for brickwork and blockwork shall further include for :

- (a) Solid or hollow bricks or blocks of any size.
- (b) Bed-joint reinforcement and bonding ties.
- (c) Rough and fair cutting and bonding at angles, intersections and the like.
- (d) Oversailing and receding courses.
- (e) Rough relieving and discharging arches.
- (f) Cutting, wedging, pinning and making good.
- (g) Raking out joints to form key.
- (h) Raking out and enlarging joints, and cement or lime mortar pointing to, flashings and the like.
- (i) Bedding and pointing frames, plates and the like in cement or lime mortar.
- (j) Eaves filling.

**SC04.R01 Brickwork and blockwork (cont'd)**

- (k) Plumb quoins and other angles.
- (l) Forming square or rebated reveals.
- (m) Cutting squints, birdsmouths, splays, chamfers and the like.
- (n) Leaving or cutting chases, notches, holes, mortices and the like, and grouting in ends, pipes and the like and making good.
- (o) Laying to any bond or pattern.
- (p) Facing or fair facing with quality bricks or blocks including pointing with any type of joint.
- (q) Battered faces.
- (r) Toothing and bonding new walls to existing including cutting pockets in existing walls, additional material in the new bonding bricks or blocks, and making good.
- (s) Special quoin blocks, plain reveal blocks, closers and the like.
- (t) Filling cavities of hollow block solid with cement mortar at ends, opening reveals, intersections and similar positions if necessary.
- (u) Special bonding and tying for conduit installation.
- (v) Protection to faced and fair faced work until completion of the Works.
- (w) Sundry items of like nature to any of the above.

**SC04.R02 Damp proof course**

Rates for damp proof course shall further include for allowance for laps.

**SC04.R03 Cutting and taking down brickwork or blockwork**

Rates for cutting and sundry labours and taking down existing brickwork or blockwork shall further include for removal, and all material arising from these operations shall become the property of the Contractor.

Rates for taking down brickwork or blockwork 225 mm thick or less shall further include for taking down the plastering, rendering or other finishing on one or both sides.

**SC04.R04 Labours on stonework**

Rates for labours on stone facework shall further include for :

- (a) All mitres, stopped ends, fair ends and the like.
- (b) Finishing the surface with a fine punched plain face or with a surface to match the remainder of the wall facing as required.



## ITEM

## BRICKWORK AND BLOCKWORK

Brickwork and blockwork built in cement/lime mortar or cement mortar :

**Per cubic metre.**

0400100	Brickwork or concrete blockwork exceeding 225 mm thick .....	A \$ 2,186
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**Per square metre.**

0400200	Brickwork or concrete blockwork .....
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Thickness of wall (mm)		
n.e. 75	75 - 150	150 - 225
A \$	B \$	C \$
210	301	476

**Per square metre.**

0400300	105 mm Thick brick lining to stone or concrete wall and bonded to the same with galvanized mild steel ties as specified, including flushing up solid between the brick wall and stone and concrete with mortar .....	A \$ 358
0400400	75 mm Thick autoclaved aerated concrete blocks built in autoclaved aerated concrete mortar in accordance with the manufacturer's recommendations.....	400
0400500	Add to item 0400400 for each additional 25 mm or part thereof in thickness.....	100
0400600	75 mm Thick solid vermiculite or other Approved lightweight aggregate concrete blockwork .....	412
0400700	Add to item 0400600 for each additional 25 mm or part thereof in thickness.....	104
0400800	90 mm Thick concrete grille block wall .....	271
0400900	150 mm Thick cement and sand hollow grille block wall .....	597
0401000	175 mm Thick ditto.....	661

**Per linear metre.**

0401100	Coping, upstand kerb and the like not exceeding 0.03 m <sup>2</sup> sectional area including angles and ends .....	89
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## ITEM

**BRICK PITS****Each.**

- 0401200 Small pit for stop-cock and the like, of any depth, internal girth range from 800 mm to 1,800 mm, constructed of 75 mm thick concrete grade 20/20 base extending to outside face of sides and trowelled smooth and 105 mm thick brick sides in cement mortar finished fair and pointed, or rendered in 15 mm cement and sand internally, complete with 75 mm thick precast concrete grade 20/20 cover slab extending to outside face of sides, reinforced with and including expanded mesh fabric, finished fair and placed in position including all moulds, excavation, disposal and formwork (cover measured separately).....

A  
\$

669

**SUNDRIES****Each.**

- 0401300 Glass or cement "tell-tale" executed complete including inscribing in legible figures the date of fixing, cutting stone or concrete wall for fixing, and removing old "tell-tale" where necessary.....

A  
\$

43

**DAMP PROOF COURSE****Per square metre.**

- 0401400 Damp proof course, laid on screed, lapped 150 mm at joints .....

A  
\$

184

**CUTTING AND SUNDRY LABOURS ON EXISTING BRICKWORK OR BLOCKWORK**

(Note : The following items 0401500 to 0402900 will only be paid for when executed not in connection with new brickwork or blockwork.)

**Per cubic metre.**

- 0401500 Cut through wall exceeding 0.05 m<sup>3</sup> for new door, window or other opening, or to enlarge existing opening including all necessary strutting and shoring, levelling for cills, cutting toothings and providing and bonding in any new bricks or blocks required, and making out jambs and heads ready to receive new plaster or other finish, facing or fair facing, cutting and pinning in ends of new cills, lintols, fixing lugs, cramps, bolts and the like, and clearing away all debris. (For the purpose of measurement, size of opening shall also include allowance for lintol or arch and cill but exclude pockets for fixing lugs, cramps, bolts and the like).....

A  
\$

1,674

**Per square metre.**

- 0401600 Rake out joints 10 mm deep and re-point in cement mortar or cement/lime mortar with a neat struck weathered or flush joint.....

80

## ITEM

**CUTTING AND SUNDRY LABOURS ON EXISTING BRICKWORK OR BLOCKWORK (Cont'd)**

(Note : The following items 0401500 to 0402900 will only be paid for when executed not in connection with new brickwork or blockwork.) (Cont'd)

**Per square metre.**

	A \$
0401700 Cut sinking exceeding 0.10 m <sup>2</sup> but not exceeding 25 mm deep into surface, including trimming and making good back face and edges (net size of required sinking measured).....	167
0401800 Add to item 0401700 for each additional 25 mm or part thereof in depth.....	118
0401900 Cut out decayed or broken bricks or blocks of any thickness and replace with new selected bricks or blocks including jointing in, facing or fair facing, and pointing, to match existing....	419

**Per linear metre.**

0402000 Bed frame, plate or similar item of any width, when fixing in existing opening or position, and point one or both sides in cement mortar or mastic .....	34
0402100 Rake out defective joint, at least 10 mm deep around door frame or window, or at flashing or the like, and re-point in cement mortar or mastic .....	22
0402200 Rake out crack in wall, beam, slab or other position and point in cement mortar or mastic (Note : Repairs of minor cracks included in preparation work for painting.) .....	32
0402300 Rake out and enlarge joint for turn in of new metal or asphalt flashing or the like, and point in cement mortar or mastic .....	23
0402400 Cut chase or rebate not exceeding 0.03 m <sup>2</sup> sectional area (net size of required chase or rebate measured) and make good including pinning in and bedding and pointing in cement mortar to edges of slabs, cills, steps, pipes and the like .....	39

## ITEM

**CUTTING AND SUNDRY LABOURS ON EXISTING BRICKWORK OR BLOCKWORK (Cont'd)**

(Note : The following items 0401500 to 0402900 will only be paid for when executed not in connection with new brickwork or blockwork.) (Cont'd)

**Each.**

	A \$
0402500 Cut sinking not exceeding 0.10 m <sup>2</sup> and in any depth into surface, including trimming and making good back face and edges (net size of required sinking measured).....	32
0402600 Cut hole through brickwork or blockwork for pipe, air brick or similar article not exceeding 0.05 m <sup>3</sup> (net size of pipe or article measured) and grout in or render around reveals in cement mortar on one or both sides .....	72
0402700 Cut out decayed or broken brick or block of any thickness (where not more than seven adjacent bricks or one block are/is to be replaced) and replace with new selected brick or block including jointing in, facing or fair facing, and pointing, to match existing .....	75
0402800 Cut or drill mortice for dowel, baluster end, bracket end, fixing cramp, bolt or similar article not exceeding 0.0002 m <sup>3</sup> (net size of article measured) and grout in cement mortar .....	25
0402900 Core hole of any size in brickwork or blockwork of any thickness including all necessary cutting through reinforcement (Note : The item will only be paid for when specifically ordered by the Contract Manager in writing.) .....	117

**TAKING DOWN BRICKWORK OR BLOCKWORK****Per cubic metre.**

	A \$
0403000 Take down and clear away brickwork or blockwork exceeding 225 mm (net) thick.....	301
<b>Per square metre.</b>	
0403100 Take down and clear away brickwork or blockwork not exceeding 225 mm (net) thick.....	51

## ITEM

**CUTTING AND SUNDRY LABOURS ON EXISTING RANDOM OR SQUARED RUBBLE WALLING****Per square metre.**

- 0403200 Take down and set aside stonework in wall not exceeding 100 mm (net) thick, relay and pointed with cement sand mortar to match existing.....

A  
\$

53

**Per linear metre.**

- 0403300 Cut coved throat of any size on stone facework .....

32

- 0403400 Cut groove, rebate, sunk joint, chamfer, arris, splay, sunk splay or weathering (as for cills) of any size on stone facework .....

106

- 0403500 Rake out joint not less than 15 mm deep and re-point with flush, struck, recessed or keyed joint as required in cement mortar .....

10

**Each.**

- 0403600 Cut or drill mortice through stonework for dowel, baluster end, bracket end, fixing cramp, bolt or similar article not exceeding 0.0002 m<sup>3</sup> (net size of article measured) and grout in cement mortar.....

27

- 0403700 Cut hole through stonework for pipe, air brick or similar article not exceeding 0.05 m<sup>3</sup> (net size of pipe or article measured) and grout in pipe or article, or render around reveals in cement mortar on one or both sides.....

152

## ROOFING SPECIAL CONDITIONS

### MEASUREMENT RULES

#### SC05.M01 Generally

Unless otherwise stated, all work in this Section shall be measured as the net area covered. No deduction shall be made for openings not exceeding 0.50 m<sup>2</sup>.

#### SC05.M02 Corrugated and profiled sheeting

Corrugated and profiled sheeting shall be measured flat (not girthed on corrugations or profiles) over the net area covered.

Ridges, hips and the like shall be measured the net length as fixed.

#### SC05.M03 Bitumen roofing and proprietary waterproofing systems

Bitumen felt build up, bituminous emulsion roofing and proprietary waterproofing systems on corrugated surfaces shall be measured flat (not girthed on corrugations) over the area covered.

### COVERAGE RULES

#### SC05.R01 Generally

Rates for roofing shall further include for :

- (a) Executing work on new or existing surfaces of any material.
- (b) Vertical, horizontal and sloping surfaces.
- (c) Protection.
- (d) Providing heavy tarpaulin sheets or other Approved covering throughout the progress of the work to roof areas to prevent the ingress of rain or other water.
- (e) Leaving roof clean, windproof and watertight on completion and cleaning out rainwater outlets and gutters.

**SC05.R02      Roof tiling**

Rates for roof tiling further include for :

- (a) Cutting, fitting and making good around outlets, pipes, flues, openings and the like.
- (b) Bedding tiles solid in cement mortar or mastic.
- (c) Flush jointing and pointing tiles in cement mortar or mastic.
- (d) Forming and including movement joints and the like.
- (e) Mitres, stops, intersection, junctions, wreathed corners and the like.
- (f) Laying to falls and currents.

**SC05.R03      “Take down and clear away” or “Take down and set aside for re-use” existing roof tiles**

Rates for "Take down and clear away" or "Take down and set aside for re-use" existing roof tiles shall further include for :

- (a) Stripping off all bedding and fixing materials.
- (b) Cleaning off and making good surface of screed or roof covering under.
- (c) Preparing roof to receive new roofing.

**SC05.R04      Corrugated and profiled sheeting and the like**

Rates for corrugated and profiled sheeting, ridges, hips and the like shall further include for :

- (a) Allowance for joints, side and end laps.
- (b) Forming sheets to required curvatures.
- (c) Notching and fitting edges of sheets and mitring corners, angles, junctions and ends on ridges, hips and the like.
- (d) Cutting or forming holes through sheeting for pipes or articles not exceeding 0.10 m<sup>2</sup> sectional area.
- (e) Drilling holes for and providing all screws, nuts, bolts, hook-bolts and washers.
- (f) Sealing at edges, joints and around intersections, projections with Approved sealant.
- (g) Forming and including movement joints and the like.
- (h) Providing shop drawings, structural calculation and the like.

**SC05.R05 Bitumen roofing and proprietary waterproofing systems**

Rates for bitumen felt built-up roofing, bituminous emulsion roofing and proprietary waterproofing systems shall further include for :

- (a) Priming and sealing with Approved primers and sealers.
- (b) Bonding compounds, nails and any other fixing materials.
- (c) Covering construction joints and special treatment at junctions of vertical and horizontal surfaces and at internal and external angles including providing underlays all as specified or in accordance with the manufacturer's recommendations.
- (d) Dressing to sides or ends of upstands, gutters, flashings, skirtings, edge coverings, steps and the like, including angles, junctions and the like, and turning in edges and pointing with mastic.
- (e) Dressing to and sealing around outlets, pipes, balusters, flag poles and pylon bases and the like.
- (f) Laying to falls and currents.
- (g) Cuttings, notchings, bending, turn-ins and the like.
- (h) Angles, intersections, stops and the like to internal angle fillets, skirtings, fascias, gutters, curbs, channels, eaves, verges, abutments and the like.
- (i) Additional bitumen, bituminous emulsion or mastic (comprising bituminous emulsion and sand) for filling cracks in the surface being covered.
- (j) Applying temporary coating upon removal of existing covering.
- (k) Allowance for side and end laps including lapping edges of new over edges of existing covering and sealing and making good junctions.

**SC05.R06 Insulation board**

Rates for insulation board shall further include for :

- (a) All straight or raking cutting and waste.
- (b) Forming and including all joints between new and existing materials.



## ITEM

## ROOF TILING

<b>Per square metre.</b>	
0500100	Concrete tiles not exceeding 40 mm thick laid on screed or roof covering.....

Supply and fix	Take down and clear away or take down and set aside for re-use	Fix only
A \$	B \$	C \$
285	57	87

## PLASTIC CORRUGATED SHEETING

<b>Per square metre.</b>	
0500200	Fibre reinforced plastic corrugated sheeting with corrugations not exceeding 150 mm lapped 1½ corrugations at side joints and 150 mm at end joints .....

Supply and fix	Take down and clear away or take down and set aside for re-use	Fix only	Re-secure		
A \$	B \$	C \$	D \$		
161	14	89	18		
Ridge tiles and hip cappings and other accessories to suit fibre reinforced plastic corrugated sheeting, cut, scribed and lapped for sheeting :					
Per linear metre.					
0500300	Two piece plain 275 mm wing adjustable ridge or hip capping lapped 150 mm at end joints.....	372	7	44	9
0500400	Two piece close fitting type ridge capping ditto .....	494	7	44	9
0500500	Half octagonal shaped valley gutter size approximately 300 x 175 mm deep ditto.....	197	7	44	9

## ITEM

## GALVANIZED STEEL CORRUGATED SHEETING

0.6 mm (Minimum) thick hot-dipped galvanized steel corrugated sheeting lapped 150 mm at end joints and 1½ corrugations at side joints :

**Per square metre.**

0500600 Corrugated sheeting fixed to framing .....

**Per linear metre.**

0500700 Ridge or hip plain capping of approximately 450 mm girth with 75 mm roll, lapped 150 mm at end joints.....

0500800 Ditto but both edges corrugated, cut and scribed as necessary to suit roof sheeting .....

0500900 Half-octagonal shaped valley gutter of approximately 300 x 175 mm deep, lapped 150 mm at end joints.....

Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Re-secure
A \$	B \$	C \$	D \$	E \$
129	26	30	89	36
73	8	10	59	12
104	8	10	89	12
80	8	10	59	12

## ITEM

## STEEL PROFILED SHEETING

Proprietary profiled sheeting all in accordance with the manufacturer's recommendations :		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Re-secure
<b>Per square metre.</b>		A \$	B \$	C \$	D \$	E \$
0501000	0.47 mm Thick steel profiled sheeting fixed to framing .....	437	26	30	89	36
<b>Per linear metre.</b>						
0501100	0.60 mm Thick ridge capping not exceeding 600 mm girth.....	202	10	13	36	14
0501200	Ditto 600 - 800 mm girth .....	239	13	15	44	18
0501300	0.60 mm Thick flashing not exceeding 200 mm girth.....	65	7	8	30	12
0501400	Ditto 200 - 500 mm girth .....	123	9	10	36	14
0501500	Ditto 500 - 800 mm girth .....	184	12	12	44	18
<b>Proprietary galvanized mild steel profiled sheeting finished with polyester coating all in accordance with the manufacturer's recommendations :</b>						
<b>Per square metre.</b>						
0501600	0.7 mm (Minimum) thick steel profiled sheeting fixed to framing .....	419	26	30	89	36
<b>Per linear metre.</b>						
0501700	0.7 mm (Minimum) thick ridge capping and not exceeding 600 mm girth.....	256	10	13	36	14
0501800	Ditto 600 - 800 mm girth .....	338	13	15	44	18
0501900	0.7 mm (Minimum) thick flashing and not exceeding 200 mm girth.....	80	7	8	30	12
0502000	Ditto 200 - 500 mm girth .....	160	9	10	36	14
0502100	Ditto 500 - 800 mm girth .....	244	12	12	44	18

## ITEM

## FACTORY COATED PROFILED STEEL INSULATED ROOFING SYSTEM

	Profiled steel insulated roofing panel comprising factory coated outer and inner metal skin, insulation, fasteners, sealing strip, profile sealing, silicone sealant, profile filler strips, clips and the like, fixing with accessories, all in accordance with the manufacture's recommendations :	Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Re-secure
	<b>Per square metre.</b>	A \$	B \$	C \$	D \$	E \$
0502200	75 mm (Minimum) thick metal sandwich panel fixed to framing.....	4,342	42	71	868	53
	<b>Per linear metre.</b>					
0502300	0.75 mm Thick flashing, capping and the like .....	614	14	21	123	18
0502400	0.75 mm Thick toothed plate with foam filler .....	402	14	20	80	18

## BITUMEN ROOFING

	<b>Per square metre.</b>	A \$
0502500	Bitumen felt built-up roofing with bitumen felt of any type and in any number of layers including bitumen dress compound, and granite chippings of any grade .....	123
0502600	Bituminous emulsion roofing with bitumen emulsion and solution of any type and in any number of coats including treating cracks, wash coat, priming coat and glass fibre membrane, and finishing surface with dressing of sand, applying protective coats, colour finish coats or compound of cement, bitumen emulsion and sand.....	172
0502700	Add to items 0502500 and 0502600 when applied to corrugated surfaces .....	30%

## ITEM

**PROPRIETARY WATERPROOFING SYSTEMS**

Proprietary waterproofing systems in accordance with the manufacturer's recommendations :

**Per square metre.**

0502800	Proprietary waterproofing system - sheet waterproof roof coverings .....	175
0502900	Proprietary waterproofing system - liquid applied waterproof roof coverings .....	157
0503000	Proprietary waterproofing system – hot spray-applied waterproof roof coverings.....	462
0503100	Add to items 0502800 to 0503000 when applied to corrugated surfaces .....	30%

**MISCELLANEOUS ITEMS**

**Per square metre.**

0503200	25 mm Thick proprietary extruded polystyrene rigid foam insulation board .....	85
0503300	50 mm Thick ditto .....	130
0503400	Take down and clear away existing insulation board including protective screed of any thickness and prepare to receive new cement and sand screed including hacking for key .....	28
0503500	Strip off existing bitumen roofing or proprietary waterproof roof covering complete with all skirtings, flashings, timber battens, all bedding and fixing materials and the like, and clear away, including cleaning off, making good and preparing surface of screed under to receive new roofing .....	35

**ASPHALT ROOFING**

**Per square metre.**

0503600	Strip off existing asphalt including membrane, raking out existing joints, grooves or rebates, including cleaning off, making good and preparing surface of screed or concrete under to receive new roofing .....	47
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**Per linear metre.**

0503700	Cut, trim and heat edges of existing asphalt to form junction.....	14
0503800	Cut out cracks in existing asphalt and fill with asphalt including heating edges .....	18

**Each**

0503900	Form collar 150 mm high around pipes, metal angles, and the like of any girth on existing asphalt .....	29
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## WATER SEEPAGE REPAIRS SPECIAL CONDITIONS

### GENERAL RULES

#### SC06.G01 Payment for items in this Section

Items in this Section will only be measured and paid for when specifically ordered by the Contract Manager in writing.

#### SC06.G02 Application of rates in this Section

Items in this Section are only applicable to water seepage repairs. The rates for water seepage repairs shall not be used for the assessment of rates for items not specifically mentioned in this Section.

#### SC06.G03 Bathroom or toilet, kitchen and balcony areas

Bathroom or toilet, kitchen or balcony areas shall be measured to the inside face walls. When there is no partition wall separating the kitchen and balcony, the kitchen area shall be measured as a half of the total balcony area.

### MEASUREMENT RULES

#### SC06.M01 Polyurethane injection resin

Patch area of crack and porous concrete shall be measured as the net area formed by the extreme ends of the visible cracked patch or damp surface. No deduction shall be made for voids.

When the shortest distance between two isolated patches does not exceed 300 mm, the total area of these isolated patches shall be added together and measured as one patch area.

When repair of water seepage is executed in a bathroom, toilet or kitchen with area not exceeding 6.00 m<sup>2</sup>, the repair work shall be measured as one number irrespective of the size and quantity of the patch area of crack and porous concrete.

#### SC06.M02 Silane based penetrating sealer

Repair work by silane based penetrating sealer shall be measured as the net area covered. No deduction shall be made for voids not exceeding 0.50 m<sup>2</sup>.

#### SC06.M03 Cementitious tanking systems

Unless otherwise stated, cementitious tanking system shall be measured as the net area covered. No deduction shall be made for voids not exceeding 0.50 m<sup>2</sup>. Thicknesses shall be measured from the general face of the surface being covered and exclusive of any grooves, raked out joints or other irregularities.

#### SC06.M04 Tanking to lift pit

Lift pit volume shall be measured to the inside face of walls and a height from the ground floor level or the lowest basement level, whichever is the lower, to the top of base slab, including volume of sump pit if any.

#### SC06.M05 Water seepage at window

Window surrounds shall be measured as the perimeter of opening for the window being repaired.

**COVERAGE RULES****SC06.R01 Polyurethane injection resin**

Rates for water seepage repairs by polyurethane injection resin shall further include for :

- (a) Identifying cracks and wet patches by Approved equipment, marking out the locations and extent of cracks and patch areas to be repaired, and obtaining agreement of the Contract Manager prior to commencement of repair work.
- (b) Removing defective concrete and loose debris by brushing or blowing out with clean compressed air, and making good all reinforcing bars before injection.

**SC06.R02 Water leakage through pipe sleeve or floor drain surround**

Rates for repairing water leakage through pipe sleeve or floor drain surround shall further include for the repair of areas on ceilings or walls within 150 mm measured from the pipe sleeve or floor drain surround.

**SC06.R03 Silane based penetrating sealer**

Rates for water seepage repairs by silane based penetrating sealer shall further include submission of method statement for approval.

**SC06.R04 Cementitious tanking systems**

Rates for cementitious tanking systems shall further include for submission of method statement for approval.

**SC06.R05 Water seepage at window**

Rates for repairing water seepage through joints between window frames and window surrounds shall further include for :

- (a) Repairing window reveals, window surround areas on the external walls within 150 mm measured from the top, sides and bottom of the extreme ends of the window opening.
- (b) Pointing approved sealant between window frame and surrounds finishing.
- (c) Water test to repaired window surrounds.

**SC06.R06 Water test**

Rate for water test shall further include for :

- (a) Providing testing equipment as required.
- (b) All other expenses arising from the water test.

## ITEM

## POLYURETHANE (PU) INJECTION RESIN

Water seepage repairs by PU injection resin including preparation works, all in accordance with the manufacturer's recommendations :

**Each.**

0600100 Seal crack and porous concrete on floors, walls and ceilings including repairing water leakage through pipe sleeves or floor drain surrounds (Note : PU injection resin applying to a bathroom, toilet or kitchen of area not exceeding 6.00 m<sup>2</sup> shall be measured under item 0600300.).....

Patch area (m <sup>2</sup> )				Add to item D for each additional 0.5 m <sup>2</sup> or part thereof in area
n.e. 0.5	0.5 - 1.0	1.0 - 1.5	1.5 - 2.0	
A \$	B \$	C \$	D \$	E \$
589	617	668	715	46

**Each.**

0600200 Seal crack and porous concrete on walls and slabs of water tanks including repairing water leakage through pipe sleeves or floor drain surrounds .....

Patch area (m <sup>2</sup> )				Add to item D for each additional 0.5 m <sup>2</sup> or part thereof in area
n.e. 0.5	0.5 - 1.0	1.0 - 1.5	1.5 - 2.0	
A \$	B \$	C \$	D \$	E \$
662	690	741	788	46

**Each.**

0600300 Seal crack and porous concrete on floors, walls and ceilings of bathroom, toilet or kitchen including repairing water leakage through pipe sleeves or floor drain surrounds (Note : PU injection to resin applying to a bathroom, toilet or kitchen of area exceeding 6.00 m<sup>2</sup> shall be measured under items 0600100.).....

Bathroom/toilet or kitchen area (m <sup>2</sup> )			
n.e. 1.5	1.5 - 3.0	3.0 - 4.5	4.5 - 6.0
A \$	B \$	C \$	D \$
1,150	1,282	1,411	1,521

**Each.**

0600400 Repair water leakage through pipe sleeve or floor drain surround of any size on slabs or walls (Note : This item will only be paid for when specifically ordered by the Contract Manager and is not included in other water seepage repair items.).....

A \$
497



## ITEM

**SILANE BASED PENETRATING SEALER**

Water seepage repairs by silane based penetrating sealer including preparation works, all in accordance with the manufacturer's recommendations :

**Each.**

0600500	2 coats to any surface .....
0600600	3 coats to any surface .....

n.e. 1.5 m <sup>2</sup>	Add to item A for each additional 0.5 m <sup>2</sup> or part thereof in area
A \$	B \$
688	107
886	161

**CEMENTITIOUS TANKING SYSTEMS**

Cementitious tanking systems to toilets, bathrooms, kitchens, balconies, water tanks and the like, including surface preparation, angle fillets at corners and junctions, square or rounded arrises and narrow returns, and the like, all in accordance with the manufacturer's recommendations :

**Per square metre.**

0600700	15 mm Thick to floors laid to falls .....
0600800	15 mm Thick to sides and top of kerbs, sides and bottom of channels, skirtings, treads and risers, strings .....
0600900	15 mm Thick to walls .....
0601000	Add to items 0600700 to 0600900 for each additional 5 mm or part thereof in thickness .....

**Each**

0601100	Grout in void between pipe of any size and sleeve for full depth including raking out existing pointing and necessary supports and the like .....
0601200	Encase pipe with 50 mm (minimum) thick x 50 mm (minimum) wide plinth around pipe of any size including 1 coat of bond coat on existing surfaces and necessary supports and the like .....

Fast-set tanking system	Normal-set tanking system
A \$	B \$
516	313
663	423
574	350
159	139
28	18
66	41

## ITEM

**WATER SEEPAGE REPAIR WORKS TO BATHROOMS OR TOILETS, KITCHEN AND BALCONIES IN DOMESTIC UNITS**

(Note : WC pan, plastic seat and cover shall be measured under Plumbing and Drainage Section of this Schedule.)

The following items 0601300 to 0601600 shall be read in conjunction with Drawing Nos. MS/S/LAV/A/CON 015 to 018, MB/S/LAV/MS 002, 003, 006 and 007 :

**Each.**

- 0601300 Fast-set cementitious tanking systems to bathroom or toilet without bathtub or shower tray, kitchen or balcony, including saw cutting and taking down existing finishes, installing new finishes and floor drain, replacing or repairing existing pipeworks including necessary alteration and connection to sanitary fittings, incidental works and the like (take down and set aside precast cooking and sink bench and re-fix upon completion of the works measured separately).....

Area of bathroom, toilet, kitchen or balcony	
n.e. 1.0 m <sup>2</sup>	Add to item A for each additional 0.5 m <sup>2</sup> or part thereof in area
A \$	B \$
2,064	840

**Each.**

- 0601400 Fast-set cementitious tanking systems to bathroom or toilet with bathtub or shower tray to be replaced or retained, including taking down and re-fixing bathtub, shower tray or access panel for bathtub, saw cutting and taking down existing finishes, installing new finishes and floor drain, replacing or repairing existing pipeworks including necessary alteration and connection to sanitary fittings, incidental works and the like (new bathtub or shower tray measured separately).....
- 0601500 Fast-set cementitious tanking systems to bathroom or toilet with bathtub or shower tray to be removed, including taking down and clearing away bathtub or shower tray, saw cutting and taking down existing finishes, constructing shower area with or without platform, installing new finishes and floor drain, replacing or repairing existing pipeworks including necessary alteration and connection to sanitary fittings, incidental works and the like .....
- 0601600 Fast-set cementitious tanking systems to bathroom or toilet with shower area with or without platform, including saw cutting and taking down existing finishes, re-constructing shower area with or without platform, installing new finishes and floor drain, replacing or repairing existing pipeworks including necessary alteration and connection to sanitary fittings, incidental works and the like .....

Area of bathroom or toilet	
n.e. 1.5 m <sup>2</sup>	Add to item A for each additional 0.5 m <sup>2</sup> or part thereof in area
A \$	B \$
3,631	884
3,540	884
3,079	884

## ITEM

## TANKING TO LIFT PIT

- Each.**
- 0601700 Fast-set cementitious tanking system to lift pits including surface preparation and reinstatement of finishes to match existing.....

Lift pit volume (m <sup>3</sup> )			Add to item C for each additional 5.0 m <sup>3</sup> or part thereof in volume
n.e. 10.0	10.0 - 15.0	15.0 - 20.0	
A \$	B \$	C \$	D \$
12,677	14,240	17,112	2,632

## WATER SEEPAGE AT WINDOW

- Each.**
- 0601800 Normal-set cementitious tanking system to repair water seepage through joints between window frames and window surrounds including surface preparation, pointing joint with sealant and reinstatement of finishes to match existing.....

Perimeter of window surround (m)				Add to item D for each additional 3.0 m or part thereof in length
n.e. 3.0	3.0 - 6.0	6.0 - 9.0	9.0 - 12.0	
A \$	B \$	C \$	D \$	E \$
745	1,117	1,568	2,020	451

## WATER TEST

- Each.**
- 0601900 Water spray tests (Note: This item will only be paid for when specifically ordered by the Contract Manager in writing and not included in other water seepage repair items.) .....

A \$
283

## TEMPORARY WORK SPECIAL CONDITIONS

### GENERAL RULES

#### SC07.G01 Payment of items in this Section

Unless otherwise stated, rates throughout this Schedule shall deem to include for all temporary works necessary for the execution of the Works and protection of the public from harm, dust or nuisance.

Items in this Section will only be measured and paid for when specifically ordered by the Contract Manager in writing under the following situation :

- (a) Special Temporary Works as specified.
- (b) Enhanced service quality in repair works as specified.
- (c) Such temporary work is not related to any Works but is ordered for exclusive use of the Employer, the Contract Manager and other contractors employed by the Employer. No payment shall be made if it is subsequently used by the Contractor for execution of any Works.

### MEASUREMENT RULES

#### SC07.M01 Temporary covered walkways, hoardings, platforms, flooring, stagings and the like

All sizes and thicknesses shall be finished sizes and thicknesses.

Hoardings shall be measured the length on plan as fixed and the average height above ground.

#### SC07.M02 Scaffolding (other than metal scaffolding)

Scaffolding (other than metal scaffolding) shall be measured as the areas of the face of the building or structure against which it is required and subject to the conditions below :

- (a) Distance between two adjacent standards on the same plane does not exceed 1.30 m; and
- (b) Distance between two ledgers on the same plane does not exceed 1.20 m.

#### SC07.M03 Screens

Screens shall be measured as the net surface area covered. No deduction shall be made for openings not exceeding 2.00 m<sup>2</sup>.

#### SC07.M04 Side-supported metal scaffolding

Side-supported metal scaffolding shall be measured as the net area on plan.

#### SC07.M05 Metal staging

Metal staging shall be measured as the net area of the uppermost working platform of the staging. The height of the staging shall be measured from the top of uppermost working platform to the average founding level.

**SC07.M06 Suspended working platforms**

Payment for the initial set up in position and shifting position of gondola will only be made when such items are specified in Works Orders and copies of all the certificate(s) as required by current Regulations are provided by the Contractor.

Hire charge shall only be paid for such period specified in Works Orders. Hire charge shall not be measured for the following periods within that specified in the Works Order :

- (a) Period for initial set up in position, shifting position and dismantle.
- (b) Period before successful testing of the equipment.
- (c) Period when the equipment is not in operation unless instructed by the Contract Manager or in compliance with the statutory requirements.

**COVERAGE RULES****SC07.R01 Temporary covered walkways, hoardings, platforms, flooring, stagings and the like**

Rates for temporary covered walkways, hoardings, platforms, flooring, stagings and the like shall further include for :

- (a) Delivering to site and erecting the work including poles, lashings, struts, wedges, welding rods, boarding spikes, sheets, plates, channel posts, angle framing, struts, base plates, handles, stands, locks, screws, bolts and nuts, anchor bolts, straps, and the like.
- (b) Providing doors with associated ironmongery.
- (c) Concrete footings including excavation, formwork, concrete, reinforcement and removal of excavated materials and debris.
- (d) Drilling or cutting mortices in concrete or other surfaces for anchorage and grouting with Approved materials.
- (e) Preparing and applying primer and paint to all surfaces including letters, numbers, Chinese characters, logos, warning signs and the like, in single or multi-colour paints.
- (f) Multi-handling, relocating and moving around in any positions within the work areas.
- (g) Any modification and adaptation as designed by the Contractor and Approved by the Contract Manager to suit the condition of the Site and work areas.
- (h) Re-erecting, repairing and maintaining (including repainting) during any period of use in first or subsequent positions, and taking down and setting aside for re-erection or clearing away.
- (i) Providing adequate public lighting and warning lights and similar measures including associated electrical work and power supply.
- (j) Providing label, signage, notice, diversion board and the like unless otherwise stated.

**SC07.R02 Scaffolding, screens and staging**

Rates for scaffolding, screens and staging shall include for :

- (a) Any type of scaffolding, screens and staging including but not limited to bamboo, timber or steel tubular unless otherwise stated.
- (b) Designing to meet the layout as ordered and on any foundation support conditions for each standard of the scaffold including submission of calculation.
- (c) Delivering to site and erecting the work including poles, lashings, struts, wedges, boarding, anchors, spikes, screws, bolts, straps, wires, ties, guardrails, working platforms, toe boards, access stairs, supporting members, rakers, metal foundation supports, nylon net and all safety measures, and the like.
- (d) Carrying out works for scaffolding, screens and staging by competent workmen and/or person and providing copy of all the inspection report(s) as specified.
- (e) Re-erecting, altering, repairing and maintaining during any period of use in first or subsequent positions, and taking down and setting aside for re-erection or clearing away.
- (f) Providing adequate public lighting and warning lights and similar measures including associated electrical work and power supply.
- (g) Making good any damage to the scaffolding, screens and staging caused by the Employer or other contractors employed by the Employer and modify any work to meet the requirements of the Contract Manager throughout the period of use.
- (h) Allowance for laps in screen.
- (i) Immediate working platforms complete with guardrails, toe boards, access stairs, supporting members and the like in staging.

**SC07.R03 Suspended working platforms**

Rates for suspended working platform shall further include for :

- (a) Fuel, lubricants, maintenance and repair.
- (b) Testing and precautionary works and procedures in compliance with the statutory requirements including submission of the testing and inspection certificate(s).
- (c) Appointment of Registered Structural Engineer to check the sufficiency of existing structure with regard to the use of gondola.
- (d) Dismantling, disconnecting, setting aside and all necessary multi-handling of fixture, fitting, lighting and the like which projected from faces of buildings, such as laundry racks, and the like incidental to the execution of the Works and subsequently re-fixing upon completion to the satisfaction of the Contract Manager.

## ITEM

**TEMPORARY COVERED WALKWAYS, HOARDINGS, PLATFORMS, FLOORING, STAGINGS AND THE LIKE**

Erect, maintain, take down and clear away of the following temporary works and sundry items :

A  
\$

**Per cubic metre.**

0700100	Sawn hardwood scantling and boarding in temporary platforms, flooring, stagings, walkways and the like.....	454
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**Per square metre.**

0700200	Plywood not exceeding 12 mm thick in temporary platforms, flooring, stagings, walkways and the like.....	9
0700300	Ditto but 12 - 25 mm thick.....	16
0700400	Fire-resistant hoarding including provision of Approved fire certificate (Drawing Nos. MB/S/TEMP/A/MET 001 to 004, MB/S/SIGN/A/WNS 002).....	325
0700500	Removable film stickers including letters, numbers, Chinese characters, logos, symbols, graphics and the like .....	236

**Per linear metre.**

0700600	Temporary metal covered walkway Type D (Drawing Nos. MB/S/TEMP/A/MET 013 to 014, MB/S/SIGN/A/WNS 013 to 015, MB/S/SIGN/A/MS 001) (net horizontal length of centre line of covered walkway measured) .....	5,148
0700700	Temporary metal hoarding Type A (Drawing Nos. MB/S/TEMP/A/MET 008 to 010, MB/S/SIGN/A/WNS 013 to 015, MB/S/SIGN/A/MS 001).....	3,057
0700800	Temporary metal hoarding Type B (Drawing Nos. MB/S/TEMP/A/MET 008 to 010, MB/S/SIGN/A/WNS 013 to 015, MB/S/SIGN/A/MS 001).....	3,647
0700900	Temporary metal hoarding Type C (Drawing Nos. MB/S/TEMP/A/MET 012, MB/S/SIGN/A/WNS 013 to 015, MB/S/SIGN/A/MS 001).....	1,377
0701000	Temporary metal hoarding Type E (Drawing Nos. MB/S/TEMP/A/MET 017 to 019, MB/S/SIGN/A/WNS 013 to 015, MB/S/SIGN/A/MS 001).....	4,126
0701100	Temporary metal hoarding Type F (Drawing Nos. MB/S/TEMP/A/MET 017 to 019, MB/S/SIGN/A/WNS 013 to 015, MB/S/SIGN/A/MS 001).....	4,384
0701200	Water-filled barriers not exceeding 1.50 m high .....	299
0701300	Ditto exceeding 1.50 m high .....	513

**Per kg.**

0701400	Steel/wrot iron or galvanized steel/wrot iron (rod, bar, plate, chequer plate, angle section, tee section, hollow section, universal beam and column, joist, channel, flat sheet, formed sheet, chains, hooks, rings, shackles, and the like) .....	33
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## ITEM

**SCAFFOLDING AND SCREENS (OTHER THAN METAL SCAFFOLDING)**

Erect, maintain, take down and clear away :

A  
\$**Per square metre.**

0701500	Double row scaffold.....	160
0701600	Light duty screen for dust protection, sun-shading or similar purpose constructed of woven polyethylene sheet (Nei Lung Tso Pao) or other suitable covering secured to and including vertical bamboo pole or similar framing, and including forming any openings required and finishing any portions as doors or flaps complete with fittings and fastenings.....	53
0701700	Ditto but secured to and including horizontal or sloping bamboo pole or similar framing as roof including all additional raking and vertical framing, bracketing, stays and supports.....	98
0701800	Heavy duty screen for full weather protection constructed of woven polyethylene sheet (Nei Lung Tso Pao), tarpaulin sheets or other suitable covering lapped and sealed at joints and secured to and including vertical bamboo pole or similar framing, and including forming any openings required and finishing any portions as doors or flaps complete with fittings and fastenings .....	101
0701900	Ditto but secured to and including horizontal or sloping bamboo pole or similar framing as roof, including all additional raking and vertical framing, bracketing, stays and supports.....	147
0702000	Woven polyethylene sheets (Nei Lung Tso Pao) laid over slopes and the like as protection secured to stakes, pegs, bamboo supports and the like .....	43
0702100	Tarpaulin sheet with scalloped edges lapped 150 mm and sealed with water-proofing tapes at joints and fixed to frame (measured net) .....	45
0702200	Nylon net including laps and fixing to frame (measured net).....	25
0702300	Nylon net of minimum 3.5 mm diameter heavy duty nylon at 50 mm spacing including laps and fixing to frame (measured net) .....	32
<b>Each.</b>		
0702400	Truss-out scaffold for area not exceeding 5.00 m <sup>2</sup> .....	3,361
0702500	Add to item 0702400 for each additional 1.00 m <sup>2</sup> or part thereof in area.....	218



## ITEM

**METAL SCAFFOLDING****Per square metre.**A  
\$

0702600 Erect, maintain, take down and clear away side-supported metal scaffolding.....

1,546

0702700 Take down side-supported metal scaffolding and set aside for re-erection or clear away .....

459

Erect, maintain, take down and clear away :

Height (m)

n.e.  
4.004.00 -  
10.0010.00 -  
16.00Add to  
item C for  
each  
additional  
6 m or  
thereof in  
height**Per square metre.**A  
\$B  
\$C  
\$D  
\$

0702800 Metal staging .....

662

1,059

1,548

764

**SUSPENDED WORKING PLATFORMS**

Gondola of any size as ordered by the Contract Manager, complete with all necessary accessories and fixed at any height :

**Each.**A  
\$

0702900 Initial set up in position including delivering, installing, dismantling and removing upon completion .....

10,948

0703000 Shifting position within the same building or to another building.....

4,278

0703100 Hire charge per day of 24 hours.....

184

## ITEM

## ENHANCED SERVICE QUALITY IN REPAIR WORKS

Each.

A  
\$

0703200	Enhanced Service Quality in Repair Work for each occupied flat for spalling repair .....	495
0703300	Ditto for replacement of soil and waste pipes.....	424
0703400	Ditto for replacement of potable pipes .....	354
0703500	Ditto for tiles repair .....	424
0703600	Ditto for chemical injection.....	354
0703700	Ditto for window or door replacement .....	283
0703800	Enhanced Service Quality in Repair Work for debonded wall tiles and spalling repair at corridors, lift lobbies or stairs with protective measures covering a floor area of not exceeding 9.00 m <sup>2</sup> .....	492
0703900	Ditto but for replacement of soil and waste pipes covering a floor area of not exceeding 5.00 m <sup>2</sup> .....	250
0704000	Add to items 0703800 to 0703900 for each additional 1.00 m <sup>2</sup> or part thereof in area .....	54

## CARPENTRY AND JOINERY SPECIAL CONDITIONS

### GENERAL RULES

#### SC08.G01 Classification of material for timber

For measurement purpose, material for timber is classified into two groups as follows :

Hardwood	Specific timber
Hardwood as specified (timber classified herein as “Specific timber” shall not be regarded as hardwood)	Teak

Specific timber shall only be paid when specifically ordered by the Contract Manager in writing.

### MEASUREMENT RULES

#### SC08.M01 Generally

All dimension of timber shall be finished sizes unless otherwise stated.

Sawn and wrot hardwood are each given separately.

#### SC08.M02 Carpentry and joinery

Carpentry and joinery shall be measured the net length or area as fixed, of the smallest finished square or rectangular section from which the piece can be cut. Timber members shall be measured flush over joints, no allowance shall be made for tenon and housing, tongue and groove, and the like at joints.

Timber exceeding 150 mm wide and not exceeding 50 mm thick shall be measured as boarding.

#### SC08.M03 Sawn and wrot timber

Timber shall be measured as wrot hardwood if 50% or more of the girth of overall surface is planed for its entire length. Otherwise, the timber shall be measured as sawn hardwood.

#### SC08.M04 Boarding, flooring, plywood and the like

Boarding, floor boarding, wood block and parquet flooring, plywood and all other building boards, acoustic tiling, wood panels and the like shall be measured the net area covered as fixed or laid. No deduction shall be made for openings not exceeding 0.50 m<sup>2</sup>. The width of boarding when stated shall mean the exposed face width as fixed.

Timber boarding shall be measured and rounded up to the nearest 5 mm.

#### SC08.M05 Glass fibre insulation, canvas and the like

Glass fibre insulation, canvas in sunshades and the like shall be measured as the net area covered. No deduction shall be made for openings not exceeding 0.50 m<sup>2</sup>.

**SC08.M06 Door hung folding or in two heights**

Each leaf of doors hung folding or in two heights shall be measured separately.

Plastic folding doors shall be measured flat as the net area of the opening to which the door is to be fixed, excluding linings, tracks, rails and the like.

**SC08.M07 Vanity top / worktop**

Vanity tops or worktops shall be measured flat overall on plan. No deduction shall be made for openings, holes and the like.

**SC08.M08 Toilet cubicle**

Fibreboard for toilet cubicle partition and door panel shall be measured as the net area excluding rails, brackets, supporting legs and hardware, accessories and the like.

**COVERAGE RULES****SC08.R01 Generally**

Rates for carpentry and joinery shall further include for :

- (a) Setting out, framing up and straight, raking or circular cutting and waste.
- (b) Fixing items complete, true and level including scribing to new or existing work, fixing in clips or to clamps, embedding in concrete, screeds and the like, or screwing or bolting to any materials, unless otherwise stated.
- (c) Fixing items in piecing out and replacing existing defective material which has been cut out and removed.
- (d) Providing nails, pins, tacks, screws, bolts, dowels, holdfasts, ragbolts, patent connectors, cleats, brackets, plates, cups and screws, adhesive, mastics, white lead and any other fixing and jointing materials.
- (e) Notching, cutting and fitting, drilling for screws and boring for bolts including countersinking screw, bolt heads and nuts, and pelleting to match the colour and grain of the finished surfaces.
- (f) Executing all plugging required for fixing to new or existing concrete, brick, stone or other surfaces, with rawplugs or other Approved proprietary plugs including all drilling and cutting mortices or alternatively using Approved proprietary power operated fixing system.
- (g) Gluing, forming splayed or rounded edges, holes, housing ends, ship-lap joints, mitres, ends and shaped ends, angles, junctions, heading joints, short lengths, tongued angles, chamfers, rebates, grooves, mortices and tenons, housed, dovetailed and other framed joints and providing hardwood or teak pins, wedges, keys and the like.
- (h) Wood preservative or pesticidal coating.
- (i) Finishing exposed faces to a fine glass-papered surface.

**SC08.R02      Flooring and boarding**

Rates for flooring and boarding shall further include for :

- (a)      Preparing sub-bases and backgrounds.
- (b)      Providing batten systems, backing and/or moisture resisting membranes.
- (c)      Providing and fixing boards in matching widths of any width required.
- (d)      Forming all butt, splayed, tongued, cross tongued, grooved, and 'V' or bead joints, planing edges flat and square exposed surfaces, including cramping and wedging up.
- (e)      Sanding surfaces and leaving clean to receive sealer or polish.

**SC08.R03      Jalousies and door**

Rates for jalousies and doors including fire resisting doors shall further include for :

- (a)      Fitting and hanging.
- (b)      Supplying and installing in accordance with the manufacturer's recommendations and providing manufacturer's confirmation in compliance with related statutory fire safety requirement.

**SC08.R04      Doorset**

Rates for doorsets including fire resisting doorsets shall further include for :

- (a)      Door leaves, glazed panels (including glass), glazing beads, louvres, door frames including transomes, architraves, trims, grounds, backings, linings and finishings, and the like, all associated ironmongeries, component parts and fixing accessories, all necessary painting, bedding door frames to concrete surfaces, sealant pointing, all assembling, fitting, hanging and fixing doorsets in position, complying with any testing and sampling requirements.
- (b)      The design integrity of details related to fire resistance rating requirements for fire resisting doorsets including the use of smoke and fire protection strips, sealant, backing rods, and the like.
- (c)      Bedding and pointing door frames or linings, ground and backings in mortar against concrete, brickwork or blockwork.
- (d)      Forming opening for doors.

**SC08.R05      Demountable partition and toilet cubicle**

Rates for demountable partition, toilet cubicle and the like shall further include for :

- (a) Integral components complete with finishes and holes and the like, performed at factory but excluding trims fixed on site.
- (b) Cutting and fitting around obstructions and the like, and cutting holes for services including additional bridging members, blockings and flangers and the like.
- (c) Head and cill fixings.
- (d) Angles, intersections, ends and abutments and the like.
- (e) Bedding and pointing frames.
- (f) Glazing and glazing beads and compounds.
- (g) Extra framing members, trimmers, stiffeners, linings around blank openings.
- (h) Fixing devices, supporting legs and brackets.

## ITEM

## SCANTLINGS

		Sectional area (m <sup>2</sup> )					
		n.e. 0.0005	0.0005 - 0.001	0.001 - 0.002	0.002 - 0.004	0.004 - 0.008	0.008 - 0.016
<b>Per linear metre.</b>		A \$	B \$	C \$	D \$	E \$	F \$
0800100	Sawn hardwood scantlings.....	14	17	20	29	49	73
0800200	Wrot hardwood scantlings .....	16	20	27	41	74	123
0800300	Wrot specific timber scantlings.....	17	22	30	48	86	148

		Sectional area (m <sup>2</sup> )		
		n.e. 0.004	0.004 - 0.016	exc. 0.016
<b>Per linear metre.</b>		A \$	B \$	C \$
0800400	Take down and clear away existing scantlings .....	3	10	18
0800500	Take down and set aside for re-use ditto.....	6	18	---
0800600	Fix only ditto .....	14	24	47
0800700	Re-secure ditto .....	5	7	15

## BOARDING

		Thickness (mm)						
		15	20	25	30	40	45	50
<b>Per square metre.</b>		A \$	B \$	C \$	D \$	E \$	F \$	G \$
0800800	Sawn hardwood boarding .....	109	138	166	207	265	304	333
0800900	Wrot hardwood boarding .....	219	277	332	421	537	632	690
0801000	Wrot specific timber boarding .....	332	405	474	610	755	879	951

## ITEM

**BOARDING (Cont'd)****Per square metre.**

		A \$
0801100	Take down and clear away existing boarding of any thickness with any type of joints .....	28
0801200	Take down and set aside for re-use ditto .....	47
0801300	Fix only ditto .....	118
0801400	Re-secure ditto .....	26

**Per linear metre.**

0801500	Cutting or forming rebate, groove, splay, chamfer, bead, rounded angle, tongue, flute, cove, moulding or similar labour on existing boardings in position .....	5
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**Each.**

0801600	20 mm (Minimum) thick backboard to cistern chamfered all round fixed to wall including fixings, accessories, anchors and the like .....	103
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**WOOD BLOCK AND PARQUET FLOORING**

		Supply and fix		Fix only
		Wrot hardwood	Wrot specific timber	
<b>Per square metre.</b>		A \$	B \$	C \$
0801700	20 mm (Minimum) thick wood block flooring, matching colour, tongued and grooved all round, laid and fixed in any pattern with borders, including coating screeded sub-floor with Approved bitumen or rubber latex waterproofing emulsion, dipping each block in similar emulsion, planing, sanding down, cleaning off and preparing surface for polishing .....	385	568	92
0801800	8 mm Thick wood mosaic parquet flooring laid and fixed in any pattern with Approved bitumen or rubber latex waterproofing emulsion including stripping off paper backing to blocks, sanding down, cleaning off and preparing surface for polishing .....	264	345	73

**Per square metre.**

		A \$
0801900	Take down and clear away wood block or parquet flooring .....	16
0802000	Take down and set aside for re-use wood block or parquet flooring including cleaning off bitumen or rubber latex waterproofing emulsion or adhesive from blocks and screed and preparing surface of screed to receive new flooring .....	57



## ITEM

## JALOUSIES AND DOORS

## Per square metre.

- 0802100 Jalousies 40 - 65 mm thick with fixed wood louvre blades at angle of 45 degrees rounded or splayed on edges and spaced at about 40 mm centres, framed up in panels with styles, head and bottom rails of required widths including all rebates, splays, throats, mouldings and similar labours, louvre blades notched and housed into styles and secured with small fillet around back edge of styles, and hanging or hanging folding.....

Wrot hardwood	Wrot specific timber
A \$	B \$
1,133	2,182

## Per square metre.

- 0802200 Hollow core flush door of any thickness lipped all round with 12 mm hardwood tongued fillet and covered both sides with 5 mm luan faced plywood or 3.2 mm standard hardboard and hanging .....
- 0802300 Solid core flush door ditto.....
- 0802400 Extra over items 0802200 and 0802300 for 5 mm specific timber faced plywood (each face measured).....

A \$
522
590
79
113

## Each.

- 0802500 Form observation or vent panel opening not exceeding 1.00 m<sup>2</sup> (net opening size) through flush door of any thickness, including specific timber fillet all round twice rebated for plywood or hardboard door covering and rebated for glass and the like (glass, beads, louvre blades and the like measured separately).....

## TIMBER DOORSETS

Flush door of any thickness, including covering sheet, door frame and architrave of any material, glass vision panel as required, hinges, lock, push and kicking plates, handle, painting, fixing devices and accessories, and the like :

## Each.

- 0802600 Set of single leaf door to suit structural opening not exceeding 2.30 m<sup>2</sup> .....
- 0802700 Set of pair doors to suit structural opening not exceeding 4.50 m<sup>2</sup> .....

Hollow core flush door	Solid core flush door
A \$	B \$
2,212	2,568
3,401	3,911

## ITEM

**TIMBER DOORSETS (Cont'd)**

Fire resisting door of any thickness, including covering sheet, door frame and architrave of any materials, glass vision panel as required, smoke seal, hinges, lock, door closer, push and kicking plates, handle, sign plates, painting, fixing devices and accessories, and the like :

		1/2 Hour fire rated	1 Hour fire rated	2 Hours fire rated
<b>Each.</b>		A \$	B \$	C \$
0802800	Set of single leaf door to suit structural opening not exceeding 2.30 m <sup>2</sup> .....	4,687	4,705	8,818
0802900	Set of pair doors to suit structural opening not exceeding 4.50 m <sup>2</sup> .....	7,634	7,669	11,833

**REPAIRS AND THE LIKE TO JALOUSIES AND DOORS**

Execute the following to jalousies and doors of any size and thickness, single or folding :

**Each (or per opening leaf).**

		A \$
0803000	Take down and clear away timber door or jalousie complete with ironmongery, fixing accessories and the like.....	47
0803100	Take down and set aside for re-use ditto .....	57
0803200	Fix only ditto .....	84
0803300	Re-secure timber door or jalousie in position including tightening and providing new screws as required to hinges, pivots, sliding gear, and the like, cleaning and oiling the same, and planing, sanding down, and painting one coat of hard gloss paint or polishing edges as required.....	42
<b>Each.</b>		
0803400	Fill sinkings, mortices and the like in door frames, doors and the like with small hardwood pieces where hinges and the like have been removed, including painting patch with two coats of synthetic paint (Note : This item will only be paid for when removal of hinge and the like is <u>not</u> measured.) .....	29
0803500	Plug holes in door frames, doors and the like with hardwood plugs where fittings and the like have been removed, including cleaning off and painting patch with two coats of synthetic paint (Note : This item will only be paid for when taking down of fitting and the like is <u>not</u> measured.) .....	5

## ITEM

## DOOR, PARTITION AND PANEL FRAMES

		Wrot hardwood	Wrot specific timber
		A \$	B \$
<b>Per cubic metre.</b>			
0803600	Solid frames, transomes, mullions, styles, rails or cills, and the like, exceeding 0.016 m <sup>2</sup> sectional area to door or exposed partition or panel, framed up and fixed complete, including fixing accessories and the like.....	13,519	16,857
<b>Per linear metre.</b>			
0803700	Solid frames, transomes, mullions, styles, rails or cills, and the like, not exceeding 0.004 m <sup>2</sup> sectional area to door or exposed partition or panel, framed up and fixed complete, including fixing accessories and the like.....	94	116
0803800	Ditto 0.004 - 0.008 m <sup>2</sup> sectional area ditto .....	146	179
0803900	Ditto 0.008 - 0.016 m <sup>2</sup> sectional area ditto .....	208	255
<b>Per linear metre.</b>			A \$
0804000	Take down and clear away solid frames, transomes, mullions, styles, rails or cills, and the like, of any size to door or exposed partition or panel, including any associated members fixed thereto, such as architraves, glazing beads, fixing accessories and the like .....		16
0804100	Take down and aside for re-use ditto.....		28
0804200	Fix only ditto .....		42
0804300	Re-secure ditto.....		17

## BUILDING BOARDS, ACOUSTIC TILING AND SUNDRY ITEMS

## PLYWOOD

		Thickness (mm)					
		4	6	9	12	15	18
<b>Per square metre.</b>		A \$	B \$	C \$	D \$	E \$	F \$
0804400	Grade 2 luan faced plywood.....	68	83	112	134	208	238

**Per square metre.**

		A \$
0804500	Extra over item 0804400 for specific timber faced (each face measured).....	79

**Per square metre.**

		Thickness (mm)	
		9	18
		A \$	B \$
0804600	Marine plywood bonded with weather-proof and boil-proof adhesive between plywoods, finished for painting or polishing .....	147	276

## ITEM

**HARDBOARD****Per square metre.**

0804700	Standard hardboard.....
0804800	Tempered hardboard.....

Thickness (mm)		
3	5	6
A	B	C
\$	\$	\$
47	64	81
116	135	153

**FIBRE INSULATING BOARD****Per square metre.**

0804900	Natural finish fibre insulating board including fixing in symmetrical patterns .....
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Thickness (mm)		
9	12	19
A	B	C
\$	\$	\$
110	130	184

**FIRE PROTECTION BOARD****Per square metre.**

0805000	9 mm (Minimum) thick Approved proprietary non-combustible fire protection board panel system including sealing all joints and screws with Approved sealant and joint tape, fixing accessories and forming access panel and opening as shown on the drawings .....
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A
\$
536

**BLOCKBOARD****Per square metre.**

0805100	Blockboard luan faced both sides .....
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Thickness (mm)	
15	18
A	B
\$	\$
91	95

**CHALKBOARD, NOTICEBOARD AND THE LIKE****Per square metre.**

0805200	Magnetic chalkboard, noticeboard, writing board and the like of any colour, complete with pen tray, aluminium frame including brackets and accessories.....
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A
\$
941

## ITEM

**CALCIUM SILICATE BOARD****Per square metre.**

0805300 25 mm Thick fibre cement reinforced calcium silicate board including fixing accessories and the like .....

A  
\$

790

**LAMINATED PLASTIC DECORATIVE SHEETING**

(Note : The following items 0805400 and 0805500 will only be paid for when specifically ordered by the Contract Manager in writing and not included in other items.)

**Per square metre.**

0805400 0.8 mm (Minimum) thick proprietary standard laminated plastic decorative sheeting of any class .....

A  
\$

265

0805500 Acid and alkaline proof laminated plastic sheeting .....

374

**ACOUSTIC TILING**

(Note : Acoustic tiles fixed to suspended ceiling system included in Steel and Metal Work Section of this Schedule.)

**Per square metre.**

0805600 Cane fibre, wood fibre perforated, or mineral fibre acoustic tiles of any size fixed to timber or plastered surfaces .....

Thickness (mm)	
15	19
A \$	B \$
131	166

**GLASS FIBRE INSULATION****Per square metre.**

0805700 Glass fibre mat.....

0805800 Glass fibre resin bonded slab .....

0805900 Extra over items 0805700 and 0805800 for faced on one side with aluminium foil .....

Uncompressed thickness (mm)		
12	25	50
A \$	B \$	C \$
---	33	50
39	50	77
36	36	36

## ITEM

**CANVAS****Per square metre.**

- 0806000 Best striped drill canvas made up, including all seaming, scalloped edges and similar labours, including any tying tape or cords, and fixing to metal framework .....

A  
\$

454

**TOILET CUBICLE****Per square metre.**

- 0806100 12 mm (Minimum) thick medium density fibreboard toilet cubicle partition and door panel in any colour complete with metal frames, top rails, brackets, supporting legs, accessories and fixing devices, all in accordance with the manufacturer's recommendations.....

A  
\$

779

**Each.**

- 0806200 Extra over item 0806100 for door of any size with door frame, hinges, indication bolt, door stop, coat hook and the like .....

409

**VANITY TOP / WORKTOP****Per square metre.**

- 0806300 50 mm Thick vanity top or worktop comprising 13 mm (maximum) thick polymer resin worktop, fascia board, apron, backsplash and the like all in one piece of any colour, shape and finish, including supporting frames, component parts, accessories, fixing devices and forming openings, holes, and the like as required.....

A  
\$

6,400

## ITEM

## REPAIRS TO BUILDING BOARDS, ACOUSTIC TILING AND SUNDRY ITEMS

		Take down and clear away	Take down and set aside for re-use	Fix only	Re-secure
	<b>Per square metre.</b>	A	B	C	D
		\$	\$	\$	\$
0806400	Plywood, hardboard, fibre insulating board, fire protection board, blockboard, laminated plastic decoration sheeting, medium density fibre board and the like of any thickness, including accessories and fixing devices and the like.....	24	35	67	13
0806500	Cane, wood fibre or mineral fibre acoustic tiles of any size and thickness .....	18	35	56	17
0806600	Baize or fine felt .....	16	28	56	12
0806700	Glass fibre insulation of any thickness .....	7	14	17	5
0806800	PVC awnings, canvas .....	10	---	---	---
0806900	Notice board, chalkboard, pin board, direction boards and the like fixed to wall or column or hanging on wall including hanging plates .....	28	57	84	17
0807000	Cupboard fitting, dresser, storage rack and the like fixed to wall, or to wall and floor, when taken down or fixed in one complete unit including brackets, accessories and fixing devices and the like (face area in contact with wall only measured) .....	35	71	101	22
0807100	Cupboard or cabinet door and the like complete with ironmongery, accessories and fixing devices and the like .....	20	35	56	12
0807200	Detached solid or slat shelving complete with bearers and wood or steel brackets, accessories and fixing devices and the like (top surface area of shelving measured) .....	28	57	84	19
0807300	Sink bench, cooking bench, vanity top and the like, complete with supporting leg, frames bearers and brackets, accessories and fixing devices and the like, fixed to wall (top surface area of bench measured).....	47	71	113	34

## ITEM

**FIBRE GLASS BASKETBALL BOARD****Each.**

	A \$
0807400 1,200 x 1,800 x 24 mm Thick fibre glass basketball aiming board constructed of 19 mm plywood core finished with 3 layers of fibre glass (approximately 3 mm) on the front and 2 layers of fibre glass (approximately 2 mm) on the back and complete with ring and mounting brackets .....	4,881
0807500 Take down and clear away any type of basketball aiming board complete with ring and mounting brackets.....	318

**DEMOUNTABLE PARTITION****Per square metre.**

	A \$
0807600 Proprietary demountable partition system not exceeding 60 mm thick, comprising frame, post, skirting, lining panel, finished with fabric on both sides and accessories, all in accordance with the manufacturer's recommendations.....	948
0807700 Ditto but exceeding 60 mm thick and complete with sound insulation .....	1,386
0807800 Extra over items 0807600 and 0807700 for glazed panel.....	1,265

**Per linear metre.**

	A \$
0807900 Open shelf approximate size 350 mm wide x 250 mm high.....	1,090
0808000 Hanging cabinet approximate size 350 mm wide x 440 mm high, complete with flap door and lock.....	2,810

**Each.**

	A \$
0808100 Aluminium door frame for single leaf door, fixed to demountable partition system, all in accordance with the manufacturer's recommendations .....	3,921
0808200 Single leaf hollow core flush door of any thickness and type of covering sheet, including aluminium door frame, hinges, lock, push and kicking plates, handle, painting and accessories and the like, fixed to demountable partition system, all in accordance with the manufacturer's recommendations.....	4,778
0808300 Ditto but solid core flush door .....	4,881



## ITEM

## ALTERATION AND RE-SITING PARTITION

## Per square metre.

		A \$
0808400	Take down solid partition complete with hung on system furniture in whole or in part, and clean and stack components aside for re-erection or removal.....	71
0808500	Ditto open plan demountable partition not exceeding 1,800 mm high ditto.....	57
0808600	Ditto fully or partly glazed partition ditto.....	95
0808700	Re-erect all components of solid partition complete with hung on system furniture, including all necessary alternations to existing components and fixing devices as required to produce a rigid and stable partition.....	106
0808800	Ditto open plan demountable partition not exceeding 1,800 mm high ditto.....	94
0808900	Ditto fully or partly glazed partition ditto.....	126
<b>Per linear metre.</b>		
0809000	Pack top of partition to ceiling to make up height up to 75 mm with painted scantlings plugged and screwed to concrete soffit or tapped and screwed to grid of suspended ceiling.....	61
0809100	Construct over partition 100 mm wide and up to 300 mm high painted false beam to make up height built up of 12 mm thick luan plywood and 50 x 50 mm hardwood framing plugged and screwed to concrete soffit or tapped and screwed to grid of suspended ceiling .....	232

## SUNDRIES

## Per square metre.

		Supply and fix	Take down and clear away
		A \$	B \$
0809200	Plastic folding door in any colour including door frames, ironmongeries, fixing accessories and the like .....	298	71

## Per linear metre.

		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
0809300	Fire resisting intumescent seal .....	30	4	7	22
0809400	Proprietary smoke seal, drop type or non-drop type .....	457	11	17	42

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**ITEM**
**SUNDRY LABOURS**
**Per square metre.**

0809500	Plane, sand down, clean off existing timber surfaces in position and prepare surfaces for polishing including punching nail heads.....	A \$  17
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**Each.**

0809600	Bore or cut round, square or rectangular hole of any size through existing hardwood, specific timber, plywood, hardboard, fibre insulating board, fire protection board, blockboard, laminated sheeting, and the like, not exceeding 25 mm thick .....	12
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0809700	Add to item 0809600 for each additional 25 mm or part thereof in thickness .....	7
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## IRONMONGERY SPECIAL CONDITIONS

### GENERAL RULES

#### SC09.G01 Classification of material for ironmongery

Material for articles of ironmongery is classified into groups as follows :

Group	I	II
Material	Plastic, Steel, Galvanized steel, Aluminium, Metal alloy	Brass, Plated brass, Stainless steel

### MEASUREMENT RULES

#### SC09.M01 Ironmongery

Various items of ironmongery shall be measured as follows :

- (a) Butt or parliament hinge – Length along joint
- (b) Cross-garnet, tee or hook and ride hinge – Length from joint or knuckle to point
- (c) Tower or barrel or padlock bolt – Length of shoot
- (d) Monkey-tail bolt – Length overall
- (e) Flush bolt and lever flush bolt – Length of plate
- (f) Track and channel, sliding door gear track and channel, curtain track and valance rail – Net length fixed

#### SC09.M02 Articles of ironmongery and fittings

Items for “Take down and clear away”, “Take down and set aside for re-use”, “Fix only” and “Re-secure” of articles of ironmongery and/or fittings shall not be measured separately where the same are being fixed to doors, windows, sashes, fanlights, louvres, frames and the like, which are to be taken down, fixed or re-secured and shall be measured elsewhere under other Sections of this Schedule.

#### SC09.M03 Venetian blinds

Venetian blinds shall be measured as the net area of blinds fixed. No deduction shall be made for openings formed for air conditioner, exhaust fan and the like.

#### SC09.M04 Mosquitoes/flyscreen

Mosquitoes/flyscreens shall be measured the net area as fixed over the frames and beads. No deduction shall be made for openings not exceeding 0.50 m<sup>2</sup>.

**SC09.M05 Signage**

Circular or irregular shaped signs shall be measured as the smallest square or rectangle from which the sign can be cut.

Punctuations (including full stops and commas) and the like shall be measured as letters of the same size.

Logos, symbols and the like shall be measured as Chinese characters of the same size.

**SC09.M06 Acid etching**

Acid etching shall be measured in square metre as the smallest square or rectangle covering the acid etched area and no deduction shall be made for voids within the smallest square or rectangle measured.

Each letter, number, Chinese character, logo and the like shall be regarded as a detached acid etched area. When the shortest distance between the edges of detached acid etched areas does not exceed 200 mm, such detached acid etched areas shall be measured as one acid etched area.

**SC09.M07 Silk screen printing**

Silk screen printing shall be measured in square metre as the smallest square or rectangle covering the printed area and no deduction shall be made for voids within the smallest square or rectangle measured.

Each letter, number, Chinese character, logo and the like shall be regarded as a detached printed area. When the shortest distance between the edges of detached printed areas does not exceed 200 mm, such detached printed areas shall be measured as one printed area.

**COVERAGE RULES****SC09.R01 Ironmongery**

Rates for ironmongery shall further include for :

- (a) Providing articles of any class, finish and size unless otherwise stated.
- (b) Providing ironmongery schedule as specified including master keying system as required.
- (c) Providing screws, bolts, nuts, washers, nails, pins, adhesive and the like to match the ironmongery.
- (d) Fixing to surfaces of any material.
- (e) All housing, sinking, drilling, tapping, riveting, welding, plugging and similar labours required to the surface to which the article is being fixed unless otherwise stated.
- (f) Cutting and grouting any mortices, pockets, and the like for bolts, bolt sockets, floor spring boxes and the like, and making good surface.
- (g) Oiling, easing and adjusting, and leaving ironmongery in perfect working order.
- (h) Protecting with approved intumescent sheets or intumescent paint.

**SC09.R02 Taking down ironmongery**

Rates for taking down and clearing away or setting aside for re-use of ironmongery shall further include for :

- (a) Carefully securing, holding up and/or taking down the doors, windows sashes, fanlight, louvres, frames and the like to which the article of ironmongery is fixed to and setting aside the same for re-use.
- (b) Piecing out and filling all old sinkings, housings, screw holes, mortices or the like in the timber or other surfaces to which the article of ironmongery is fixed to.
- (c) Finishing surface fair and spot painting, polishing or making good surfaces to match surrounding surfaces to the satisfaction of the Contract Manager.

**SC09.R03 Fixing ironmongery**

Rates for fixing of ironmongery shall further include for carefully securing, holding up and subsequently re-fixing the doors, windows sashes, fanlight, louvres, frames and the like to which the article of ironmongery is fixed to, including providing screws, bolts, nuts, washers, nails, pins, adhesive and the like.

**SC09.R04 Bolts**

Rates for bolts shall further include for :

- (a) All sockets, staple plates or thimbles, including any mortice and necessary accessories.
- (b) Square or circular, straight or necked shoot.

**SC09.R05 Locks and latches**

Rates for locks and latches shall further include for :

- (a) All parts such as cases, staples, bolts, striking plates, thumb slides, thumb turns, knobs, lever mechanism, and the like.
- (b) Providing keys as specified.
- (c) Providing key-alike or master keying as specified.
- (d) Stamping number on lock face.

**SC09.R06 Ironmongery fixed to fire rated doors, windows and shutters**

Rates for ironmongery fixed to fire rated doors, windows, shutters and the like shall further include for provision of all fire test certificates, fire test reports or assessment reports in accordance with the requirements stipulated in the Code of Practice for Fire Safety in Building 2011.

**SC09.R07 Sliding shoes, pivots and friction side arms for openable window casement**

Rates for sliding shoes, pivots and friction side arms for openable window casement shall further include for :

- (a) Providing all necessary safety and precautionary measures during replacement.
- (b) Carefully taking down and re-fixing of window grilles or bars at the openable window casement including providing screws, bolts, nuts, washers, nails, pins and the like.
- (c) Providing 4-bar hinge.
- (d) Providing Grade 304 stainless steel rivets at sash and transom.
- (e) Removal of grease, dirt and moisture and applying oiling upon completion of repair works.
- (f) Complying with all the requirements of the latest Practice Notes of the Buildings Department.

**SC09.R08 Fixed and folding grab rails**

Rates for fixed and folding grab rails shall further include for :

- (a) Provision of non-conductive materials and fixings with adequate electrical insulation.
- (b) Provision of instruction in English, Chinese and braille for the folding grab rail including fixing to wall.

**SC09.R09 Toilet fittings for disable toilets**

Rates for toilet fittings and the like for disable toilets shall further include for complying with all the requirements of the latest version of Design Manual for Barrier Free Access issued by the Buildings Department.

**SC09.R10 Venetian blinds**

Rates for venetian blinds generally shall further include for blinds of any colour and forming opening of any size in blinds for air conditioner, exhaust fan and the like, including cutting and making good.

Rates for horizontal venetian blinds shall further include for supplying and fixing of new blinds complete with slats, head and bottom rails, ladder tape, drag and ladder cords, wand, pulley and gear set, die cast hardware, fixing brackets and all necessary plugging, fixing and the like.

Rates for vertical venetian blinds shall further include for supplying and fixing of new blinds complete with head rail, blind heads, glider rail, gear set, blades, base weights, drag and base connector cords, fixing brackets and all necessary plugging, fixing and the like.

**SC09.R11      Signs**

Rates for signs shall further include for all materials of any colour, grade or finishes, all setting out, cutting to size, bevelling and polishing edges as required, mirrored images, and fixing including drilling, plugging and screwing with brass, chromium plated or stainless steel screws, or fixing with Approved adhesive or fixing on a special suspension system (special suspension system measured separately).

Rates for aluminium signs shall further include for anodizing to any colour after manufacture.

Rates for brass signs shall further include for chromium plating after manufacture.

Rates for cutting plastic are for a single cut and are only applicable to cutting lines, geometric shapes and the like within the sign other than for letters, characters and the like.

Rates for engraving and acid etching shall further include for picking out with paint.

**SC09.R12      Silk screen printing**

Rates for silk screen printing shall further include for :

- (a)      Setting out and printing on any surfaces.
- (b)      Preparing substrate surface to receive silkscreen printing or translucent film.
- (c)      Mirrored images.
- (d)      Temporary protection with mask as required.

## ITEM

## HINGES

		Supply and fix		Take down and clear away	Take down and set aside for re-use	Fix only	Re-secure
		Group I	Group II				
<b>Per linear metre.</b>		A \$	B \$	C \$	D \$	E \$	F \$
0900100	Piano hinge .....	78	121	4	11	34	5
<b>Each.</b>							
0900200	Butt hinge with or without nylon bushes not exceeding 75 mm.....	25	38	3	4	13	3
0900300	Ditto exceeding 75 mm .....	77	87	3	4	24	3
0900400	Rising or falling butt hinge .....	61	100	3	7	34	5
0900500	Backflap hinge.....	54	---	3	4	17	5
0900600	Counter hinge .....	50	57	4	4	22	5
0900700	Parliament hinge not exceeding 75 mm.....	---	42	3	4	24	5
0900800	Cranked, semi concealed or fully concealed cupboard hinge .....	64	89	3	4	17	3
0900900	Cross garnet or tee hinge not exceeding 300 mm long.....	30	51	3	4	17	5
0901000	Hook and ride hinge not exceeding 450 mm long, local made heavy pattern, with hook riveted to plate and hook plate flanged for and let into concrete, brick or stone wall....	60	---	3	4	24	5
0901100	Single action or double action spring hinge .....	127	130	7	13	67	8
0901200	Safety hinge.....	51	101	4	7	17	5
0901300	Projecting hinge (for metal casement).....	166	---	8	---	59	10
0901400	Barrel hinge .....	67	---	3	4	24	5



## ITEM

## BOLTS

		Supply and fix		Take down and clear away	Take down and set aside for re-use	Fix only	Re-secure
		Group I	Group II				
<b>Each.</b>		A \$	B \$	C \$	D \$	E \$	F \$
0901500	Tower or barrel bolt (with square or circular, straight or necked shoot) not exceeding 300 mm long.....	45	51	4	4	24	3
0901600	Ditto 300 - 750 mm long .....	121	159	4	7	42	5
0901700	Ditto 750 - 1,200 mm long .....	203	273	7	13	67	8
0901800	Monkey tail bolt not exceeding 450 mm long.....	---	248	4	7	42	5
0901900	Flush bolt with sunk slide not exceeding 150 mm long.....	68	100	4	11	56	7
0902000	Ditto 150 - 300 mm long .....	142	184	7	16	67	8
0902100	Lever flush bolt not exceeding 150 mm long .....	112	148	7	16	67	8
0902200	Ditto 150 - 300 mm long .....	141	184	7	16	67	8
0902300	Ditto 300 - 450 mm long .....	260	325	11	16	113	12
0902400	Ditto 450 - 600 mm long .....	263	449	11	35	113	17
0902500	Indicating bolt .....	116	149	10	20	84	12
0902600	Panic bolt to suit single door .....	1,199	1,735	20	35	168	17
0902700	Ditto to suit pair of doors .....	1,682	2,253	20	35	253	34
0902800	Flat bolt plate for any size shoot (when not supplied with bolt).....	22	25	3	4	12	3
0902900	Bolt socket of any size for surface fixing (ditto).....	---	44	3	4	12	3
0903000	Ditto but for letting into concrete, brick, stone or similar surface and grouting in and making good.....	---	54	4	4	22	3
0903100	Padlock bolt not exceeding 300 mm long including sockets, hasp and staple.....	164	---	7	16	56	10
0903200	Ditto but 300 - 600 mm long .....	267	---	11	20	84	12

## ITEM

## LOCKS AND LATCHES

		Supply and fix		Take down and clear away	Take down and set aside for re-use	Fix only	Re-secure
		Group I	Group II				
Each.		A \$	B \$	C \$	D \$	E \$	F \$
0903300	Rim latch .....	117	181	4	11	56	7
0903400	Mortice latch .....	280	406	16	20	67	13
0903500	Cylinder rim night latch (reversible) .....	375	438	16	28	94	13
0903600	Cylinder mortice night latch.....	471	518	16	28	140	13
0903700	Rim lock or rim dead lock.....	120	172	7	11	56	7
0903800	Mortice lock or mortice dead lock.....	259	335	11	20	84	13
0903900	Flush cupboard, drawer, desk or letter box lock.....	85	118	7	11	56	7
0904000	Self locking flush cupboard, drawer or desk lock.....	119	136	7	11	56	8
0904100	Padlock.....	36	51	---	---	5	---
0904200	Latch with knob set or lever handles with roses or cover plates and spindle.....	170	220	16	28	113	13

## DOOR FURNITURE

		Supply and fix		Take down and clear away	Take down and set aside for re-use	Fix only	Re-secure
		Group I	Group II				
Each.		A \$	B \$	C \$	D \$	E \$	F \$
0904300	Key hole escutcheon with or without cover .....	26	31	3	3	7	3
0904400	Single knob or lever handle with rose or cover plate .....	62	84	3	3	12	3
0904500	Set of knob furniture or lever handles complete with roses or cover plates and spindle .....	124	201	3	4	17	3

## ITEM

## DOOR SPRINGS AND HOLDERS

	Each.	Supply and fix		Take down and clear away	Take down and set aside for re-use	Fix only	Re-secure
		Group I	Group II				
		A \$	B \$	C \$	D \$	E \$	F \$
0904600	Door closer .....	293	319	11	16	67	8
0904700	Single action or double action floor spring for door weight up to 100 kg completed with all accessories .....	---	764	35	71	337	42
0904800	Ditto but for door weight 100 - 300 kg.....	---	4,528	57	71	421	56
0904900	Spring action type floor door holder with rubber door stop .....	---	197	7	13	67	7
0905000	Door holder .....	88	---	4	7	22	3
0905100	Rubber door stop .....	23	---	3	3	12	3

## FITTINGS FOR SASHES, FANLIGHTS, AND THE LIKE

	Each.	Supply and fix		Take down and clear away	Take down and set aside for re-use	Fix only	Re-secure
		Group I	Group II				
		A \$	B \$	C \$	D \$	E \$	F \$
0905200	Cleat hook .....	---	33	3	3	8	2
0905300	Spring catch with projecting ring and strike plate or staple .....	---	104	3	4	29	3
0905400	Staple only for spring catch.....	---	31	3	3	8	3
0905500	Screw eye .....	---	19	3	4	8	3
0905600	Casement fastener with handle and hook or mortice plate.....	52	73	3	7	29	3
0905700	Casement stay with two stud pins .....	90	93	4	4	29	5
0905800	Single stud pin .....	15	15	3	3	8	3
0905900	Sliding bar type casement stay .....	71	105	3	4	29	5
0906000	Fanlight opener with rack and pinion, with worm wheel, pulley and endless cord.....	---	409	7	13	67	8

## ITEM

## FITTINGS FOR SASHES, FANLIGHTS, AND THE LIKE (Cont'd)

	Each.	Supply and fix		Take down and clear away	Take down and set aside for re-use	Fix only	Re-secure
		Group I	Group II				
		A \$	B \$	C \$	D \$	E \$	F \$
0906100	Set of two sash pivots and sockets.....	---	118	11	20	84	13
0906200	Cam catch.....	41	63	4	7	19	5
0906300	Pair of adjustable rollers to suit sliding windows or doors including all necessary guides, and the like .....	242	---	16	28	126	12
0906400	Sliding shoes, pivots and friction side arms for projecting casement including stainless steel rivets and/or stainless steel screws with plastic plugs and/or stainless steel coupler including pointing corroded holes with Approved sealant.....	---	128	13	20	56	12
0906500	Through-the-frame type fanlight stay.....	---	273	16	28	113	19
0906600	Roto-operator opening and closing mechanism with handle .....	---	255	16	28	126	13

## FITTINGS FOR SLIDING SASHES, AND THE LIKE

	Each.	Supply and fix		Take down and clear away	Take down and set aside for re-use	Fix only	Re-secure
		Group I	Group II				
		A \$	B \$	C \$	D \$	E \$	F \$
0906700	Sash rollers with frame and face plate.....	---	69	4	7	34	5
0906800	Sash axle pulley with brass face, galvanized steel frame and brass wheel .....	---	100	4	7	34	5

## ITEM

## SUNDRY FITTINGS

		Supply and fix		Take down and clear away	Take down and set aside for re-use	Fix only	Re-secure
		Group I	Group II				
<b>Per linear metre.</b>		A \$	B \$	C \$	D \$	E \$	F \$
0906900	Kick plate with bevelled edges as required and holed for screws, not exceeding 200 mm high.....	218	306	14	20	84	17
0907000	Add to item 0906900 for each additional 100 mm high or part thereof in height .....	100	144	7	11	31	7
<b>Each.</b>							
0907100	"Magic eye" observation eyehole fitting .....	---	54	3	4	17	3
0907200	Cupboard door pull knob with screw, bolt and washer, with or without back plate .....	19	24	3	3	7	3
0907300	Bales catch with plate.....	---	53	4	7	17	3
0907400	Magnetic door catch .....	46	47	3	4	13	3
0907500	Drawer, wardrobe or cupboard pull handle .....	34	39	3	4	17	5
0907600	Door pull handle .....	82	90	4	4	29	5
0907700	Finger plate.....	51	74	4	6	13	3
0907800	Flush pattern drop drawer handle .....	---	82	4	7	29	5
0907900	Flush pull handle .....	49	72	4	11	29	5
0908000	Card holder frame.....	33	39	3	3	7	3
0908100	Hanging plate .....	---	22	3	3	7	3
0908200	Hat and coat hook.....	18	27	3	3	7	3
0908300	Combined hook and rubber door stop .....	20	35	3	3	7	3
0908400	Shelf bracket.....	42	---	3	4	22	5
0908500	Cabin hook and eye .....	30	38	3	4	22	5
0908600	Eye for cabin hook .....	---	15	3	3	7	3
0908700	Hasp and staple.....	40	---	3	4	17	5
0908800	Security door guard .....	---	229	7	13	67	12
0908900	Letter plate with spring flap, with or without knocker handle .....	---	247	11	16	67	7

## ITEM

## SUNDRY FITTINGS (Cont'd)

		Supply and fix		Take down and clear away	Take down and set aside for re-use	Fix only	Re-secure
		Group I	Group II				
Each.		A \$	B \$	C \$	D \$	E \$	F \$
0909000	Door chain complete with slider and plate .....	78	124	3	7	42	5
0909100	Slide or upright, single or double pulley (screw or frame and plate) with wheel .....	31	51	3	5	17	3
0909200	Stud pin with holder for shelves .....	---	10	3	4	8	3

## TOILET FITTINGS, AND THE LIKE

		Supply and fix		Take down and clear away	Take down and set aside for re-use	Fix only	Re-secure
		Group I	Group II				
Per linear metre.		A \$	B \$	C \$	D \$	E \$	F \$
0909300	Curtain or hanging rail .....	---	75	3	3	13	3
Each.							
0909400	Flange plate for rail .....	---	44	4	7	22	5
0909500	Shower curtain ring .....	4	5	---	3	3	---
0909600	Toilet roll holder (any type) .....	---	101	4	7	34	5
0909700	Soap holder (any type) .....	106	141	3	7	34	5
0909800	Towel rail with pair of brackets.....	---	181	6	8	42	7
0909900	Grab bar, 32 to 40 mm diameter, not exceeding 350 mm long .....	---	150	6	8	42	7
0910000	Ditto but 350 – 500 mm long .....	---	212	6	8	42	7
0910100	Ditto but 500 – 650 mm long .....	---	284	6	8	42	7
0910200	Ditto but 650 – 800 mm long .....	---	364	6	8	42	7

## ITEM

## TOILET FITTINGS, AND THE LIKE (Cont'd)

		Supply and fix		Take down and clear away	Take down and set aside for re-use	Fix only	Re-secure
		Group I	Group II				
<b>Each.</b>		A \$	B \$	C \$	D \$	E \$	F \$
0910300	Fixed grab rail, 32 to 40 mm diameter, for disabled toilet, with nylon sheathed or Approved resin coated covering, not exceeding 350 mm long.....	240	240	6	8	56	7
0910400	Ditto but 350 - 500 mm long .....	263	263	6	8	56	7
0910500	Ditto but 500 - 650 mm long .....	286	286	6	8	56	7
0910600	Ditto but 650 - 800 mm long .....	309	309	6	8	56	7
0910700	Folding grab rail, 32 to 40 mm diameter, for disabled toilet, with nylon sheathed or Approved resin coated covering, 600 - 900 mm long .....	1,634	1,634	6	8	56	7
0910800	Add to items 0910300 to 0910700 with anti-bacterial property.....	26	26	---	---	---	---

		Supply and fix		Take down and clear away	Take down and set aside for re-use	Fix only	Re-secure
		Group I	Group II				
<b>Each.</b>		A \$	B \$	C \$	D \$	E \$	F \$
0910900	Pair of brackets for glass shelves.....	---	83	4	7	42	5
0911000	Soap dispenser with white enameled brackets, and the like, and plastic soap container .....	---	427	4	11	42	5

## ITEM

## TRACKS, SLIDERS, AND THE LIKE, FOR SMALL CUPBOARD AND GLASS SLIDING DOORS

		Supply and fix		Take down and clear away	Take down and set aside for re-use	Fix only	Re-secure
		Group I	Group II				
<b>Per linear metre.</b>		A \$	B \$	C \$	D \$	E \$	F \$
0911100	"Grooving-in" type track including cutting groove.....	47	---	4	6	34	5
0911200	"T" shaped track for surface fixing.....	62	---	3	4	22	5
0911300	Single, double or triple top or bottom channel including cutting groove if required .....	124	---	4	7	42	5
<b>Each.</b>							
0911400	Slider .....	27	---	3	7	13	3

## SLIDING DOOR GEAR

		Supply and fix		Take down and clear away	Take down and set aside for re-use	Fix only	Re-secure
		Group I	Group II				
<b>Per linear metre.</b>		A \$	B \$	C \$	D \$	E \$	F \$
0911500	Track and fixed in bracket.....	51	237	4	7	24	5
0911600	Add to item 0911500 for plugging and screwing direct to wall, beam, lintol and the like.....	34	34	4	7	34	5
0911700	Channel guide fixed in concrete paved floor including cutting or forming groove or mortice in concrete or paved floor, grouting; or in wood, wood block floor or edge of door including necessary plugging .....	187	277	6	11	67	5
<b>Each.</b>							
0911800	Closed or open end track bracket for face fixing or soffit fixing, screwed to wood or plugged and screwed to wall, beam, lintol and the like .....	121	181	6	11	56	5
0911900	Add to item 0911800 for fixing with 8 mm rawbolt including drilling hole in concrete, brick, stone and the like.....	23	27	6	11	15	5
0912000	Ditto but with 12 mm rawbolt .....	32	24	6	11	17	5
0912100	Four wheel hanger and adjustable split sprons .....	191	227	7	16	34	13



## ITEM

**SLIDING DOOR GEAR (Cont'd)**

		Supply and fix		Take down and clear away	Take down and set aside for re-use	Fix only	Re-secure
		Group I	Group II				
<b>Per linear metre.</b>		A \$	B \$	C \$	D \$	E \$	F \$
0912200	Two wheel swived hanger with nylon wheels concealed fixing .....	53	119	7	16	29	13
0912300	Four wheel swived hanger with nylon wheels concealed fixing .....	171	173	11	20	42	17
0912400	Two wheel swived end hanger face fixing .....	94	91	11	20	42	17
0912500	Two wheel swived intermediate hanger face fixing .....	131	183	14	24	56	24
0912600	Brass roller guide light duty .....	58	97	6	11	13	5
0912700	Ditto face fixed heavy duty .....	145	194	10	20	24	8
0912800	Flush fold guide.....	51	95	10	20	24	8
0912900	Face fixed end fold guide .....	107	93	6	11	17	5
0913000	Face fixed intermediate fold guide .....	118	105	7	16	29	13

**CURTAIN TRACKS**

		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Re-secure
<b>Per linear metre.</b>		A \$	B \$	C \$	D \$	E \$
0913100	Metal curtain track including rails, brackets, end stops runners and the like .....	85	4	7	22	5
0913200	Metal valance rail including brackets, hooks and the like.....	48	3	7	17	3

**PROPRIETARY CORD OPERATED CURTAIN TRACKS**

		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Re-secure
<b>Per linear metre.</b>		A \$	B \$	C \$	D \$	E \$
0913300	Metal curtain track with baked enamel finish regular or double duty rail including pulley sets complete with cords, brackets, sliders and the like .....	81	4	7	29	5

## ITEM

## VENETIAN BLINDS

VENETIAN BLINDS		Supply and fix		Take down and clear away	Take down and set aside for re-use	Fix only	Re-secure
		Horizontal venetian blinds with slats n.e. 50 mm wide	Vertical venetian blinds				
		Per square metre.		A \$	B \$	C \$	D \$
0913400	Single colour blinds.....	251	305	57	71	168	42

## Each.

		A \$
0913500	Form opening of any size in existing blinds for air conditioner, exhaust fan and the like, including cutting and making good.....	84
0913600	Repair to existing venetian blinds including supply and fix slats, accessories and the like to match existing venetian blind (each set of venetian blinds measured).....	84

## FLYSCREENS

		Supply and fix		Take down and clear away	Take down and set aside for re-use	Fix only	Re-secure
		Plastic coated glass fibre	Stainless steel				
Per square metre.		A \$	B \$	C \$	D \$	E \$	F \$
0913700	Flyscreens complete with frame and mesh, fixed with beads .....	153	534	13	28	67	13

## SUNDRIES

		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
Per linear metre.		A \$	B \$	C \$	D \$
0913800	Nylon or plastic coated drying line or curtain cords, and the like of any diameter, cut to length and fixed to hooks or pulleys .....	6	3	3	3
0913900	Plastic foam self-adhesive draught excluder strip fixed to door edge, window and the like.....	10	3	---	5
0914000	Vinyl plastic handrail capping to rail.....	86	4	4	29

## ITEM

## REPAIRS TO LOCKS, LATCHES AND FURNITURE

Each.

0914100	Oil only lock or latch complete with furniture or hinge in position including ease and adjust keep or striking plate .....	5
0914200	Repair to existing lock or latch complete with furniture including supply and fix accessories and fixing devices to match existing lock and latch (each set of lock or latch measured) .....	56

A  
\$

## PLASTIC SIGNS

Per square metre.

0914300	White or coloured acrylic sheet, with clear or matt finish, as sign.....
0914400	White or coloured acrylic sheet, with clear or matt finish, fixed with adhesive as laminated sign .....

Thickness (mm)				
3.00	4.50	6.00	10.00	12.50
A \$	B \$	C \$	D \$	E \$
359	440	586	1,061	1,357
403	484	630	1,105	1,401

Per linear metre.

0914500	Labour cutting acrylic sheet of any thickness.....
0914600	Labour engraving line with or without arrow-head.....

A  
\$

15

17

## ITEM

## PLASTIC SIGNS (Cont'd)

		Height (mm)				
		n.e. 25	25 - 50	50 - 75	75 - 100	Add to Item D for each additional 50 mm or part thereof in height
<b>Each.</b>		A \$	B \$	C \$	D \$	E \$
0914700	Labour engraving letter or number .....	5	8	10	12	2
0914800	Ditto but Chinese character .....	7	10	13	17	3
0914900	Labour cutting letter or number through sheet of any thickness .....	13	20	25	30	7
0915000	Ditto but Chinese character .....	19	29	35	44	8

		Height (mm)				
		n.e. 25	25 - 50	50 - 75	75 - 100	Add to Item D for each additional 50 mm or part thereof in height
<b>Each.</b>		A \$	B \$	C \$	D \$	E \$
Plastic signs in letter, number or Chinese character :						
0915100	Letter or number cut from 3.00 mm thick sheet .....	14	21	26	32	10
0915200	Ditto but from 4.50 mm thick sheet .....	17	28	35	43	13
0915300	Ditto but from 6.00 mm thick sheet .....	21	31	41	51	16
0915400	Ditto but from 10.00 mm thick sheet .....	---	43	57	72	25
0915500	Ditto but from 12.50 mm thick sheet .....	---	---	---	89	31
0915600	Chinese character cut from 3.00 mm thick sheet .....	19	29	37	47	14
0915700	Ditto but from 4.50 mm thick sheet .....	26	38	49	59	20
0915800	Ditto but from 6.00 mm thick sheet .....	29	43	57	71	23
0915900	Ditto but from 10.00 mm thick sheet .....	---	61	81	100	37
0916000	Ditto but from 12.50 mm thick sheet .....	---	---	---	124	46
0916100	Add to items 0915100 to 0916000 for letter, number or character with moulded plastic pegs or projecting plastic bars .....	8	13	17	23	8

## ITEM

## METAL SIGNS

Per square metre.

0916200 Stainless steel sheet, of any finish, as sign .....

0916300 Aluminium sheet, of any finish, as sign .....

0916400 Brass sheet, of any finish, as sign.....

Thickness (mm)		
3.00	6.00	12.00
A	B	C
\$	\$	\$
1,478	2,871	---
1,091	2,140	4,238
2,323	4,730	---

Per square metre.

0916500 Single-coloured or multi-coloured acid etching on metal .....

A  
\$

3,351

Each.

0916600 Labour cutting letter or number through metal sheet of any type and thickness.....

0916700 Ditto but Chinese character .....

Height (mm)				
n.e. 25	25 - 50	50 - 75	75 - 100	Add to Item D for each additional 50 mm or part thereof in height
A	B	C	D	E
\$	\$	\$	\$	\$
44	66	83	101	22
61	93	116	141	30

Stainless steel signs in letter, number or Chinese character :

Each.

0916800 Letter or number cut from 3.00 mm thick sheet.....

0916900 Ditto but from 6.00 mm thick sheet.....

0917000 Chinese character cut from 3.00 mm thick sheet.....

0917100 Ditto but from 6.00 mm thick sheet.....

Height (mm)				
n.e. 25	25 - 50	50 - 75	75 - 100	Add to Item D for each additional 50 mm or part thereof in height
A	B	C	D	E
\$	\$	\$	\$	\$
51	78	101	125	41
78	118	154	192	67
72	109	141	176	58
109	165	213	269	97

## ITEM

**METAL SIGNS (Cont'd)**

Aluminium signs in letter, number or Chinese character :

**Each.**

0917200	Letter or number cut from 3.00 mm thick sheet .....
0917300	Ditto but from 6.00 mm thick sheet.....
0917400	Ditto but from 12.00 mm thick sheet.....
0917500	Chinese character cut from 3.00 mm thick sheet.....
0917600	Ditto but from 6.00 mm thick sheet.....
0917700	Ditto but from 12.00 mm thick sheet.....

Height (mm)				
n.e. 25	25 - 50	50 - 75	75 - 100	Add to Item D for each additional 50 mm or part thereof in height
A \$	B \$	C \$	D \$	E \$
34	52	67	84	28
52	78	103	129	48
87	132	173	218	86
48	73	94	117	40
73	110	144	182	68
122	184	243	307	124

Brass signs in letter, number or Chinese character :

**Each.**

0917800	Letter or number cut from 3.00 mm thick sheet .....
0917900	Ditto but from 6.00 mm thick sheet.....
0918000	Chinese character cut from 3.00 mm thick sheet.....
0918100	Ditto but from 6.00 mm thick sheet.....

Height (mm)				
n.e. 25	25 - 50	50 - 75	75 - 100	Add to Item D for each additional 50 mm or part thereof in height
A \$	B \$	C \$	D \$	E \$
45	69	90	115	46
69	105	139	179	81
63	97	127	161	66
97	147	197	253	119

**SILK SCREEN PRINTING****Per square metre.**

0918200	Single-coloured silk screen printing .....
0918300	Multi-coloured ditto .....

A \$
1,708
3,399

## ITEM

**COMPUTER-CUT PLASTIC FILMS**

Approved computer-cut self-adhesive plastic films irrespective of tools, fixed on any surface in any colour :

**Each.**

		A \$
0918400	Letter, number, punctuation mark and the like, not exceeding 25 mm high .....	19
0918500	Ditto but 25 - 75 mm high .....	26
0918600	Ditto but 75 - 150 mm high .....	29
0918700	Ditto but 150 - 225 mm high .....	53
0918800	Ditto but 225 - 300 mm high .....	78
0918900	Ditto but 300 - 375 mm high .....	106
0919000	Chinese character, logo, symbol and the like, not exceeding 25 mm high .....	41
0919100	Ditto but 25 - 75 mm high .....	46
0919200	Ditto but 75 - 150 mm high .....	53
0919300	Ditto but 150 - 225 mm high .....	74
0919400	Ditto but 225 - 300 mm high .....	112
0919500	Ditto but 300 - 375 mm high .....	171
<b>Per linear metre.</b>		
0919600	Line, not exceeding 25 mm wide .....	28
0919700	Ditto but 25 - 50 mm wide .....	33
0919800	Ditto but 50 - 100 mm wide .....	47
0919900	Ditto but 100 - 150 mm wide .....	66

ITEM

SUNDRY

Per square metre.

0920000Proprietary sunken floor mats .....

Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
A \$	B \$	C \$	D \$
756	3	4	29



## STEEL AND METAL WORK SPECIAL CONDITIONS

### MEASUREMENT RULES

#### SC10.M01

##### **By weight**

Unless otherwise stated, steel and metal work shall be measured by weight calculated in the following order of precedence :

- (a) Tables given in the Memoranda of this Schedule.
- (b) Tables given in British Standards or similar documents.
- (c) Unit weights calculated from the mass per cubic metre given in the Memoranda of this Schedule; or
- (d) Tables given in manufacturers' catalogues or similar documents.

In the absence of any suitable reference from the above, steel and metal work shall be weighed by the Contractor in the presence of the Contract Manager before fixing, and in default of this, shall be taken out, weighed and re-fixed by the Contractor at his own expense.

#### SC10.M02

##### **Steel, wrought iron, cast iron, stainless steel, aluminium and the like**

Unless otherwise stated, steel, wrought iron, cast iron, stainless steel, aluminium and the like articles shall be measured the net weight as cast and finished ready for fixing.

#### SC10.M03

##### **Metal sections**

Metal sections shall be measured the length as fixed with square or irregular ends and the weight calculated. No deduction shall be made for holes, notches or slots. Associated rivet, screws, bolts, nuts and the like shall not be measured.

#### SC10.M04

##### **Metal sheets**

Metal sheets shall be measured the area as fixed and the weight calculated. No deduction shall be made for openings and voids not exceeding 0.50 m<sup>2</sup>. Associated rivets, screws, bolts, nuts and the like shall not be measured.

#### SC10.M05

##### **Steel tubing, wire rope, slotted angles and fencing wire**

Steel tubing, wire rope, slotted angles and fencing wire shall be measured the net length as fixed.

**SC10.M06 Wire mesh, expanded metal, chain link fencing and the like**

Wire mesh, expanded metal, chain link fencing and the like shall be measured the net area covered with no allowance made for laps. No deduction shall be made for openings and voids not exceeding 0.50 m<sup>2</sup>.

Irregular areas shall be measured the smallest square or rectangle from which they can be covered.

**SC10.M07 Ragbolts, expansion bolts and the like**

Unless otherwise stated, ragbolts, expansion bolts, anchor bolts and the like shall be measured separately.

**SC10.M08 Windows, doors and louvres**

Windows, doors and louvres shall be measured net overall area of the windows, doors and louvres as fixed but excluding small projecting articles such as fixing lugs and the like.

Unless otherwise stated, glazing and glass to windows, doors and louvres shall be measured separately under Glazing Section of this Schedule.

**SC10.M09 Roller shutters**

Roller shutters shall be measured as the net area of the opening to which the shutter is to be installed irrespective of the position of the hood.

Take down and set aside for re-use of existing shutters for repair shall be measured as the net affected area which includes the damaged area and individual module of affected slat or panel.

**SC10.M10 Window grilles**

Window grilles shall be measured as the net openable area of the window to which the window grille is to be fixed.

**SC10.M11 Burglar grilles**

Burglar grilles shall be measured as net overall area of the burglar grilles as fixed but excluding all small projecting articles such as fixing lugs and the like.

**COVERAGE RULES****SC10.R01****Steel and metal work**

Rates for steel and metal work shall further include for :

- (a) Executing the work irrespective of whether the work is structural or non-structural.
- (b) Straight, raking or circular cutting and waste.
- (c) Fabrication, assembling and erection items either off site or on site, supporting, fitting and fixing various items to new or existing work of any material including welding, brazing, soldering, drilling, punching, tapping, plugging, screwing, bolting, riveting, hanging, and the like.
- (d) Providing matching and compatible ancillary materials for jointing, connecting and fixing, such as rivets, screws, jagged nails, bolts, hook-bolts, nuts, washers, caps, staples, straining wires, fasteners, tying wires, fixing lugs, welding rods, solders and the like.
- (e) Executing all work true to detail, filing all edges, welds, and the like, smoothing, filing off burrs around drilled holes, countersinking all screws, rivet heads and the like.
- (f) Preparing new or existing surface for connection.
- (g) Cutting or forming chases, grooves, pockets and mortices and the like in existing structure, grouting in with cement mortar or Approved grout.
- (h) Allowance for rolling margin.
- (i) Allowance for laps or seams.
- (j) Providing prototypes, shop drawings, structural calculation and the like.
- (k) Providing protection to metal work finishes.

**SC10.R02****Steel or wrought iron, cast iron, stainless steel, aluminium and the like**

Rates for steel, wrought iron, cast iron, stainless steel, aluminium and the like, shall further include for :

- (a) Forging, notching, framing and bending.
- (b) Pointed, forged, fanged and threaded ends.
- (c) Mitres angles, ramps and wreaths.
- (d) Spot, fillet and seam welding.

**SC10.R03****Stainless steel**

Rates for stainless steel shall further include for :

- (a) Mill finish, polished with fine grit or hairline finish and mirror finish.
- (b) Finishing welds, and the like, to match the finish specified.
- (c) Items described as trim or cover strip shall include for cutting to length, mitred angles and fixing with screws or adhesive.

**SC10.R04 Aluminium**

Rates for aluminium shall further include for :

- (a) Clear or colour anodized finish, and powder coated or fluorocarbon coated finished.
- (b) Finishing welds, and the like, to match the finish specified.
- (c) Items described as trim or cover strip shall include for cutting to length, mitred angles and fixing with screws or adhesive.
- (d) Treatment on surfaces in contact with concrete or dissimilar metals with one coat of bituminous paint or Approved tapes.

**SC10.R05 Welding**

Rates for welding shall further include for smooth grinding and making good damaged galvanized surfaces with Approved primers.

**SC10.R06 Metal sections**

Rates for metal sections shall further include for any shape, mould, size and the like.

**SC10.R07 Metal sheets**

Rates for metal sheets shall further include for :

- (a) Notching, dressing, bending and rolled edges.
- (b) Fixing with Approved adhesive.
- (c) Any shape, mould, size and the like.

**SC10.R08 Tubular metal work**

Rates for tubular metal work shall further include for :

- (a) Framing and bending.
- (b) Cut and welded junctions, angles, tees, cross joints.
- (c) Flanged or screwed fitting connectors.
- (d) Screw fitting bends, tees, crosses and flanges.
- (e) Ramps, wreaths and fanged, fair and capped ends unless otherwise stated.

**SC10.R09 Wire mesh, expanded metal, chain link fencing and the like**

Rates for wire mesh, expanded metal, chain link fencing and the like shall further include for :

- (a) Any size of wire and any gauge of mesh.
- (b) Bending.
- (c) Allowance for joints, side and end laps.
- (d) Straining the work tight.
- (e) Allowance for spot weld, staples, tying wires, strained wires and the like.

**SC10.R10 Windows, doors and louvres**

Rates for windows, doors and louvres including fire resisting windows, doors and dampers shall further include for :

- (a) Composite windows, doors and louvres in any number of individual units with fixed, top hung, side hung or sliding lights, with or without side hung or sliding doors complete with frames, ironmongeries and fittings including transoms, mullions, blades, strengtheners, gaskets, clamps, fixing lugs, anchor bolts, glazing bars, drips, glazing beads, water-bars, expanded metal lathing, weather strips and the like.
- (b) Temporary steel clamps fixed at the top and bottom of opening lights of windows and doors prior to transportation from the factory.
- (c) Sealing joints with Approved sealant.
- (d) Applying primer and bituminous paint to concealed surfaces.
- (e) Easing opening sashes and oiling fittings.
- (f) Bedding frames solid in cement mortar and pointing external edges with Approved sealant.
- (g) Priming, surface treatment, galvanizing and painting.

**SC10.R11 Fire resisting windows, doors and dampers**

Rates for fire resisting windows, doors and dampers shall further include for :

- (a) Supplying and installing in accordance with the manufacturer's recommendations, and providing manufacturer's confirmation in compliance with related statutory fire safety requirements.
- (b) Providing fire rated glazing and glass.

**SC10.R12 Repairs, and the like to windows, doors, louvres and dampers**

Rates for repairs, and the like to windows, doors and the like shall further include for :

- (a) Providing ironmongery and fittings of matching materials and finishes.
- (b) Cutting by appropriate tools and methods.
- (c) Drilling and tapping to existing framing including riveting and welding.
- (d) Providing and fixing screws, bolts, rivets, and the like.
- (e) Cutting mortices and grouting in cement mortar.

**SC10.R13 Gatesets**

Rates for collapsible and entrance gatesets shall further include for :

- (a) Framing to head, jambs, top and bottom guides.
- (b) Fixing blocks, pickets, diagonal folding item bars and fixing lugs.
- (c) Providing and fixing with fixing lugs, anchor bolts, nuts and washers, and the like.
- (d) Riveted pivot points with washers and spacers.
- (e) Providing and fixing ball bearing rollers, retaining catches, catch hooks, pull handles, lock, and ironmongeries.
- (f) Priming, surface treatment, galvanizing and painting.

**SC10.R14 Roller shutters**

Rates for roller shutters including fire resisting roller shutters shall further include for :

- (a) Frames, linings, trims, tracks, rails, hoods and the like.
- (b) Operating equipment.
- (c) Providing and fixing with fixing lugs, anchor bolts, nuts and washers, and the like.
- (d) Providing and fixing hinges, locking devices, locks and ironmongeries.
- (e) Bedding, packing or grouting behind frames.
- (f) Pointing around frames with sealant.
- (g) Priming, surface treatment, galvanizing and painting.

**SC10.R15 Fire resisting roller shutters**

Rates for fire resisting roller shutters shall further include for :

- (a) Supplying and installing in accordance with the manufacturer's recommendations, and providing manufacturer's confirmation in compliance with related statutory fire safety requirements.
- (b) Providing and fixing self closing mechanism activated by smoke detector(s) and manual control devices on both sides of the wall openings and complete with accessories, ironmongeries and the like.
- (c) Providing back up power supply.
- (d) Connecting to fire alarm system.
- (e) Providing operation and maintenance manuals.

**SC10.R16 Proprietary suspended ceiling system**

Rates for proprietary suspended ceiling system shall further include for :

- (a) Executing work in any drop length.
- (b) Installing the whole of the suspension system complete with linings including suspension framing, edge trimmers, anchor bolts, bolts, nuts, washers, fasteners, suspension rods or flats, stringers, hangers, and the like.
- (c) Cutting and narrow widths.
- (d) Forming or cutting opening for and trimming around pipes, conduits, power points, sprinkler heads, down lights, speakers, light troughs, access panels, sleeves, detector heads, air grilles and the like and including extra hangers, supports, edge and angle trims, and the like.
- (e) Additional framing and supports, and the like, to bridge across ducts and the like.
- (f) Fixing of lighting boxes supplied by separate contractor employed by the Employer.
- (g) All strengthening work to withstand wind force under any exposure condition.
- (h) Concealed or exposed grid system.

**SC10.R17 Laundry racks and laundry rods**

Rates for laundry racks and laundry rods shall further include for :

- (a) Carrying out condition survey of existing substrates to which laundry racks or rods to be fixed to, reporting any defects to and rectifying as required by the Contract Manager.
- (b) Submission of proposal to suit site condition, if any, to the Contract Manager for approval and bearing all costs for alternative design or variations to the prescribed design according to standard drawings and to meet the requirements as specified.
- (c) For laundry racks fixed to existing pole holders, trimming existing pole holders to the required length for supporting the laundry rack, and cutting away, capping and sealing un-used existing pole holders.
- (d) Providing and fixing with anchor bolts, bolts, nuts and washers, fixing accessories and the like.

**SC10.R18 Cat ladders, window grilles and burglar grilles**

Rates for cat ladders, window grilles and burglar grilles shall further include for :

- (a) Providing and fixing framing, component parts, brackets, anchor bolts, bolts, nuts and washers, ironmongeries, fixing accessories, and the like.
- (b) Priming, surface treatment, galvanizing and painting.

## ITEM

## STEEL OR WROT IRON

		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Re-secure
	<b>Per kg.</b>	A \$	B \$	C \$	D \$	E \$
1000100	Rolled section and plate (rod, bar, plate, chequer plate, angle section, tee section, hollow section, universal beam and column, joist, channel, and the like) .....	44	3	3	23	9
1000200	Flat or formed sheet.....	48	3	3	27	9
1000300	Chains including hooks, rings, shackles and the like .....	41	1	1	4	---
	<b>Each.</b>					A \$
1000400	Eye bolts of any size and length with nuts and washers.....					141
	<b>Each.</b>					A \$
1000500	16 mm Diameter galvanized dowel 75 mm long including letting 40 mm into frame .....					14



## ITEM

**STEEL BOLTS, NUTS AND THE LIKE**

(Note : Items throughout this Section include all screw, bolts, nuts, washers, and the like. The following items 1000600 to 1001000 will only be paid for when specifically ordered by the Contract Manager in writing and not included in other items.)

Steel bolts, nuts and the like including all drilling and tapping of metal work as required :

**Each.**

1000600	Hexagon headed steel bolt of any length with nuts and washers.....
1000700	Steel ragbolt ditto .....

Nominal diameter of shank (mm)	
n.e. 12	12 - 20
A	B
\$	\$
8	11
33	56

**Each.**

1000800	Steel anchor bolt of any length complete with capsule, sleeve, cover cap, anchor rod, bolt, nuts, washers, accessories and the like.....
---------	--

Nominal diameter of shank (mm)	
n.e. 12	12 - 20
A	B
\$	\$
6	29

**Each.**

1000900	Proprietary galvanized steel stud anchor system of any length complete with capsule, sleeve, cover cap, anchor rod, bolt, nuts, washers, accessories and the like, all in accordance with the manufacturer's recommendations.....
1001000	Proprietary galvanized steel flush anchor system ditto .....

Nominal diameter of shank (mm)	
n.e. 12	12 - 20
A	B
\$	\$
30	72
13	36

## ITEM

**WELDING**

(Note : Items throughout this Section include for all welding. The following items 1001100 to 1001300 will only be paid for when specifically ordered by the Contract Manager in writing and not included in other items.)

Execute the following welding to ungalvanized or galvanized metal including providing all plant, welding rods and the like, filing weld on completion and preparing and chamfering ends, edges and surfaces to be welded as required :

**Per linear metre.**

1001100	Weld of any type and size at connections (net length of weld measured).....	A \$ 209
<b>Per square metre.</b>		
1001200	Spot weld edge of wire mesh, expanded metal, chain link fencing, and the like to metal surfaces .....	42
<b>Each.</b>		
1001300	Spot weld end of wire or rod not exceeding 12 mm diameter, or bar not exceeding 50 mm girth, and the like .....	9

**GALVANIZING**

(Note : The following item 1001400 will only be paid for when specifically ordered by the Contract Manager in writing and not included in other items.).

**Per kg.**

		Hot-dipped
1001400	Galvanizing fabricated steel or wrought iron article complete with all bolts, nuts or other fixing accessories.....	A \$ 2

## ITEM

## GALVANIZED MILD STEEL TUBING

		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Re-secure
Per linear metre.		A \$	B \$	C \$	D \$	E \$
1001500	15 mm Bore medium series galvanized mild steel tubing .....	47	3	6	32	11
1001600	20 mm Ditto .....	60	5	8	41	14
1001700	25 mm Ditto .....	73	5	12	46	18
1001800	32 mm Ditto .....	102	8	15	69	27
1001900	40 mm Ditto .....	127	8	20	89	32
1002000	50 mm Ditto .....	163	10	27	114	36
1002100	65 mm Ditto .....	213	15	34	146	46
1002200	80 mm Ditto .....	247	17	38	160	53
1002300	100 mm Ditto .....	298	22	42	178	64
1002400	150 mm Ditto .....	454	32	50	266	80

## ITEM

## GALVANIZED STEEL WIRE ROPE AND THE LIKE

		Supply and fix	Take down and clear away	Take down and set aside for re- use	Fix only
	<b>Per linear metre.</b>	A \$	B \$	C \$	D \$
1002500	Flexible galvanized steel wire rope not exceeding 10 mm diameter including all binding and splicing, and splicing to existing .....	22	1	3	14
	<b>Each.</b>				
1002600	Galvanized steel sail thimble for rope not exceeding 10 mm diameter .....	8	---	---	---
1002700	Galvanized wrought iron "D" shaped shackle with metal rod or bolt not exceeding 10 mm diameter at centre of bow .....	16	1	1	7
1002800	Heavy duty galvanized steel rope strainer with central body, screw hook one end and screw eye on the other end, not exceeding 475 mm long overall to take load of 2 tonnes .....	127	3	7	28

## SLOTTED ANGLES

		Supply and fix	Take down and clear away	Take down and set aside for re- use	Fix only	Re-secure
	<b>Per linear metre.</b>	A \$	B \$	C \$	D \$	E \$
1002900	Slotted steel angle of any size in brackets, shelving racks, stands and the like, rust protected and stove enamelled, fixed complete .....	51	3	4	23	6

## ITEM

## STEEL WIRE MESH

Per square metre.

1003000 Approved steel wire mesh.....

Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Re-secure including re-straining
A \$	B \$	C \$	D \$	E \$
44	3	6	23	14

## GALVANIZED STEEL WIRE MESH

Per square metre.

1003100 Approved galvanized steel wire mesh.....

Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Re-secure including re-straining
A \$	B \$	C \$	D \$	E \$
46	3	6	23	14

## EXPANDED METAL

Per square metre.

1003200 Expanded metal panel .....

Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Re-secure including re-straining
A \$	B \$	C \$	D \$	E \$
140	3	6	30	20

## ITEM

## CHAIN LINK FENCING

## Per square metre.

- 1003300 Galvanized iron wire chain link including 3 mm galvanized straining wires at not exceeding 750 mm vertical centres.....
- 1003400 PVC coated galvanized iron wire chain link of any colour including PVC coated straining wires of the same gauge and colour of the chain link at not exceeding 750 mm vertical centres, and PVC coated tying wires.....

Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Re-secure including re-straining
A \$	B \$	C \$	D \$	E \$
32	3	6	23	7
36	3	6	23	7

## Per linear metre.

- 1003500 Plain galvanized steel wire or iron wire not exceeding 4 mm diameter strained tight and fixed to framing including forming all joints and tying ends of new wire to existing or to straining screws.....
- 1003600 PVC coated 3 mm annealed or galvanized iron wire strained tight and fixed to framing including PVC coated tying wires and the like, forming all joints and tying ends of new wire to existing or to straining eyes.....
- 1003700 Galvanized barbed wire formed from 2 strands of 2.5 mm mild steel line wires and 2 mm mild steel pointed wires with sets of four barbs at 75 mm centres, strained tight, formed into coils of any diameter or woven mat tying with galvanized wire at intersection, and fixed as last described (length of wire measured)....

Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Re-secure including re-straining
A \$	B \$	C \$	D \$	E \$
6	1	1	4	3
6	1	1	4	3
11	1	1	4	3

## Each.

- 1003800 Galvanized straining bolt not exceeding 10 mm diameter and not exceeding 300 mm long overall with eye one end, and nuts and washers.....

15	2	4	12	---
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## ITEM

## CAST IRON

Per kg.

A  
\$

- 1003900 Supply only cast iron sash weight, fire bar, foot scraper, soot door, tree ring, shoe and hanger, manhole and gully grating, cover and frame, gate stop, box, ventilator, damper, post, bracket and the like including making patterns for articles as required (Note : Surface channel grating and manhole cover shall be measured in Underground Services Section of this Schedule.) ..... 12

## STAINLESS STEEL

Per kg.

- 1004000 Section and plate (rod, bar, plate, chequer plate, angle section, tee section, hollow section and the like).....
- 1004100 Flat or formed sheet.....
- 1004200 Chain including hooks, rings, shackles and the like.....

Supply and fix		Take down and clear away	Take down and set aside for re-use	Fix only	Re-secure
AISI304	AISI316				
A \$	B \$	C \$	D \$	E \$	F \$
112	141	7	8	53	18
112	141	7	8	53	18
57	99	1	1	3	---

## STAINLESS STEEL TUBING

Per linear metre.

- 1004300 38 mm Stainless steel hollow tubing .....
- 1004400 50 mm Ditto .....
- 1004500 75 mm Ditto .....
- 1004600 100 mm Ditto .....

Supply and fix		Take down and clear away	Take down and set aside for re-use	Fix only	Re-secure
AISI304	AISI316				
A \$	B \$	C \$	D \$	E \$	F \$
119	165	13	16	53	16
147	217	16	19	80	20
233	310	21	26	80	27
315	420	24	29	107	32

Each.

- 1004700 Capped end or flanged plate to tubing not exceeding 50 mm diameter.....
- 1004800 Ditto but 50 - 100 mm diameter .....

Supply and fix		Take down and clear away	Take down and set aside for re-use	Fix only	Re-secure
AISI304	AISI316				
A \$	B \$	C \$	D \$	E \$	F \$
58	97	5	9	18	7
109	172	9	17	30	12

## ITEM

**STAINLESS STEEL BOLTS, NUTS AND THE LIKE**

(Note : Items throughout this Section include all screw, bolts, nuts, washers, and the like. The following items 1004900 to 1005400 will only be paid for when specifically ordered by the Contract Manager in writing and not included in other items.)

Stainless steel bolts, nuts and the like, including tapping of metal work as required :

**Each.**

1004900	Hexagon headed stainless steel bolt of any length with nuts and washers .....
1005000	Stainless steel indented foundation bolt ditto .....
1005100	Stainless steel adhesive anchor bolt ditto .....

Nominal diameter of shank (mm)	
n.e. 12	12 - 20
A	B
\$	\$
11	23
32	182
105	234

**Each.**

1005200	Stainless steel anchor bolt of any length complete with capsule, sleeve, cover cap, anchor rod, bolt, nuts, washers, accessories and the like.....
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Nominal diameter of shank (mm)	
n.e. 12	12 - 20
A	B
\$	\$
7	27

**Each.**

1005300	Proprietary stainless steel stud anchor system of any length complete with capsule, sleeve, cover cap, anchor rod, bolt, nuts, washers, accessories and the like, all in accordance with the manufacturer's recommendations .....
1005400	Proprietary stainless steel flush bolt anchor system ditto .....

Nominal diameter of shank (mm)	
n.e. 12	12 - 20
A	B
\$	\$
118	414
54	166



## ITEM

## STAINLESS STEEL WIRE MESH

Per square metre.

1005500 Approved stainless steel mesh.....

Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Re-secure including re-straining
A \$	B \$	C \$	D \$	E \$
385	3	6	23	14

Each.

1005600 Approved stainless steel mesh rat guard not exceeding 0.20 m<sup>2</sup> including fixing pieces, screws brackets and the like.....

Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Re-secure including re-straining
A \$	B \$	C \$	D \$	E \$
47	7	11	5	20

## ALUMINIUM

Per kg.

1005700 Flat or formed sheet.....

1005800 Extruded section and plate (rod, bar, plate, chequer plate, angle section, tee section, hollow tube, channel and the like).....

Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Re-secure
A \$	B \$	C \$	D \$	E \$
215	21	43	55	27
290	21	41	57	28

## BRASS

Per kg.

1005900 Casting, trimmed from mould, rough filed, drilled and countersunk as required including making pattern and preparing mould .....

1006000 Ditto but fine filed, buffed and polished, drilled and countersunk, turned, threaded and brazed as required .....

1006100 Flat or formed sheet.....

Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Re-secure
A \$	B \$	C \$	D \$	E \$
148	5	8	36	9
236	5	8	36	9
117	3	9	28	9

## ITEM

**SUNDRY LABOURS**

(Note : Items throughout this Section include all sundry labours. The following items 1006200 to 1006700 will only be paid for when specifically ordered by the Contract Manager and not included in other items.)

**Per linear metre.**

1006200 Straight, raking or circular cutting on any type of metal including filing edges clean.....

Thickness of metal (mm)			
n.e. 3	3 - 6	6 - 12	12 - 20
A	B	C	D
\$	\$	\$	\$
59	89	178	254

**Each.**

1006300 Cut screw thread for any length on end of steel or iron round, square rod or tube of any size .....

1006400 Cut off end of bolt or rod of any size for threading or re-threading .....

1006500 Drill hole of any size and depth in metal including counter-sinking if required .....

1006600 Drill and tap hole of any size and depth .....

1006700 Punch small hole for nail, screw and the like through any type of metal work.....

A
\$
18
9
12
18
2

## ITEM

## WINDOWS, DOORS, LOUVRES AND DAMPERS

Per square metre.

A  
\$

1006800	Galvanized metal windows and doors.....	766
1006900	Aluminium windows and doors .....	2,276
1007000	Aluminium windows opening casement with weather seal including pull handle and locking handle, glazing bead, stainless steel hinge, fastener and wedge plate .....	2,014

Per square metre.

A  
\$

1007100	Galvanized metal louvres including frame, blades, fixing accessories and the like .....	3,041
1007200	Stainless steel louvres ditto .....	5,885

Each.

A  
\$

1007300	Galvanized pressed steel door complete with door frame, dead bolts and hinges (Drawing Nos. MB/S/DOOR/A/MET 077 to 081).....	2,205
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## FIRE RESISTING WINDOWS

Per square metre.

1007400	Stainless steel fire resisting windows including window frame, glazing, glazing bead, ironmongeries, accessories and the like .....
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<sup>1</sup> / <sub>2</sub> Hour fire rated	1 Hour fire rated	2 Hours fire rated
A \$	B \$	C \$
7,666	9,063	10,213

## ITEM

**FIRE RESISTING DOORS**

Metal fire resisting doors including door frames, hinges, door closers, handles, flush bolts, locks, sign plates, fixing accessories, and the like :

**Per square metre.**

		1 Hour fire rated	2 Hours fire rated
		A	B
		\$	\$
1007500	Set of single leaf door in galvanized mild steel.....	5,434	6,294
1007600	Set of pair doors in galvanized mild steel .....	4,472	6,080
1007700	Extra over galvanized mild steel fire resisting door for forming fire resisting fusible link louvre with detachable wire mesh .....	3,949	4,454
1007800	Set of single leaf door in stainless steel.....	6,640	6,690
1007900	Set of pair doors in stainless steel .....	6,284	6,684
1008000	Extra over stainless steel fire resisting door for forming fire resisting fusible link louvre with detachable wire mesh.....	4,973	5,478

**FIRE RESISTING GLASS DOORS**

**Per square metre.**

		1 Hour fire rated	2 Hours fire rated
		A	B
		\$	\$
1008100	Fire resisting glass doors including door frames, glazing, glazing bead, hinges, door closers, handles, flush bolts, locks, sign plates, fixing accessories and the like .....	5,591	5,813
1008200	Fire resisting glass door leaf only including glazing, glazing bead, hinges, door closers, handles, flush bolts, locks, sign plates, fixing accessories and the like.....	3,736	3,958

**FIRE DAMPERS**

**Per square metre.**

		1 Hour fire rated	2 Hours fire rated
		A	B
		\$	\$
1008300	Galvanized steel fire dampers including frame, fixing accessories and the like.....	6,995	7,736
1008400	Stainless steel fire dampers ditto .....	9,397	10,138

## ITEM

**REPAIRS, AND THE LIKE TO WINDOWS, DOORS AND LOUVRE AND DAMPERS**

(Note : The following items 1008500 to 1009900 shall be applicable to any type of windows, doors, louvres and dampers.)

**Per square metre.**

- 1008500 Whole window, door, louvre or damper complete with frame, mullions, transomes, all ironmongery and fittings, fixed to concrete, brickwork or masonry including bedding frame solid in cement mortar, jointing mullions and transomes with Approved sealant, and pointing external edges with Approved sealant .....

Take down and clear away	Take down and set aside for re-use	Fix only	Re-secure
A \$	B \$	C \$	D \$
47	104	350	42

**Each or per opening leaf.**

- 1008600 Take down and clear away sash, ventilator or door of any size including cutting hinges away from frame .....
- 1008700 Take down and set aside for re-use ditto .....
- 1008800 Fix only sash, ventilator or door to existing frame including welding or riveting hinges .....
- 1008900 Oil only hinges and fittings to opening sash, ventilator or door .....
- 1009000 Ease and adjust existing sash, ventilator or door, including any filing, re-securing hinges and fittings, oiling same, and touching up paint to edges as necessary to match existing .....
- 1009100 Take down and clear away glazing bar from window or door .....
- 1009200 Weld joint, corner and the like of existing windows, sash, door or frame .....

A \$
51
102
131
7
59
15
49

**Per linear metre.**

- 1009300 Provide new metal mullion or transome not exceeding 100 mm width, matching existing and fix into existing window and door including all screws, drilling and tapping existing frame and mitring .....
- 1009400 Provide new metal glazing bar or glazing bead matching existing and fix into existing metal window or door including all screws, drilling and tapping existing frame and mitring .....

Galvanized steel	Aluminium
A \$	B \$
114	101
76	74

## ITEM

**REPAIRS, AND THE LIKE TO WINDOWS, DOORS AND LOUVRE AND DAMPERS  
(Cont'd)**

(Note : The following items 1008500 to 1009900 shall be applicable to any type of windows, doors, louvres and dampers.) (Cont'd)

**Per linear metre.**

1009500	Take down and clear away or take down and set aside for re-use metal mullion or transome from window or door .....	15
1009600	Take down and clear away or take down and set aside for re-use metal glazing bead.....	7
1009700	Fix only metal glazing bead including providing new screws, drilling and tapping .....	12

A  
\$

Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Re-secure
A \$	B \$	C \$	D \$	E \$
60	5	12	35	7

**Per linear metre.**

1009800	Weather strip for existing window .....
---------	---

**Each.**

1009900	Form drain weep hole at existing window frame .....
---------	---

A  
\$

18

## ITEM

## ADJUSTABLE LOUVRE

Adjustable louvre frames complete with clips, operating handles and the like, and all necessary mullion coupling clips and spacers for 100, 150 or 225 mm glass blades, including any assembling, coupled to form mullion, and bedding with Approved sealant :

**Per linear metre.**

1010000 Set of two adjustable louvre frames complete with clips of any size for glass blades (net height of each set of two frames measured) .....

1010100 Top or bottom weather strip .....

Supply and fix		Take down and clear away	Take down and set aside for re-use	Fix only	Re-secure
Galvanized steel (aluminium lacquer or stove baked enamel finish)	Anodized aluminium				
A \$	B \$	C \$	D \$	E \$	F \$
131	213	12	22	71	9
63	151	5	7	23	7

## WINDOW GRILLES

**Per square metre.**

1010200 Galvanized steel window grilles, comprising sections, channels, flats, rods and the like, welded, bolted and screwed, fixed to window frames with fixing accessories and sealant pointing .....

1010300 Stainless steel window grilles ditto .....

1010400 Anodized aluminium window grilles but screwed, tenon-jointed and rivetted, including necessary clip on piece, PVC cap and the like.....

Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Re-secure
A \$	B \$	C \$	D \$	E \$
278	25	28	71	12
631	25	28	71	12
557	25	28	71	12

## FIBREGLASS WINDOW EAVES

**Per linear metre.**

1010500 Approved fiberglass window eaves (GRP window eaves) fixed with stainless steel anchor bolt including silicone sealant pointing (Drawing No. MB/S/WDW/A/MET 103).....

Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Re-secure
A \$	B \$	C \$	D \$	E \$
373	45	49	268	45

## ITEM

## GATESETS

## Each.

Galvanized mild steel collapsible gateset finished with polyester powder coating, baked enamel or hammer enamel complete with top and bottom tracks, side pillars, ball bearing rollers, hinges, lock set, fixing pieces, brackets, anchor bolts, ironmongeries and the like (Drawing Nos. MB/S/DOOR/A/MET 017 to 028, 033 to 047) :

		A \$
1010600	Type A collapsible gate .....	3,492
1010700	Type B collapsible gate .....	2,796
1010800	Type B1 collapsible gate .....	2,986
	Galvanized mild steel gateset with frame finished with electrostatic powder coating of epoxy and polyester resin, complete with top and bottom tracks, side pillars, ball bearing rollers, hinges, lock set, fixing pieces, brackets, anchors, ironmongeries and the like (Drawing Nos. MB/S/DOOR/A/MET 048 to 076) :	
1010900	Type 1 or Type 3 sliding gateset with frame and gate leaf to suit recessed wall installation .....	3,983
1011000	Type 2 or Type 2A sliding gateset with frame and gate leaf .....	4,136
1011100	Type 4 swing type gateset with frame and gate leaf .....	3,746

## Each.

1011200 Gateset of any type complete with frame, fixing pieces, brackets, anchor bolts, ironmongeries and the like .....

Take down and clear away	Take down and set aside for re-use	Fix only	Re-secure
A \$	B \$	C \$	D \$
224	337	710	266



## ITEM

**GATESETS (Cont'd)**

		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Re-secure
<b>Each.</b>		<b>A</b> <b>\$</b>	<b>B</b> <b>\$</b>	<b>C</b> <b>\$</b>	<b>D</b> <b>\$</b>	<b>E</b> <b>\$</b>
1011300	Mortice dead lock to gateset.....	165	14	23	89	12
1011400	Mild steel roller bearing roller, or ball bearing roller .....	51	5	9	36	5

**ROLLER SHUTTERS**

Roller shutters of slat or link grille type complete with coil shafts (including barrel, helical springs, brackets and the like), channel guides, rails, locking devices, accessories and ironmongeries :

**Per square metre.**

		Supply and fix		Take down and clear away	Take down and set aside for re-use	Fix only
		Galvanized steel	Stainless steel			
		<b>A</b> <b>\$</b>	<b>B</b> <b>\$</b>	<b>C</b> <b>\$</b>	<b>D</b> <b>\$</b>	<b>E</b> <b>\$</b>
1011500	Roller shutter manually operated.....	2,994	3,800	74	117	242
1011600	Roller shutter electrically operated.....	3,954	5,039	74	117	242
1011700	One hour fire rated roller shutter electrically operated .....	4,676	5,762	74	117	242
1011800	Two hours fire rated roller shutter electrically operated .....	5,398	6,484	74	117	242

## ITEM

## ROLLER SHUTTERS (Cont'd)

		Supply and fix			Take down and clear away	Take down and set aside for re-use	Fix only
		Galvanized steel	Aluminium	Stainless steel			
<b>Per linear metre.</b>		A \$	B \$	C \$	D \$	E \$	F \$
1011900	Guide for slats .....	128	306	239	23	40	59
1012000	Guide to suit rolling link grille .....	128	306	239	23	40	59
1012100	Bottom rail comprising two angles fixed back to back.....	102	282	215	13	23	30
1012200	Bottom rail to rolling link grille .....	102	282	215	13	23	30

		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
<b>Per linear metre.</b>		A \$	B \$	C \$	D \$
1012300	Coil shaft of any diameter complete with barrel, helical springs, brackets and the like .....	797	49	102	494
<b>Each.</b>					
1012400	Espagnolette type locking device to suit roller shutter door or rolling link grille.....	122	15	30	30

## ITEM

**PROPRIETARY SUSPENDED CEILING SYSTEM**

Proprietary suspended ceiling system all in accordance with the manufacturer's recommendations :

**Per square metre.**

	Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
	A \$	B \$	C \$	D \$
1012500 Aluminium suspended linear strip or baffle ceiling system and the like .....	705	77	87	89
1012600 Aluminium open or eggcrate suspended ceiling system.....	279	77	87	89
1012700 Aluminium suspended panel ceiling system with standard colour powder coating finish .....	443	77	87	89
1012800 Acoustic tile suspended ceiling system with tiles 600 x 600 x 15 mm thick.....	443	77	87	89
1012900 Acoustic tile only, 600 x 600 x 15 mm thick.....	310	39	50	44
1013000 Galvanized steel clip-in suspended ceiling system.....	494	77	87	89
1013100 Galvanized steel non-perforated ceiling system with linear grid system and module 2,250 mm centres.....	468	77	87	89

**Each.**

	A \$
1013200 Form opening of any size in existing suspended ceiling of any material for sprinkler head, smoke detector, downlight, speaker and the like, including cutting, extra support, trimmer and making good.....	44
1013300 Ditto but for light trough or fitting, air vent, access panel and the like .....	187

## ITEM

## LAUNDRY RODS

Stainless steel laundry rods fixed to existing wall comprising 32 mm stainless steel tubes, flanges, brackets, base plates fixed with anchor bolts and pointed with sealant, stainless steel anchor bolts and nuts with spring washers, bonding connectors with labels complete with fixing accessories and the like (Drawing Nos. MB/S/MISC/A/MET 140 to 142, 144, 149 to 151) :

**Each.**

1013400	Option 1 laundry rod, 2,250 x 420 mm (approximate) overall .....
1013500	Option 2 laundry rod, 1,700 to 2,050 x 420 mm (approximate) overall .....
1013600	Option 3 laundry rod, 1,900 x 420 mm (approximate) overall .....
1013700	Option 4 laundry rod, 2,470 x 420 mm (approximate) overall .....
1013800	Option 5 laundry rod, 1,900 x 420 mm (approximate) overall .....
1013900	Option 6 laundry rod, 2,100 x 420 mm (approximate) overall .....

Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
A \$	B \$	C \$	D \$
1,752	66	95	355
1,717	66	95	355
1,708	66	95	355
1,786	66	95	355
1,683	66	95	355
1,717	66	95	355

## ITEM

## LAUNDRY RACKS

Stainless steel laundry rack fixed to existing pole holders comprising 32 mm stainless steel tubular main frame in one whole unit and tie, nylon lines with stainless steel connectors and nylon or PE pulleys, stainless steel rectangular shaped tubular fixing brackets, locking nut and anchor bolt, collars and bonding conductor complete with all necessary stainless steel bolts with spring washers, fixing accessories and the like; void of tubular bracket filled with sealant and modifying the existing pole holders (Drawing Nos. MB/S/MISC/A/MET 125, 128 and 129) :

**Each.**

		Supply and fix	Take own and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
1014000	Parallel Type 1A laundry rack, 1,500 to 1,800 x 500 mm (approximate) overall .....	1,531	66	95	178
1014100	Perpendicular Type 2A laundry rack, 1,000 x 750 mm (approximate) overall .....	1,468	66	95	178
1014200	Perpendicular Type 2B laundry rack, 1,000 x 750 mm (approximate) overall .....	1,496	66	95	178

Stainless steel laundry rack fixed to existing wall or pole holders comprising 32 mm stainless steel tubular main frame in one whole unit and tie, nylon lines with stainless steel connectors and nylon or PE pulleys, 5 x 190 x 150 mm stainless steel base plates fixed with adhesive anchor bolts and nuts, with base plate pointed with sealant, stainless steel U-shaped tubular fixing brackets, stainless steel locking nut and anchor bolt, collars and bonding conductor complete with fixing accessories and the like, void of tubular bracket filled with sealant and modifying the existing pole holders (Drawing Nos. MB/S/MISC/A/MET 126, 127, 130 and 131) :

**Each.**

		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
1014300	Parallel Type 1B laundry rack, 1,500 to 1,800 x 500 mm (approximate) overall .....	1,719	66	95	355
1014400	Perpendicular Type 2C laundry rack, 1,000 x 750 mm (approximate) overall .....	1,674	66	95	355
1014500	Parallel Type 1C laundry rack, 1,500 to 1,800 x 500 mm (approximate) overall .....	1,304	66	95	355

## DRYING RACKS

**Each.**

1014600 Take down and clear away existing drying rack of any type and size.....

A  
\$

66

## ITEM

## BURGLAR GRILLES

Per square metre.

- 1014700 Galvanized mild steel burglar grilles, comprising sections, channels, flats, rods, and the like, welded, bolted and screwed to form fixed and openable panels, including fixing to concrete with base plates, brackets, components, fittings, anchor bolts, fixing accessories and ironmongeries.....

Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Re-secure
A \$	B \$	C \$	D \$	E \$
853	25	28	89	12

## CAT LADDER AND STEP IRON

Each.

- 1014800 Stainless steel cat ladder comprising rods, flats and the like, welded and screwed, including fixing to concrete with base plates, brackets components, fittings, anchor bolts, fixing accessories (Drawing Nos. MB/S/MISC/A/MET 024 to 027).....

Supply and fix			Take down and clear away	Take down and set aside for re-use	Fix only	Re-secure
Type A	Type B	Type C				
A \$	B \$	C \$	D \$	E \$	F \$	G \$
9,879	8,909	12,430	124	160	888	178

Each.

- 1014900 Stainless steel Grade 316 step iron, 25 mm rod 1100 mm girth, four times bent and cast into concrete .....

Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Re-secure
A \$	B \$	C \$	D \$	E \$
162	25	29	89	12

## ITEM

## TACTILE INDICATOR

(Note : Take down and clear away of the following items 1015000 to 1015200 will only be paid for when the existing floor finish or slab, and the like, on which the tactile indicator fixed is not taken down at the same time.)

Stainless steel tactile indicator with stud or strip with anti-slip surfaces fixed with proprietary adhesive, including drilling, cut holes, interconnection base plate if required and all necessary fixing accessories, lay in any pattern and all as specified and in strict accordance with the manufacturer's recommendations :

**Each.**

		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Re-secure
		A \$	B \$	C \$	D \$	E \$
1015000	Positional tactile indicator.....	20	1	3	4	3
1015100	Warning tactile indicator.....	21	1	3	4	3
1015200	Directional tactile indicator.....	139	4	7	18	4

## SUNDRIES

**Each.**

		Supply and fix	Take down and clear away	Re-secure
		A \$	B \$	C \$
1015300	Stainless steel grease receptacle including movable tray, movable filter holder and aluminium window trimmer and providing licensed electrician to take down and set aside and re-fix existing exhaust fan (Drawing Nos. MB/S/MISC/A/MET 008 and 009).....	1,797	117	44

**Each.**

1015400	Extensible mild steel temporary props of any bearing capacity and length and clear away on completion.....	A \$  52
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**Each.**

1015500	Stainless steel Grade 304 braille raised tactile floor numbering signage for handrail, 0.2 mm thick, size 60 x 40 mm, profiled to suit handrail curvature .....	A \$  65
1015600	Ditto but size 65 x 40 mm.....	70

ITEM

SUNDRY METAL WORK ITEMS

		Take down and clear away	Take down and set aside for re-use	Fix only	Re-secure
	Each.	A \$	B \$	C \$	D \$
1015700	Air brick, stop cock box, inspection cover and frame, furnace bar, post box, safe or any composite unit or fabricated component not included elsewhere in this Schedule weighing not exceeding 12 kg to concrete, brickwork, blockwork or masonry .....	17	36	71	14
1015800	Add to item 1015700 for each additional 12 kg or part thereof in weight .....	10	17	30	9



## PLASTERWORK AND FINISHES SPECIAL CONDITIONS

### GENERAL RULES

#### SC11.G01 Surfaces described as “Walls”

Surfaces described as “Walls” include all walls, columns, vertical surfaces in dadoes and wall linings, cills and the like.

#### SC11.G02 Surfaces described as “Ceilings”

Surfaces described as “Ceilings” include all soffits or sloping soffits, sides and soffits of beams and ducts, and the like.

### MEASUREMENT RULES

#### SC11.M01 Generally

All plasterwork and finishes shall be measured as the net area covered. No deduction shall be made for voids not exceeding 0.50 m<sup>2</sup>. Thicknesses shall be measured from the general face of the surface being covered and exclusive of any grooves, raked out joints or other irregularities.

### COVERAGE RULES

#### SC11.R01 Generally

Rates for all plasterwork and finishes shall further include for :

- (a) Straight, raking or circular cutting and waste, forming holes, notches and the like including cutting, fitting and trimming.
- (b) Executing work on new or existing surfaces of any material unless otherwise stated.
- (c) Fixing, bedding, slurry, jointing and pointing materials unless otherwise stated.
- (d) Bond coats, additives and adhesives unless otherwise stated.
- (e) Making good up to existing finishes, door and window frames, around pipes, brackets and the like, and dishings to outlets.
- (f) Internal and external angles, fair ends, stopped ends and similar labours.
- (g) Joints between different types of materials and joints between new and existing materials.
- (h) Laying level or to slopes, and finishing to falls, or falls and currents.
- (i) Laying or executing work in bays or between strips.
- (j) Construction and subsequent demolition of sample panels of finishings.

#### SC11.R02 Metal lathing, wire netting and fibreglass mesh

Rates for metal lathing, wire netting and fibreglass mesh shall further include for :

- (a) Treating cut edges with paint as specified.
- (b) Fixing material to match backgrounds as specified.
- (c) Bending and laps.

**SC11.R03 In-situ finishes**

Rates for screeds, rendering, plastering, granolithic and terrazzo work and any other in-situ finishes shall further include for :

- (a) Spatterdashing, hacking, raking out joints, washing over with cement grout, brushing down, cleaning and all other preparation works required to new or existing surfaces of any material to provide key, unless otherwise stated.
- (b) Dubbing out to correct inaccuracies and irregularities in the surface being covered.
- (c) Temporary rules and edge boards.
- (d) Angles, arrises, quirks, throats, drips, rounded angles and coves and similar labours, and forming "V" or square edged grooves in surface when required.
- (e) Approved cement angles on cement and sand backing including narrow returns.
- (f) Scratching undercoats.
- (g) Steel trowel, wood float, trowelled stucco, textured brushed, combed or any other type of finish, unless otherwise stated.

**SC11.R04 Terrazzo**

Rates for terrazzo to wall shall further include for wax polishing as specified.

**SC11.R05 Skirtings**

Rates for skirtings shall further include for square, splayed, rounded, bevelled and rebated top edge, square, splayed and coved bottom, corner tiles and the like.

**SC11.R06 Tiles, sheets, blocks and slabs**

Rates for tiles, sheets, blocks and slabs shall further include for :

- (a) Any texture, finish, size, colour, shape, thickness, unless otherwise stated.
- (b) Arrises, fair edges and equal margins.
- (c) Mitres, stops, intersections, junctions, wreathed corners and the like.
- (d) Laying or fixing to colours and patterns.

**SC11.R07 Wall tile replacement**

Rates for wall tile replacement shall further include for :

- (a) Cement grout or pointing at the junction between top of walls and ceilings.
- (b) Prepare and submit repair survey and repair records.

**SC11.R08 Dividing strips**

Rates for dividing strips shall further include for cutting to required lengths, splay cut ends, drilling, fixing with brass or stainless steel screws or the like and for countersinking the heads of all exposed screws.

**SC11.R09 Taking down existing finishes**

Rates for taking down existing screeds, rendering, plastering, tiling and the like shall further include for taking down metal lathing and the like, and preparing the edges of the remaining work to receive joint with new work.

## ITEM

**METAL LATHING, WIRE NETTING AND FIBREGLASS MESH****Per square metre.**

		A \$
1100100	Zinc coated expanded steel lathing, lapped at joints .....	56
1100200	Galvanized wire netting, ditto .....	35
1100300	Fibreglass mesh, ditto .....	51

**LIGHTWEIGHT FLOOR AND ROOF INSULATING SCREEDS**

Lightweight aggregate screed or air entrained screed :

**Per square metre.**

		A \$
1100400	On floors not exceeding 50 mm thick .....	120
1100500	Add to item 1100400 for each additional 5 mm or part thereof in thickness .....	21

**CEMENT PAVING, SCREEDS, FAIR OR ROUGH RENDERING, AND THE LIKE**

Cement and sand or cement and granite fines paving, screeds, fair or rough rendering, and the like :

**Per square metre.**

		A \$
1100600	On floors not exceeding 10 mm thick .....	66
1100700	To treads and risers, ends of stairs, sides and tops of upstand kerbs, skirtings, strings, sides and bottoms of channels and sinkings, tops, soffits and edges of shelves and worktops, and the like not exceeding 10 mm thick .....	117
1100800	On walls and ceilings not exceeding 10 mm thick .....	95
1100900	Add to items 1100600 to 1100800 for each additional 5 mm or part thereof in thickness .....	15
1101000	Add to items 1100600 and 1100700 if screed hardened with Approved liquid hardener and dust proofer (Note : This item disregards the thickness of paving, screeds, and the like.) .....	21
1101100	Add to items 1100600 to 1100800 if screed waterproofed with Approved waterproof liquid mixed with ganging water or waterproof powder added to cement (ditto) .....	13
1101200	Add to items 1100600 to 1100800 if screed laid in two coats with top coat of 5 mm thick and mixed with coloured cement in lieu of plain cement (ditto) .....	47

## ITEM

**RENDERING****Per square metre.**A  
\$

1101300	Cement/lime/sand render on walls and ceilings not exceeding 10 mm thick .....	100
1101400	Add to item 1101300 for each additional 5 mm or part thereof in thickness.....	28

**INTERNAL PLASTER****Per square metre.**A  
\$

1101500	Cement/lime/sand plaster on walls and ceilings not exceeding 5 mm thick.....	66
1101600	Add to item 1101500 for each additional 5 mm or part thereof in thickness.....	30

**GYPSUM PLASTER**

Two coats gypsum plasterwork on concrete, brickwork or similar, in a total thickness of not exceeding 10 mm :

**Per square metre.**A  
\$

1101700	On walls and ceilings.....	119
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Three coats gypsum plasterwork on surfaces of expanded metal lathing, in a total thickness of not exceeding 13 mm thick from the outer face of the lathing :

**Per square metre.**

1101800	On walls and ceilings.....	185
---------	----------------------------	-----

One finishing coat gypsum plasterwork not exceeding 3 mm thick on surfaces of plaster board or plaster lathing including filling all joints between boards or lathing, and between walls and soffits and boards or lathing, with plaster, and covering all joints and angles with jute scrim cloth 100 mm wide :

**Per square metre.**

1101900	On walls and ceilings.....	90
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## ITEM

**GYPSUM PLASTER (Cont'd)**

Two coats gypsum plasterwork in a total thickness of not exceeding 10 mm on surfaces of wood wool covered with wire netting including filling all joints between slabs, and between walls and soffits and slabs, with plaster, and covering all joints and angles with jute scrim cloth 100 mm wide:

**Per square metre.**

1102000

On walls and ceilings.....

A  
\$

168

**GYPSUM PLASTER BOARD OR PLASTER LATHING**

**Per square metre.**

1102100

9.50 mm Thick gypsum plaster board or plaster lathing fixed to timber bearers on walls and ceilings.....

A  
\$

100

**LIME AND GYPSUM HAired PLASTER ON LATHING**

Three coats plaster in a total thickness of not exceeding 13 mm on lathing, consisting of two lime plaster undercoats added with hair, and one gypsum plaster finishing coat :

**Per square metre.**

1102200

On walls and ceilings.....

A  
\$

144

**APPROVED CEMENT ANGLES**

**Per linear metre.**

1102300

Approved cement on and including cement and sand backing coat, 15 mm total thickness, to reveal not exceeding 150 mm wide including square or rounded arrises and narrow returns (Note : This item will only be paid for when specifically ordered by the Contract Manager in writing and not included in other items.) .....

A  
\$

56

**SUNDRIES**

**Per linear metre.**

1102400

Fillet in cement or lime mortar not exceeding 0.005 m<sup>2</sup> sectional area (Note : This item will only be paid for when specifically ordered by the Contract Manager in writing and not included in other items.) .....

A  
\$

21

## ITEM

**SHANGHAI PLASTERING**

Shanghai plastering comprising of 10 mm thick cement and sand undercoat and 10 mm thick Shanghai plaster finishing coat of any colour :

**Per square metre.**

1102500

On walls and ceilings.....

A  
\$

236

**FIRE RESISTING PLASTER**

Prepare and spray fire resisting plaster including bonding agent and mesh reinforcement :

**Per square metre.**

1102600

On concrete or steel surfaces.....

1 Hour fire rated	2 Hours fire rated	4 Hours fire rated
A \$	B \$	C \$
362	436	719

**GRANOLITHIC WORK**

Granolithic paving, finish, and the like, with plain or white cement :

**Per square metre.**

1102700

On floors not exceeding 15 mm thick.....

1102800

To treads and risers, ends of stairs, sides and tops of upstand kerbs, skirtings, strings, sides and bottoms of channels and sinkings, tops, soffits and edges of shelves and worktops, and the like not exceeding 15 mm thick.....

1102900

On walls not exceeding 15 mm thick .....

1103000

Add to items 1102700 to 1102900 for each additional 5 mm or part thereof in thickness.....

1103100

Add to item 1102700 for fine rubbed finish .....

1103200

Add to items 1102800 to 1102900 for washed finish.....

1103300

Add to items 1102700 to 1102800 if hardened with Approved liquid hardener and dust proofer (Note : This item disregards the thickness of paving, and the like.) .....

1103400

Add to items 1102700 to 1102900 if mixed with coloured cement in lieu of plain or white cement (ditto).....

Type A or Type B (Trowelled)	Type C or Type D (Washed)	Type E or Type F (Trowelled)
A \$	B \$	C \$
145	175	---
---	---	203
---	---	169
33	37	33
168	---	---
---	---	26
22	24	22
47	56	51

## ITEM

**TERRAZZO WORK**

Terrazzo and the like, of any type and any colour, including rubbed and highly polished surface :

**Per square metre.**

		A \$
1103500	On floors not exceeding 15 mm thick.....	376
1103600	To treads and risers, ends of stairs, sides and tops of upstand kerbs, skirtings, strings, sides and bottoms of channels and sinkings, tops, soffits and edges of shelves and worktops, and the like not exceeding 15 mm thick .....	519
1103700	On walls not exceeding 15 mm thick .....	435
1103800	Add to items 1103500 to 1103700 for each additional 5 mm or part thereof in thickness .....	48

**PROPRIETARY BONDING AGENT**

(Note : The following item 1103900 will only be paid for when specifically ordered by the Contract Manager in writing.)

Proprietary bonding agent mixed with plain or white cement all in accordance with the manufacturer's recommendations, applied to existing finished surfaces to receive tiling or other finishes :

**Per square metre.**

		Cement with additive	Cement and sand with additive, or cement and granite fines with additive
		A \$	B \$
1103900	On walls and ceilings.....	142	139

## ITEM

**PROPRIETARY WATERPROOFING BONDING AGENT**

(Note : The following items 1104000 to 1104400 will only be paid for when specifically ordered by the Contract Manager in writing.)

Proprietary waterproofing bonding agent mixed with cement and sand rough rendering, paving or screed including bond coat all in accordance with the manufacturer's recommendation, wood floated or steel trowelled :

**Per square metre.**

		A \$
1104000	On floors not exceeding 10 mm thick.....	129
1104100	To treads and risers, ends of stairs, sides and tops of upstand kerbs, skirtings, strings, sides and bottoms of channels and sinkings, tops, soffits and edges of shelves and worktops, and the like not exceeding 10 mm thick .....	181
1104200	On walls and ceilings not exceeding 10 mm thick .....	146
1104300	Add to items 1104000 to 1104200 for each additional 5 mm or part thereof in thickness .....	54
<b>Each.</b>		
1104400	Grout in gap between pipe of any diameter and pipe sleeves in full depth .....	16

**PROPRIETARY POLYMER MODIFIED CEMENTITIOUS COATING**

(Note : The following items 1104500 and 1104600 will only be paid for when specifically ordered by the Contract Manager in writing.)

**Per square metre.**

		A \$
1104500	One coat of proprietary polymer modified cementitious coating of any thickness on concrete and masonry surfaces .....	87
1104600	Add to item 1104500 for each additional coat of any thickness .....	78



## ITEM

## VINYL FLOOR TILING, SHEETING AND SKIRTING

3 mm Thick vinyl floor tile and sheet, laid or fixed as specified, including cleaning with water and detergent, and emulsion polishing :

**Per square metre.**

Supply and fix			Fix only
Unbacked flexible vinyl floor tile	Unbacked flexible vinyl floor sheet	Foam backed vinyl floor sheet	
A \$	B \$	C \$	D \$
1104700 On floors .....	226	325	340 43
1104800 To treads and risers, end of stairs, sides and top of upstand kerbs, skirtings, sides and bottoms of channels and sinkings, and the like .....	278	382	397 87

**Per linear metre.**

		A \$
1104900	Preformed flexible PVC skirting not exceeding 100 mm high .....	52
1105000	Take down and clear away ditto .....	10

## RUBBER TILING

4 mm Thick heavy duty synthetic rubber tiles with studs, laid or fixed as specified, including cleaning with water and detergent, and emulsion polishing :

**Per square metre.**

		Supply and fix	Fix only
		A \$	B \$
1105100	On floors .....	720	87
1105200	To treads and risers, end of stairs, sides and top of upstand kerbs, skirtings, sides and bottoms of channels and sinkings, and the like .....	807	144

## CARPET TILING

Carpet tiles, laid or fixed with adhesive as specified, including cleaning and protection :

**Per square metre.**

		Supply and fix	Fix only
		A \$	B \$
1105300	On floors .....	215	50

## ITEM

**MOSAIC TILING**

4 mm Thick mosaic tiles, laid or fixed as specified, including setting one row of tiles on splay at internal angles :

**Per square metre.**

	Supply and fix		Fix only
	Glass mosaic tiles or glazed mosaic tiles	Unglazed vitreous mosaic tiles	
	A \$	B \$	C \$
1105400 On floors .....	242	304	116
1105500 To treads and risers, end of stairs, sides and tops of upstand kerbs, skirtings, strings, sides and bottoms of channels and sinkings, tops, soffits and edges of shelves and worktops, and the like.....	343	405	216
1105600 On walls and ceilings .....	284	346	158

**CERAMIC TILING**

(Note : Glazed ceramic wall tiles as specified shall be measured under items 1106100 to 1106300.)

Ceramic tiles not exceeding 9.5 mm thick, laid or fixed as specified :

**Per square metre.**

	Supply and fix		Fix only
	A \$	B \$	
1105700 On floors .....	312	133	
1105800 To treads and risers, end of stairs, sides and tops of upstand kerbs, skirtings, strings, sides and bottoms of channels and sinkings, tops, soffits and edges of shelves and worktops, and the like.....	379	192	
1105900 On walls .....	336	158	
<b>Per linear metre.</b>			
1106000 Skirting not exceeding 100 mm high .....	70	40	

## ITEM

**GLAZED CERAMIC WALL TILING**

5 mm (Minimum) thick glazed ceramic wall tiles, laid or fixed as specified :

**Per square metre.**

1106100	To sides and tops of upstand kerbs, skirtings, strings, sides and bottoms of channels and sinkings, tops, soffits and edges of shelves and worktops, and the like .....
1106200	On walls and ceilings .....
1106300	Extra over item 1106200 for recessed toilet roll holder or recessed soap dish to match tiling including cutting pocket on wall .....

Supply and fix	Fix only
A \$	B \$
346	248
286	192
289	---

**CONCRETE OR GRANOLITHIC FLOOR TILING**

50 mm Thick plain concrete or granolithic floor tiles :

**Per square metre.**

1106400	On floors.....
1106500	To treads and risers, end of stairs, sides and tops of upstand kerbs, skirtings, strings, sides and bottoms of channels and sinkings, tops, soffits and edges of shelves and worktops, and the like .....

Supply and fix	Fix only
A \$	B \$
293	102
343	144

**Per linear metre.**

1106600	20 mm Thick skirting not exceeding 100 mm high .....
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Supply and fix	Fix only
A \$	B \$
61	42

## ITEM

## VITREOUS CLAY FLOOR TILING AND QUARRY TILING

Vitreous clay floor tiles or quarry tiles not exceeding 9.5 mm thick, laid or fixed as specified :

**Per square metre.**

1106700 On floors.....

1106800 To treads and risers, end of stairs, sides and tops of upstand kerbs, skirtings, strings, sides and bottoms of channels and sinkings, tops, soffits and edges of shelves and worktops, and the like .....

**Per linear metre.**

1106900 Skirting not exceeding 100 mm high.....

Supply and fix	Fix only
A \$	B \$
417	289
437	303
120	50

## HOMOGENEOUS TILING

Homogeneous tiles, laid or fixed as specified :

**Per square metre.**

1107000 On floors.....

1107100 To treads and risers, end of stairs, sides and tops of upstand kerbs, skirtings, strings, sides and bottoms of channels and sinkings, tops, soffits and edges of shelves and worktops, and the like .....

1107200 On walls.....

Supply and fix				Fix only
Non-polish		Polish		
Size of each tile		Size of each tile		
n.e. 0.16 m <sup>2</sup>	exc. 0.16 m <sup>2</sup>	n.e. 0.16 m <sup>2</sup>	exc. 0.16 m <sup>2</sup>	
A \$  453	B \$  499	C \$  455	D \$  501	E \$  158
526	575	528	576	216
488	534	489	536	192

## ITEM

**ARTIFICIAL GRANITE TILING**

12-18 mm Thick artificial granite tiles, laid or fixed as specified :

**Per square metre.**

		Supply and fix	Fix only
		A \$	B \$
1107300	On floors .....	391	192
1107400	To treads and risers, end of stairs, sides and tops of upstand kerbs, skirtings, strings, sides and bottoms of channels and sinkings, tops, soffits and edges of shelves and worktops, and the like.....	487	279
1107500	On walls .....	416	216

**NON-SLIP TACTILE TILING****Per square metre.**

		Supply and fix	Fix only
		A \$	B \$
	Non-slip tactile synthetic rubber floor tiles with studs at bottom, dots and/or strips on top, laid as specified, including cleaning with water and detergent, and emulsion polishing :		
1107600	On floors .....	561	138
	Non-slip tactile homogeneous tiles with dots and/or strips on top, laid as specified :		
1107700	On floors .....	522	158

## ITEM

**MARBLE SLABS**

20 mm Thick marble slabs, laid or fixed as specified, including polishing :

**Per square metre.**

Supply and fix		Fix only
Natural marble slabs	Resin marble slabs	
A \$	B \$	C \$
1,278	936	192
1,578	1,220	289
1,478	1,136	248

1107800 On floors.....

1107900 To treads and risers, end of stairs, sides and tops of upstand kerbs, skirtings, strings, sides and bottoms of channels and sinkings, and the like .....

1108000 On walls.....

**SPORTS SURFACES**

**Per square metre.**

1108100 Take down existing sports surfaces including make good existing sub-base for cracks and holes by Approved crack repairing system all in accordance with the manufacturer's recommendations.....

A  
\$

276

Proprietary multipurpose sports surfaces system made from recycled tires or recycled gummy polymer on any surface of any colour, shape and pattern including cleaning and preparing the substrate all in accordance with the manufacturer's recommendations :

**Per square metre.**

1108200 5 mm Thick cushioning sub-layer and 3 mm thick EPDM wearing layer.....

A  
\$

895

**Per linear metre.**

1108300 Two component PU line marking not exceeding 50 mm wide in any colour, shape and pattern.....

206

## ITEM

**SPORTS SURFACES (Cont'd)**

Proprietary multipurpose outdoor sports surfaces systems consisting of polymerically bound rubber particles on any surface of any colour, shape and pattern including cleaning and preparing the substrate all in accordance with the manufacturer's recommendations :

**Per square metre.**

		A \$
1108400	8 mm Thick black base mat and 4 mm thick EPDM mat.....	1,191

**Per linear metre.**

1108500	PU line marking for EPDM not exceeding 100 mm wide .....	354
1108600	EPDM in-laid line marking not exceeding 100 mm wide.....	301

**WALL TILES REPLACEMENT**

(Note : The following items 1108700 to 1109200 will only be paid for when specifically ordered by the Contract Manager in writing.)

Wall tiles replacement applied to any surfaces, to receive tiling finish all in accordance with the manufacturer's recommendations.

**Per square metre.**

		A \$
1108700	Polymer modified cement sand rendering not exceeding 10 mm thick.....	224
1108800	Add to item 1108700 for each additional 5 mm or part thereof in thickness .....	93
1108900	Extra over polymer modified cement sand rendering for spatterdash slurry or bonding agent as specified .....	50
1109000	Extra over laying any wall tiles (wall tiles measured separately) for bedding with tile adhesive as specified.....	59
1109100	Extra over laying any wall tiles (wall tiles measured separately) for pointing and grouting to tile joints with tile grout as specified .....	29

**Per linear metre.**

1109200	Saw cut existing plaster, screed, rendering, tiles, paving slabs, paving blocks and other finishes of any thickness .....	37
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## ITEM

**REPAIRS TO WALL FINISHES**

(Note : The following items 1109300 to 1109600 will only be paid for when specifically ordered by the Contract Manager in writing.)

**Per square metre.**

Repairs to wall finishes of any thickness using polymer modified cement sand rendering including carrying out survey, marking out, saw cutting, removal of existing finishes, preparation of surfaces, application of bond coat, applying rendering or tiling finishes, forming movement joint, pointing, grouting, testing and provision of records, and the like all as specified :

		A \$
1109300	Mosaic tiling .....	817
1109400	Rendering.....	485
	Repairs to wall finishes of any thickness using cement sand rendering including carrying out survey, marking out, saw cutting, removal of existing finishes, preparation of surfaces, application of bond coat, applying rendering or tiling finishes, forming movement joint, pointing, grouting, testing and provision of records, and the like all as specified :	
1109500	Mosaic tiling .....	559
1109600	Rendering.....	246



## ITEM

## SUNDRIES

## Per square metre.

A  
\$

1109700	Silicone carbide non-slip grains sprinkled on and lightly trowelled into surface of pavings before setting.....	55
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1109800	Rake out joints between wall or floor tiles of any type and point in natural or coloured cement and sand .....	51
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1109900	20 mm Thick cement mortar in encapsulation work to internal and external sides of grille panel and fin containing asbestos, mortar to be applied on expanded wire mesh tied onto sides of grille panel, including all necessary preparation between layers, curing, shuttering or soffit boards as required, trowelling of surfaces, marking of triangular logo onto surfaces and all necessary vacuum cleaning work (measured flat over grilles and fins).....	174
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1110000	Carry out void detection test to wall surfaces by tapping with hammer (Note : This item will only be paid for when executed <u>not</u> in connection with any of the items 1109300 to 1109600.).....	19
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1110100	Tile filler all in accordance with the manufacturer's recommendations .....	131
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## Per linear metre.

1110200	Division strip or dividing angles of any material and size, set between differing floor finishes or wall linings.....	38
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1110300	Proprietary anti-slip floor tape, 50 mm wide, in any colour and texture .....	90
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1110400	Add to item 1110300 for each additional 25 mm or part thereof in width .....	40
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1110500	Proprietary non-slip insert strip of any size bedded in paving, stair treads or steps .....	72
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1110600	Nosing tiles of any material and size .....	87
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1110700	Point joint with silicone sealant of any size.....	39
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1110800	Point joint with Approved fire resistant sealant of any size (Note : This item will only be paid for when specifically ordered by the Contract Manager in writing.).....	47
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1110900	Proprietary stainless steel stop bead, lapped at joints .....	43
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## Each.

1111000	Fill hole not exceeding 0.01 m <sup>2</sup> surface area in concrete, brickwork or blockwork of any thickness with cement mortar including touching up finishes and painting to match existing and any necessary temporary support .....	43
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## ITEM

**TAKING DOWN EXISTING PLASTER, PAVINGS, TILING, AND THE LIKE**

(Note : Take down and clear away of the following items 1111100 to 1111500 will only be paid for when not executed in connection with other items which are to be taken down together with the finishes.)

		Take down and clear away	Take down and set aside for re-use
	<b>Per square metre.</b>	A \$	B \$
1111100	In-situ finishes of any mix and thickness not associated with rigid tiles or slabs.....	61	---
1111200	Plaster board including plaster finishing coat.....	40	---
1111300	Carpet tiles, rubber tiles, cork tiles, vinyl tiles, vinyl sheets.....	20	31
1111400	Vitreous clay tiling, quarry tiling, precast concrete tiling, ceramic tiling, homogeneous tiling, artificial granite tiling, mosaic tiling and glazed tiling including cement and sand screed .....	90	183
1111500	Natural or resin marble slabs including cement and sand screed, hooks, cramps, dowels, and the like.....	90	122

**FIRE RESISTANCE ENCLOSURE SYSTEM**

		Supply and fix			Fix only
		1 Hour fire rated	2 Hours fire rated	4 Hours fire rated	
		A \$	B \$	C \$	D \$
1111600	Non-metallic fire resistance enclosure system comprising enclosure boards, supporting frames and all necessary accessories, fixing and pointing edges and joints with approved fire resistant sealants, painting, and forming access panels for inspection all in accordance with the manufacturer's recommendations.....	798	1,062	1,269	140
1111700	Metallic fire resistance enclosure system comprising enclosure boards, supporting frames and all necessary accessories, fixing and pointing edges and joints with approved fire resistant sealants, painting, and forming access panels for inspection all in accordance with the manufacturer's recommendations.....	1,623	1,677	1,773	147

		Take down and clear away	Take down and set aside for re-use
	<b>Per square metre.</b>	A \$	B \$
1111800	Take down and clear away or take down and set aside for re-use of any type of fire resistance enclosure system.....	71	117

## PAINTING SPECIAL CONDITIONS

### GENERAL RULES

#### SC12.G01 Surfaces described as "Walls and ceilings"

Surfaces described as "Walls and ceilings" include all vertical, horizontal, sloping or curved walls, columns, soffits, beams, cills and the like, of concrete, brick, clay or concrete block, stone, or smooth or rough plastered or rendered or unplastered or unrendered surface of any type, regardless of texture or porosity.

#### SC12.G02 Surfaces described as "Special metal surfaces"

Surfaces described as "Special metal surfaces" including the following :

- (a) Glazed or unglazed windows and doors complete with frames, transomes, mullions, and cills.
- (b) Gates with rails not exceeding 200 mm centres complete with frames or posts.
- (c) Collapsible gates in extended position complete with frames and bottom tracks.
- (d) Railings and balustrades not exceeding 200 mm centres.
- (e) Wire mesh, expanded metal mesh, chain link and the like in gates, fencing, guards, doors and partition panels and the like complete with frames, posts, braces and rails.
- (f) Jalousies, louvre panels and the like complete with frames, styles, rails with fixed or moveable louvre blades.

### MEASUREMENT RULES

#### SC12.M01 Painting

Works in this Section shall be measured net as painted or applied unless otherwise stated. No deduction shall be made for voids not exceeding 0.50 m<sup>2</sup>.

Works in this Section shall be measured in square metres unless otherwise stated.

#### SC12.M02 Certain specific items

Painting to certain specific items shall be measured as follows :

Grille block wall	Measured flat overall on each face painted.
Corrugated or profiled sheeting	Measured flat overall on each face painted.
Special metal surfaces	Measured flat overall on each face painted.
Metal railings and balustrades other than those described as "Special metal surfaces"	Measured in details with tubular sections as pipework.
Pipes exceeding 150 mm bore, and gutters (inside and outside) exceeding 500 mm total girth	Measured on girthed surfaces around pipes and gutters as "General surfaces".
General surfaces of wood including wood panels and flush doors	Measured flat on each face painted as "General surfaces".

Wooden sashes, doors or partitions with glass panes, wire mesh or mosquito gauze panels Measured flat on each face painted as "General surfaces".

No deduction shall be made for glass pane, wire mesh or mosquito gauze panel not exceeding 0.50 m<sup>2</sup> unless such wire mesh or mosquito gauze panel is painted whereby the area shall be deducted irrespective of size.

Wood frames, mullions, transomes, cills and the like Measured total exposed girth complete with attached architraves, lining, cill boards and the like in square metres as "General surfaces", or in linear metres if not exceeding 300 mm girth.

Wood jalousies, louvre panels and the like Measured flat on each face painted.

Nuts, bolts, locks, brackets, staples, knobs, access panels, switch box and cover plates and the like less than 0.30 m<sup>2</sup> each and isolated lengths of pipe or rod less than 300 mm long Measured in enumerated if it is detached from other painted work.

#### SC12.M03

##### Line with or without arrow-head

Line with or without arrow-head shall be measured as the overall centre length including arrow-head. The width of the line shall be the average width of the line excluding the arrow-head.

#### COVERAGE RULES

#### SC12.R01

##### Painting

Rates for any type of painting work shall further include for :

- (a) Work carried out on new surfaces as new painting work or carried out on existing surfaces as redecoration.
- (b) All preparatory work as specified including washing down, brooming down, scraping, chipping, wire brushing, stopping, knotting, priming, rubbing down, high pressure water jetting to external wall, partial or complete stripping of existing paints or decorative materials, filling all works and imperfections including all cracks not exceeding 3 mm wide, and around door and window frames and, in the case of all metal work, applying rust inhibitor, primer, and the like.
- (c) Preparing and applying the type and number of coats of painting as specified including associated primers, binders and sealers. Minimum two coats of paint in addition to associated primer, binder and sealer shall be deemed to be included if the number of coats of such paint is not specified.
- (d) Additional priming and undercoats required to bring forward bare spots after existing decorated surfaces have been prepared, or in covering patches of new plaster, metal or wood work or other surface forming part of a complete area being redecorated.
- (e) Mixing, stirring and preparation of paints including addition of thinners if required.
- (f) Multi-colour work including using paints of any colour, and finishing all synthetic, polyurethane and metallic paints high gloss or flat.
- (g) Applying paint by any Approved method.
- (h) Cutting into line.
- (i) Rubbing down between successive coats.

- (j) Painting mouldings, panels, sinkings, corrugations, flutings, carvings, enrichments and the like.
- (k) Painting all nuts and bolts, hinges, brackets, cover plates, access panels and the like within the boundary of surrounding work being painted.
- (l) Removal of all paint spots and stains from and cleaning all handles, locks, bolts, catches and other ironmongery and fittings.
- (m) General protection and cleaning of all surfaces, fittings, furniture and areas where work is executed including provision of clean dust sheets and the like, and leaving all floors, windows and other areas free of paint stains and splashes.

#### **SC12.R02 Certain specific items**

Rates for painting certain specific items shall further include for :

Grille block wall	Rates include for wall of any thickness and painting into recesses and edges.
Special metal surfaces	Rates include for all opening edges, frames, styles, posts, braces, rails, tracks, transomes, mullions, cills, glazing beads, all edges and all surfaces of louvre blades, glazing compound and sealant.
Pipes and gutters	Rates include for all brackets, clips, ends and fittings, rainwater or waste head including cleaning out.
General surfaces of wood including panels and flush doors, sashes, and partition	Rates include for all edges, moulds, glazing bars and the like.
Wood jalousies, louvre panels and the like	Rates include for all edges, surfaces of louvre blades, moulds, glazing bars and the like.

#### **SC12.R03 Varnish, clear lacquer and lacquer polishing**

Rates for varnish, clear lacquer and lacquer polishing shall further include for stain of Approved colour.

#### **SC12.R04 Marking paint and marking materials**

Rates for marking paint and marking materials shall further include for executing work at specific time to avoid disturbance to public and traffic, and provision of temporary lighting and traffic diversion arrangement when required.

## ITEM

## PAINTING TO WALLS, CEILINGS, AND THE LIKE

(Note : Skim coat will only be paid for when specifically ordered by the Contract Manager in writing.)

Prepare and apply paints to the following surfaces :

**Per square metre.**

	Primer and sealer only	Skim coat only	Emulsion paint (Internal use)	Emulsion paint (External use)	Synthetic paint, black bitumastic paint, polyurethane paint	Chlorinated rubber paint, cold cure epoxy paint	Multi-layer acrylic paint	Two finishing coats of multi-layer acrylic paint
	A \$	B \$	C \$	D \$	E \$	F \$	G \$	H \$
1200100 Walls and ceilings .....	15	40	56	68	70	86	79	64
1200200 Grille block wall .....	20	---	71	93	85	119	113	93
1200300 Soft or hard fibre board, insulating board, acoustic tiles, wood wool and the like .....	16	---	59	73	74	92	---	---
1200400 Corrugated or profiled sheeting .....	18	---	67	82	84	---	---	---
<b>Per linear metre.</b>								
1200500 Surfaces not exceeding 100 mm girth where not in conjunction with similar painted work ...	4	12	13	19	15	25	24	20
1200600 Ditto but 100 - 300 mm girth .....	6	15	20	27	21	35	33	27

## ITEM

## PAINTING TO METAL WORK

Prepare and apply paints to the following metal work :

	Primer only, rust inhibitor only	Water based synthetic paint, metallic paint, black enamel paint, polyurethane paint, black bitumastic paint	Heat resisting paint, cold cure epoxy paint, chlorinated rubber paint	Acid resisting paint, non- toxic paint
	A \$	B \$	C \$	D \$
<b>Per square metre.</b>				
1200700 General surfaces.....	17	61	86	55
1200800 Special metal surfaces.....	20	72	112	65
1200900 Corrugated or profiled sheeting .....	21	73	103	65
<b>Per linear metre.</b>				
1201000 Surfaces not exceeding 100 mm girth where not in conjunction with similar painted work .....	4	13	24	12
1201100 Surfaces 100 - 300 mm girth where not in conjunction with similar painted work .....	5	18	32	17
1201200 Pipe not exceeding 150 mm bore, and gutter (inside and outside) not exceeding 500 mm total girth.....	14	46	81	43
<b>Each.</b>				
1201300 Heads or ends of screw bolts including nuts and washers or other similar article, where detached from other painted work.	3	5	5	5
1201400 Small isolated article such as lock, bracket, pulley, staple, knob, grating, access panel, cover or back plate, switch box, rainwater or waste head (inside and outside including cleaning out), and the like, not exceeding 0.30 m <sup>2</sup> , where detached from other painted work .....	7	19	17	---

## ITEM

## PAINTING TO WOOD WORK

(Note : Lacquer polishing will only be paid for when specifically ordered by the Contract Manager in writing.)

Prepare and apply paints to the following wood work :

**Per square metre.**

1201500 General surfaces.....

1201600 Jalousies, louver panels and the like with fixed or moveable louveres .....

**Per linear metre.**

1201700 Surfaces not exceeding 100 mm girth where not in conjunction with similar painted work .....

1201800 Ditto but 100 - 300 mm girth .....

**Each.**

1201900 Small isolated article such as backboard, switch block, access panel, bracket, bearer, and the like, not exceeding 0.30 m<sup>2</sup>, where detached from other painted work .....

Primer only	Wood preservative	Water based synthetic paint, polyurethane paint	Wax polishing, copal or synthetic varnish, polyurethane varnish, clear lacquer	Rubbed cellulose lacquer polishing
A \$	B \$	C \$	D \$	E \$
16	18	54	39	119
25	---	73	56	203
4	6	12	9	---
7	8	17	13	---
7	9	15	---	---



## ITEM

**SUNDRY PAINTING**

Prepare and apply the following paints :

**Per square metre.**

	A \$
1202000 Epoxy dust-proof coating to any surfaces.....	51
1202100 Clear polyurethane paint to new or freshly sanded wood block or wood strip flooring .....	59
1202200 Pesticidal coating to any surfaces .....	21
1202300 Reflective paint to any surfaces .....	84
1202400 Oil based or water based fluorescent paint to any surfaces.....	100
1202500 Synthetic paint to PVC general surfaces.....	62
1202600 Sealer to any surfaces .....	50

**Per linear metre.**

1202700 Oil based or water based fluorescent paint to pipe not exceeding 150 mm bore .....	52
1202800 Acrylic paint to uPVC pipe not exceeding 150 mm bore .....	57

**Each.**

1202900 Paint pipeline identification band to existing pipework, comprising basic and colour code indicators, around pipe of any size in thick coats of synthetic paint, approximately 400 mm wide .....	22
1203000 Acrylic paint to small isolated article such as bracket and the like, not exceeding 0.30 m <sup>2</sup> , where detached from other painted work .....	93

## ITEM

## MARKING PAINT

Prepare, mark out and paint the following, in marking paint or obliterate existing marking paint on tarmac, concrete or other surfaces :

		Paint new or re-paint over existing	Obliterate existing
		A \$	B \$
<b>Per square metre.</b>			
1203100	General surfaces.....	73	35
<b>Per linear metre.</b>			
1203200	Line with or without arrow-head not exceeding 150 mm wide .....	33	11
1203300	Ditto 150 - 300 mm wide.....	47	14
<b>Each.</b>			
1203400	Letter, number, Chinese character, logo or symbol, and the like not exceeding 150 mm high.....	24	14
1203500	Ditto 150 - 300 mm high.....	57	20
1203600	Add to item 1203500 for each additional 150 mm or part thereof in height.....	24	11

## WRITING

Mark out and paint the following letters and the like, in thick coats of synthetic paint to any surface to obtain bold, solid result, free from brush marks or obliterate existing including scraping or stripping off letters and the like and touching up paint to match general surfaces (Note : Obliterate existing items will only be paid for when surrounding surface is not being re-painted.) :

		Paint new or re-paint over existing	Obliterate existing
		A \$	B \$
<b>Per square metre.</b>			
1203700	Estate location directory board including letters, numbers, Chinese characters, logos, symbols, and the like .....	881	---
<b>Per linear metre.</b>			
1203800	Line with or without arrow-head not exceeding 50 mm wide .....	24	10
<b>Each.</b>			
1203900	Letter, number, Chinese character, logo or symbol, and the like, not exceeding 75 mm high.....	24	13
1204000	Ditto 75 - 150 mm high.....	29	14
1204100	Ditto 150 - 300 mm high.....	44	16
1204200	Add to item 1204100 for each additional 150 mm or part thereof in height.....	30	6

## ITEM

**MISCELLANEOUS ITEMS****Per square metre.**

		A \$
1204300	Completely strip off existing wall paper (including backing when required) or paint of any type by Approved means (Note : This item will only be paid for when specifically ordered by the Contract Manager in writing.) .....	35
1204400	Wash down surface with anti-mould liquid before decorating or re-decorating.....	14
1204500	Prepare wall or ceiling surface and apply two liberal coat of water repellant liquid .....	52

**SUNDRY CLEANING AND SEALING ITEMS**

(Note : The following items 1204600 to 1205300 will only be paid for when specifically ordered by the Contract Manager in writing.)

**Per square metre.**

		A \$
1204600	Thoroughly scrub, clean and wash down existing plastered, terrazzo, granolithic, Shanghai plaster, stone or similar surfaces of any type by Approved means.....	17
1204700	Seal cleaned stonework or Shanghai plaster with Approved chemical stone sealer and thoroughly wash off with fresh water applied by pressure hose .....	10
1204800	Clean surfaces of thermoplastic, vinyl, cork and similar flooring with detergent in water including scrubbing with soft bristle brushes and mopping over surface with damp mop afterwards .....	10
1204900	Apply one coat of emulsion polish to surfaces of thermoplastic, vinyl, cork and similar flooring after cleaning, and buff up .....	18
1205000	Scrub and clean existing tiled surfaces of any type by Approved means .....	17
1205100	Clean down synthetic painted or varnished surfaces with soft soap or suitable detergent and water, with admixture of disinfectant and dry off with wash leather .....	7
1205200	Clean surfaces of acrylic or polycarbonate sheets and claddings with Approved heavy duty cleaner and rinse with fresh water .....	14
1205300	Clean off letters, Chinese characters, and the like, painted on stone, plastered or similar surfaces in paint of any type with Approved chemical cleaner including scrubbing and scraping as necessary, and thoroughly washing off with fresh water applied by pressure hose.....	71

**ROAD MARKING**

(Note : The Contractor is allowed to claim the cost of road marking work in each Works Order based on either the minimum charge under item 1205400 OR the cost as measured and valued in accordance with the items 1205500 to 1207500.)

Prepare, mark out and paint the following lines, and the like, in white or yellow thermoplastic road marking material (Type A and B) or obliterate existing marking materials on tarmac, concrete or other surfaces for roads, carriageways and car parks :

Each.		A \$
1205400	Minimum charge of road marking works per Works Order .....	6,178

		Paint new or re-paint over existing	Obliterate existing
Per square metre.		A \$	B \$
1205500	Road surface .....	131	71
Per linear metre.			
1205600	Line not exceeding 150 mm wide.....	45	28
1205700	Ditto 150 - 300 mm wide.....	77	35

## ITEM

**ROAD MARKING (Cont'd)**

(Note : The Contractor is allowed to claim the cost of road marking work in each Works Order based on either the minimum charge under item 1205400 OR the cost as measured and valued in accordance with the items 1205500 to 1207500.) (Cont'd)

Prepare, mark out and paint the following lines, and the like, in white or yellow thermoplastic road marking material (Type A and B) or obliterate existing marking materials on tarmac, concrete or other surfaces for roads, carriageways and car parks : (Cont'd)

**Each.**

		Paint new or re-paint over existing	Obliterate existing
		A \$	B \$
1205800	Number or punctuation mark not exceeding 900 mm high .....	129	95
1205900	Ditto 900 – 1,200 mm high.....	134	113
1206000	Ditto 1,200 – 1,500 mm high.....	162	141
1206100	Add to item 1206000 for each additional 500 mm or part thereof in height.....	51	47
1206200	Letter not exceeding 900 mm high .....	151	95
1206300	Ditto 900 – 1,200 mm high.....	156	113
1206400	Ditto 1,200 – 1,500 mm high.....	162	141
1206500	Add to item 1206400 for each additional 500 mm or part thereof in height.....	65	47
1206600	Chinese character, logo or symbol, and the like, not exceeding 900 mm high.....	243	141
1206700	Ditto 900 – 1,200 mm high.....	254	177
1206800	Ditto 1,200 – 1,500 mm high.....	313	236
1206900	Add to item 1206800 for each additional 500 mm or part thereof in height.....	73	47
1207000	Single head arrow not exceeding 2,000 mm long.....	409	188
1207100	Add to item 1207000 for each additional 500 mm or part thereof in length.....	73	47
1207200	Double heads arrow not exceeding 2,000 mm long.....	426	188
1207300	Add to item 1207200 for each additional 500 mm or part thereof in length.....	78	47
1207400	Triple heads arrow not exceeding 2,000 mm long.....	529	218
1207500	Add to item 1207400 for each additional 500 mm or part thereof in length.....	111	47

## ITEM

**FIRE RETARDANT PAINT**

		<sup>1</sup> / <sub>2</sub> Hour fire rated	1 Hour fire rated	2 Hours fire rated
	<b>Per square metre.</b>	<b>A</b> <b>\$</b>	<b>B</b> <b>\$</b>	<b>C</b> <b>\$</b>
1207600	General surfaces .....	253	643	1,221
	<b>Per linear metre.</b>			
1207700	Surfaces not exceeding 150 mm girth.....	101	181	263
1207800	Ditto but 150 - 300 mm girth.....	157	259	369

**PROPRIETARY SPORTS SURFACE COATING SYSTEM**

(Note : The following items for sports surfaces will only be paid for when specifically ordered by the Contract Manager in writing. The Contractor is allowed to claim the cost of coating system in each Works Order based on either under the minimum charge item 1207900 OR the cost as measured and valued in accordance with the items 1208000 and 1208100.)

Proprietary sports surface coating system on any surface of any colour, shape and pattern including cleaning and preparing the substrate all in accordance with the manufacturer's recommendations :

	<b>Each.</b>	<b>A</b> <b>\$</b>
1207900	Minimum charge of proprietary sports surface coating system including line marking per Works Order.....	6,389
	<b>Per square metre.</b>	
1208000	Proprietary sports surface coating system .....	215
	<b>Per linear metre.</b>	
1208100	Line marking in two coats of paint not exceeding 100 mm wide in any colour, shape and pattern	60

## PLUMBING AND DRAINAGE SPECIAL CONDITIONS

### GENERAL RULES

**SC13.G01 Plumbing and drainage works**

Works in this Section include plumbing and drainage work above structural ground floor slab, and sanitary fittings. Plumbing and drainage below ground shall be measured and valued in accordance with Underground Services Section of this Schedule.

**SC13.G02 Generally**

Works related to plumbing and drainage not included in this Section shall be measured and paid for in accordance with other Sections of this Schedule.

### MEASUREMENT RULES

**SC13.M01 General**

Pipes and fittings shall be described in size as stated in the Specification.

**SC13.M02 Gutters and pipes**

Gutters and pipes shall be measured net length as laid or fixed along centre line of the pipework over all in-line fittings including bends, branches, junctions, reducers, caps, flanged ends and the like unless otherwise provided.

**SC13.M03 Fittings**

Unless otherwise stated, fittings for pipes exceeding 50mm diameter (or 54mm diameter in the case of copper and stainless steel pipes) shall be measured as "Extra over" the gutter or pipe run. Taper pipes, taper bends, tees and junctions with diminishing branches shall be measured as the size of the largest end.

**SC13.M04 Lagging and insulation to pipes**

Lagging and insulation to pipe shall be measured as the length of pipe to be insulated including all in-line fittings, with pipe bore stated.

**SC13.M05 Condition survey by mobile inspection camera system (MICAM)**

MICAM shall be conducted at any height from ground floor podium or canopy level to roof level and to all elevations of the building at location where the MICAM is set up and measured as a location.

**COVERAGE RULES****SC13.R01****Gutters and pipes**

Rates for gutters and pipes shall further include for :

- (a) Short lengths, cutting and waste, laps and joints in the running length.
- (b) Waste due to breakage.
- (c) Fittings for pipes equal to and not exceeding 50 mm diameter. (or 54 mm diameter in the case of copper and stainless steel pipes).
- (d) All jointing including provision of equal or reducing sockets, bushes, loose collars, loose sockets, connectors, couplings and the like, and jointing materials including gaskets, bolts and nuts for flanged pipes.
- (e) Providing and fixing pipe sleeves, puddle sleeves, collars of any kind of materials including loose cover plates, pointing with approved mastic or fire-rated mastic sealants, sealing up voids and caulking where pipes pass through walls, floors, external basement walls, and flat roofs and the like with specified material as appropriate.
- (f) Providing and fixing pipe supports including clamps, clips, brackets, screws, bolts, stud anchors, hangers and the like as specified, and cutting and pinning, grouting in, plugging, screwing, drilling and bolting to any surface and making good.
- (g) Concrete supports for pipes laid on roof slab including pipe sleeves.
- (h) Fixing to floors, walls and ceilings including fixing in chases, ducts, false ceilings and the like, and wrapping with felt at all openings passing through walls, floors, and roofs.
- (i) Testing as specified, and re-jointing, re-laying or re-fixing as necessary until the Contract Manager approves the test result.
- (j) Cutting and stripping off insulated lining of metal pipes for earth bonding.
- (k) Submitting design on the exact routing and details for the re-plumbing works.
- (l) Applying identification painting of colour coded bands, arrows and the like.
- (m) Temporary sealing of pipes during the progress of the work.

**SC13.R02****Galvanized mild steel pipes, uPVC pipes, copper pipes and stainless steel pipes**

Rates for galvanized mild steel pipes, uPVC pipes, copper pipes and stainless steel pipes shall further include for all made bends.

**SC13.R03****Fittings on gutters and pipes**

Rates for fittings on gutters and pipes shall further include for :

- (a) Additional cutting and waste on gutter or pipe and all extra joints.
- (b) Bend, tee, junction, cross and the like of any correct type and angle including custom size made in factory.
- (c) Jointing to pipes of any material and providing necessary connectors.



**SC13.R04 Cut into pipes in position**

Rates for cut into pipes in position shall further include for :

- (a) Making good to any length of pipe damaged additional to the net length of pipe required to be removed, including providing new pipes and forming and including new joints.
- (b) Arranging for temporary plumbing and drainage system or diversion of flow.

**SC13.R05 Take down gutters or pipes**

Rates for “Take down and clear away” or “Take down and set aside for re-use” gutters or pipes shall further include for :

- (a) Cutting into existing gutter or pipe in position.
- (b) Taking down and clearing away or taking down and setting aside for re-use fittings, brackets, concrete supports, and the like.
- (c) Preparing remaining ends to receive joint with new gutter or pipe.
- (d) Plugging ends with plugs or caps.
- (e) Arranging for temporary plumbing and drainage system or diversion of flow.

**SC13.R06 Fix only gutters or pipes**

Rates for “Fix only” or “Lay only” gutters or pipes shall further include for :

- (a) Laying or fixing fittings, brackets, concrete supports, and the like.
- (b) Providing new brackets, clamps, hangers, supports and concrete supports, gaskets, bolts, nuts, accessories, and the like.

**SC13.R07 Re-secure gutters or pipes**

Rates for “Re-secure” gutters or pipes shall further include for re-securing fittings and pipe supports, clamps, hangers and replacing of all defective pipe or concrete supports, and the like.

**SC13.R08 Valves, taps and the like**

Rates for valves, taps and the like shall further include for :

- (a) Additional cutting and waste on pipe and all extra joints.
- (b) Jointing to pipes of any material and providing necessary connectors.

**SC13.R09 Lagging and insulation to pipes**

Rates for lagging and insulation to pipes shall further include for :

- (a) Cutting, waste and fitting.
- (b) Fixings and adhesives.
- (c) Forming laps, welts, cut outs, recesses and the like.
- (d) Pointing, sealing, trowelling smooth chamfered and sealed edges and the like.

**SC13.R10 Sanitary fittings**

Rates for sanitary fittings shall further include for :

- (a) Jointing to pipework including connectors.
- (b) Bedding in cement mortar, and pointing in white or coloured cement or Approved sealant.

**SC13.R11 Sundry labour on sanitary fittings**

Rates for “Take down and clear away”, “Take down and set aside for re-use”, “Fix only” and “Re-secure” sanitary fittings shall further include for taking down and clearing away, taking down and setting aside for re-use, fixing and re-securing valves, traps and waste outlets and attached sundry sanitary fittings.

**SC13.R12 Condition survey by mobile inspection camera system**

Rates for condition survey by MICAM shall further include for :

- (a) Design, supply and installation of the system for inspection service.
- (b) Providing plant and equipment including delivering to site, setting up, moving around site, maintaining and repairing, and removing from site.
- (c) Appointment of Registered Structural Engineer to design and endorse the set up and operation of the MICAM.
- (d) Providing skilled labour for installation, modification, operation and dismantle of the system.
- (e) Appointment of Registered Inspector to conduct the inspection and prepare the survey report.
- (f) Providing survey records and survey reports as specified.

## ITEM

## PLUMBING ABOVE GROUND

## DUCTILE IRON PIPES AND FITTINGS

		Nominal size (mm)					
		80	100	150	200	250	300
		A	B	C	D	E	F
		\$	\$	\$	\$	\$	\$
<b>Per linear metre.</b>							
1300100	Pipe fixed to floor, wall or ceiling, or laid on slab .....	676	761	951	1,295	1,588	1,955
<b>Each.</b>							
Extra over pipework for :							
1300200	Bend .....	438	560	852	1,180	1,485	1,778
1300300	Tee.....	729	924	1,301	1,670	2,015	2,346
1300400	Cross.....	1,059	1,471	2,371	3,257	4,137	4,990
1300500	Cap to flanged end.....	191	243	362	482	601	723
1300600	Flanged socket end, flanged spigot end or flanged connector with screwed end .....	452	562	684	970	1,254	1,405
<b>Each.</b>							
1300700	Joint to existing pipe of any material including socket, connector, coupling and the like	352	462	667	886	1,112	1,359
1300800	Puddle flange.....	1,024	1,470	2,297	3,134	3,985	4,836
1300900	Unbolt existing joint, remove gasket and clear away, clean flange faces, provide new gasket and re-bolt joint .....	73	101	128	167	193	236
1301000	Remove cap to flanged end and clear away, clean flange face, for connection of new pipe. ....	54	67	93	125	155	187

## ITEM

## PLUMBING ABOVE GROUND (Cont'd)

## GALVANIZED MILD STEEL PIPES AND FITTINGS

Medium grade galvanized mild steel pipes and fittings :		Nominal size (mm)							
		n.e. 20	25	32	40	50	80	100	150
Per linear metre.		A \$	B \$	C \$	D \$	E \$	F \$	G \$	H \$
1301100	Pipe fixed to floor, wall or ceiling, or laid on slab .....	129	153	190	216	261	366	504	700
Each.									
Extra over pipework for :									
1301200	Bend .....	---	---	---	---	---	243	334	486
1301300	Tee.....	---	---	---	---	---	260	362	510
1301400	Cross.....	---	---	---	---	---	520	805	1,397
1301500	Cap end.....	---	---	---	---	---	137	185	300
Each.									
1301600	Joint to existing pipe of any material including socket, connector, coupling and the like .....	42	48	68	82	122	238	335	506
1301700	Flanged tank connector with back- nuts and washers, and joint to any type of tank and cistern including bedding with approved material.....	260	347	684	839	952	1,266	1,506	1,990

## ITEM

## PLUMBING ABOVE GROUND (Cont'd)

## GALVANIZED MILD STEEL PIPES AND FITTINGS (Cont'd)

Pipework of any grade :

Each.

Pipework of any grade :  <b>Each.</b>		Nominal size (mm)							
		n.e. 20	25	32	40	50	80	100	150
		A \$	B \$	C \$	D \$	E \$	F \$	G \$	H \$
1301800	Re-make existing joint. ...	36	37	43	47	52	77	112	131
1301900	Seal off existing pipe in position including threading end and providing and jointing on cap end .....	29	32	39	42	56	150	198	314
1302000	Remove cap end and clear away, prepare end of existing pipe for connection of new pipe .....	19	19	19	19	21	26	30	37
1302100	Cut into and remove short length of pipe in position, provide and joint in new tee complete with connector and the like. ....	116	134	144	175	214	365	476	655

## ITEM

## PLUMBING ABOVE GROUND (Cont'd)

## COPPER PIPES AND FITTINGS

		Nominal outside diameter (mm)							
		n.e. 22	28	35	42	54	67	76	108
		A	B	C	D	E	F	G	H
Per linear metre.		\$	\$	\$	\$	\$	\$	\$	\$
1302200	Pipe fixed to floor, wall or ceiling, or laid on slab .....	186	245	304	359	423	583	692	1,146
Each.									
Extra over pipework for :									
1302300	Bend .....	---	---	---	---	---	160	180	255
1302400	Tee .....	---	---	---	---	---	189	212	306
1302500	Cross .....	---	---	---	---	---	351	396	579
1302600	Cap end .....	---	---	---	---	---	68	78	116
Each.									
1302700	Joint to existing pipe of any material including socket, connector, coupling and the like .....	45	48	83	107	194	241	276	417
1302800	Flanged tank connector with back-nuts and washers and joint to any type of tank and cistern including bedding with approved material .....	94	120	147	179	229	301	340	521

## ITEM

## PLUMBING ABOVE GROUND (Cont'd)

## COPPER PIPES AND FITTINGS (Cont'd)

Pipework with any type of jointing :		Nominal outside diameter (mm)							
		n.e. 22	28	35	42	54	67	76	108
	Each.	A \$	B \$	C \$	D \$	E \$	F \$	G \$	H \$
1302900	Re-make existing joint.....	37	39	47	47	56	65	75	123
1303000	Seal off existing pipe in position including providing and jointing on cap end .....	41	46	54	62	---	---	---	---
1303100	Remove cap end and clear away, prepare end of existing pipe for connection of new pipe .....	19	19	21	22	26	28	30	36
1303200	Cut into and remove short length of pipe in position, provide and joint in new tee complete with connector and like .....	140	175	202	225	262	306	339	484

## ITEM

## PLUMBING ABOVE GROUND (Cont'd)

## COPPER PIPES AND FITTINGS (Cont'd)

Per linear metre.

- 1303300 Add to item 1302200 for Approved white polyethylene sleeve covered copper pipe in lieu of plain copper pipe including all cutting and fitting at joints, tees, bends and other fittings or alternatively covering such fittings with insulation quilt or insulation rope to the thickness required .....

Nominal outside diameter (mm)				
n.e. 22	28	35	42	54
A	B	C	D	E
\$	\$	\$	\$	\$
5	6	14	20	24

## STAINLESS STEEL PIPES AND FITTINGS

Per linear metre.

- 1303400 Pipe fixed to wall, floor or ceiling, or laid on slab .....

Each.

Extra over pipework for :

- 1303500 Bend .....

- 1303600 Tee.....

- 1303700 Cross.....

- 1303800 Cap end.....

Each.

- 1303900 Joint to existing pipe of any material including socket, connector, coupling and the like .....

- 1304000 Flanged tank connector with back-nuts and washers and joint to any type of tank and cistern including bedding with approved material .....

- 1304100 Re-make existing joint.....

Nominal outside diameter (mm)							
n.e. 22	28	35	42	54	76	108	
A	B	C	D	E	F	G	
\$	\$	\$	\$	\$	\$	\$	
379	471	798	957	1,196	1,728	2,463	
---	---	---	---	---	166	329	
---	---	---	---	---	220	439	
---	---	---	---	---	483	967	
---	---	---	---	---	218	437	
155	205	275	340	465	714	1,131	
635	814	1,014	1,220	1,569	2,226	3,098	
36	36	45	45	52	69	114	



## ITEM

## PLUMBING ABOVE GROUND (Cont'd)

## STAINLESS STEEL PIPES AND FITTINGS (Cont'd)

Each.		Nominal outside diameter (mm)						
		n.e. 22	28	35	42	54	76	108
		A \$	B \$	C \$	D \$	E \$	F \$	G \$
1304200	Seal off existing pipe in position including threading end and providing and jointing on cap end .....	35	52	68	89	130	237	456
1304300	Remove cap end and clear away, prepare end of existing pipe for connection of new pipe .....	17	19	19	21	21	26	34
1304400	Cut into and remove short length of pipe in position, provide and joint in new tee complete with connector and the like.....	123	156	184	210	273	424	755

Stainless steel expansion joint :

		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
<b>Each.</b>		A	B	C	D
		\$	\$	\$	\$
1304500	Stainless steel flexible connector to suit 100 mm diameter pipes of any type including any necessary fixing accessories .....	7,334	35	62	125
1304600	Stainless steel flexible connector to suit 150 mm diameter pipes of any type including any necessary fixing accessories .....	11,809	35	62	187

## ITEM

## PLUMBING ABOVE GROUND (Cont'd)

## UPVC FLUSHING WATER SERVICE PIPES AND FITTINGS

		Nominal size (mm)								
		n.e. 20	25	32	40	50	65	80	100	150
		A	B	C	D	E	F	G	H	I
Per linear metre.		\$	\$	\$	\$	\$	\$	\$	\$	\$
1304700	Pipe fixed to floor, wall or ceiling, or laid on slab .....	45	53	65	76	94	101	146	192	300
Each.										
Extra over pipework for :										
1304800	Bend .....	---	---	---	---	---	96	132	201	369
1304900	Tee.....	---	---	---	---	---	121	137	244	422
1305000	Cap end.....	---	---	---	---	---	31	52	82	153
Each.										
1305100	Joint to existing pipe of any material including necessary socket, connector, coupling and the like .....	8	9	13	17	24	39	67	108	203
1305200	Straight or bent connector and joint to steel pipes or brass fittings .....	---	32	35	45	51	---	---	---	---
1305300	Seal off existing pipe in position including providing and jointing on cap end .....	13	13	17	19	27	44	67	101	171
1305400	Remove cap end and clear away, prepare end of existing pipe for connection of new pipe.....	9	9	9	11	13	15	17	19	19
1305500	Cut into and remove short length of pipe in position, provide and joint in new tee complete with connector and the like.....	57	60	67	77	92	171	191	304	502

## ITEM

**PLUMBING ABOVE GROUND (Cont'd)****LABOUR ON PIPEWORKS**

(Note : The following items 1305600 to 1305900 shall be applicable to all types of pipes and fittings in the pipe length.)

		Nominal or nominal outside size (mm)			
		n.e. 50	50 - 100	100 - 200	200 - 300
<b>Per linear metre.</b>		<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
		\$	\$	\$	\$
1305600	Take down and clear away pipe fixed to floor, wall or ceiling, or laid on slab including associated fittings, brackets, concrete supports and the like.....	37	57	82	115
1305700	Take down and set aside for re-use pipe ditto.....	40	62	90	126
1305800	Fix only pipe ditto.....	95	148	217	301
1305900	Re-secure pipe ditto.....	19	30	43	60

## ITEM

## PLUMBING ABOVE GROUND (Cont'd)

## VALVES, TAPS AND THE LIKE

High pressure fittings including joints to pipes of any material and providing all necessary connectors :

**Each.**

1306000	Screw-down bib tap with crutch handle with or without hose union/screwed outlet.....
1306100	Screw-down bib tap, easy-clean pattern with capstan head marked "Hot" or "Cold" .....
1306200	Self-closing non-concussive bib tap marked "Hot" or "Cold" .....
1306300	Screw down pillar tap, easy-clean pattern with capstan head marked "Hot" or "Cold" .....
1306400	Self-closing non-concussive pillar tap marked "Hot" or "Cold" .....
1306500	Screw-down angle valve or stop valve ....
1306600	Screw-down stop cock with crutch handle or square head including keys .....
1306700	Screw down stop tap, easy-clean pattern with capstan head marked "Hot" or "Cold" .....
1306800	Screw down pillar tap, easy-clean pattern with swivel spout.....

Supply and fix					
Brass			Chromium plated brass		
Nominal size (mm)			Nominal size (mm)		
13	19	25	13	19	25
A	B	C	D	E	F
\$	\$	\$	\$	\$	\$
118	155	192	156	211	266
139	185	---	287	403	---
305	---	---	397	---	---
---	---	---	208	286	---
---	---	---	348	---	---
---	---	---	92	---	---
111	145	180	125	166	---
---	---	---	90	114	---
---	---	---	210	290	---

## ITEM

## PLUMBING ABOVE GROUND (Cont'd)

## VALVES, TAPS AND THE LIKE (Cont'd)

High pressure fittings including joints to pipes of any material and providing all necessary connectors : (Cont'd)

**Each.**

1306900	Three-way water tap with swan-neck outlet, coated with Approved material for laboratory use .....
1307000	Sink mixer fitting with easy-clean pattern screw down pillar taps with capstan heads marked "Hot" and "Cold", and swivel spout .....
1307100	Ditto but for basin or bath with fixed spout .....
1307200	Ditto but for basin or bath with fixed spout, automatic diverter and flexible handheld shower including wall bracket .....
1307300	Shower mixer fitting with easy-clean pattern screw down pillar taps with capstan heads marked "Hot" and "Cold", and flexible handheld shower or swan neck shower head including wall bracket. ....
1307400	Lever type basin mixer / single tap fitting .....
1307500	Lever type sink mixer / single tap fitting, wall or deck mounted with swivel spout .....
1307600	Lever type shower mixer fitting, wall mounted type with single outlet for shower point connection .....

Supply and fix					
Brass			Chromium plated brass		
Nominal size (mm)			Nominal size (mm)		
13	19	25	13	19	25
A	B	C	D	E	F
\$	\$	\$	\$	\$	\$
1,349	---	---	---	---	---
---	---	---	413	---	---
---	---	---	501	---	---
---	---	---	858	---	---
---	---	---	858	---	---
---	---	---	516	---	---
---	---	---	516	---	---
---	---	---	597	---	---

## ITEM

## PLUMBING ABOVE GROUND (Cont'd)

## VALVES, TAPS AND THE LIKE (Cont'd)

	High pressure fittings including joints to pipes of any material and providing all necessary connectors (Cont'd) :  Each.	Supply and fix									
		Nominal size (mm)									
		13	19	25	32	38	51	65	76	100	150
		A	B	C	D	E	F	G	H	I	J
		\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
1307700	Chromium plated brass flushing valve with 32 mm inlet .....	---	---	---	678	---	---	---	---	---	---
1307800	Brass float valve with plastic ball .....	82	127	178	250	313	460	646	798	1,159	---
1307900	Gun metal float valve ditto.....	131	210	301	424	533	794	1,117	1,384	2,023	---
1308000	UPVC float valve ditto .....	80	108	159	218	239	311	397	459	594	---
1308100	UPVC stop ball valve .....	64	68	73	92	104	132	168	192	---	---
1308200	UPVC screw down diaphragm valve with wheel head.....	147	207	252	323	380	501	639	742	967	---
1308300	Ditto but flanged....	---	---	---	---	---	---	948	1,103	1,441	2,152
1308400	UPVC angle valve .....	88	---	---	---	---	---	---	---	---	---
1308500	UPVC water tap ....	91	212	---	---	---	---	---	---	---	---
1308600	Brass screw down stop valve .....	118	153	189	237	273	351	---	---	---	---
1308700	Ditto gate valve .....	101	138	184	293	367	545	743	894	---	---
1308800	Heavy pattern gun metal full way gate valve with wheel head .....	---	---	---	---	---	---	---	---	1,067	1,714
1308900	Ditto but flanged....	---	---	---	---	---	---	---	---	1,653	2,470
1309000	Brass non-return valve .....	106	147	188	240	281	369	471	545	---	---

## ITEM

## PLUMBING ABOVE GROUND (Cont'd)

## VALVES, TAPS AND THE LIKE (Cont'd)

High pressure fittings including joints to pipes of any material and providing all necessary connectors (Cont'd) :  <b>Each.</b>  Gun metal pressure reducing valve .....  Ditto, coated with corrosion and wear resistant material .....  Brass air relief valve .....	Supply and fix									
	Nominal size (mm)									
	13	19	25	32	38	51	65	76	100	150
	A	B	C	D	E	F	G	H	I	J
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
	---	949	1,134	1,717	1,913	2,534	3,212	3,738	4,886	7,284
	---	1,915	2,514	3,219	3,818	5,115	6,520	7,618	---	---
	482	696	910	---	---	---	---	---	---	---

## Each.

		Supply and fix							
		Nominal size (mm)							
		51	65	76	100	150	200	250	300
		A	B	C	D	E	F	G	H
		\$	\$	\$	\$	\$	\$	\$	\$
1309400	Cast iron flanged gate valve with wheel or key operated head.....	795	1,103	1,367	1,795	3,280	5,370	8,308	10,405
1309500	Ductile iron flanged gate valve.....	---	---	2,346	3,868	6,439	10,826	15,654	21,088
1309600	Cast iron flanged non-return valve .....	---	---	---	6,018	9,009	11,981	14,984	---
1309700	Flanged Y-type strainer with screen .....	654	986	1,092	1,767	3,191	5,596	8,032	---

## ITEM

**PLUMBING ABOVE GROUND (Cont'd)****VALVES, TAPS AND THE LIKE (Cont'd)**

High pressure fittings including joints to pipes of any material and providing all necessary connectors (Cont'd) :

**Each.**

1309800 Pressure gauge with dials.....

Supply and fix		
Diameter of Dial (mm)		
60	75	100
A	B	C
\$	\$	\$
217	284	396

**Each.**

1309900 Air admittance valves with all necessary connectors .....

Supply and fix		Take down and clear away or take down and set aside for re-use	Fix only
Pipe bore (mm)			
n.e. 50	50 - 150		
A	B	C	D
\$	\$	\$	\$
352	360	57	140

**Each.**

1310000 UPVC anti-back flow non-return valve with straight/bent ends.....

Supply and fix	
Nominal size (mm)	
50	100
A	B
\$	\$
705	1,392



## ITEM

## PLUMBING ABOVE GROUND (Cont'd)

## LABOUR ON VALVES, TAPS AND THE LIKE

		Nominal size (mm)			
		n.e. 25	25 - 51	51 - 150	150 - 300
Each.		A \$	B \$	C \$	D \$
1310100	Take down and clear away bib tap, pillar tap, water meter, stop cock, mixer, full way gate valve, ball valve, and the like jointed to pipework of any material including all necessary connectors (each end jointed to existing pipe measured) .....	10	20	57	177
1310200	Take down and set aside for re-use ditto (ditto) .....	18	28	106	212
1310300	Fix only ditto (ditto) .....	47	75	280	561

## SUNDRY REPAIRS TO VALVES AND TAPS

		Nominal size (mm)		
		n.e. 25	25 - 51	51 - 150
Each.		A \$	B \$	C \$
1310400	Ease and adjust ball valve (when other repairs to valve not required) .....	32	37	47
1310500	Take down copper float from ball valve, solder to watertight and re-fix including easing and adjusting valve.....	54	75	93
1310600	Take down and clear away existing copper or plastic float from ball valve, provide and fix new plastic float including ditto .....	113	192	328
1310700	Take down and clear away metal connecting rod from ball valve, provide and fix new rod complete with new brass split pins including ditto.....	89	---	---
1310800	Re-washer valve of bib tap, pillar tap, stop tap or ball valve including providing leather, vulcanised fibre, plastic or rubber washer as ordered ...	39	56	---
1310900	Re-pack stuffing boxes, grind in valves and regulate and adjust bib, pillar or stop tap.....	62	93	---

Each.		A \$
1311000	Replace existing water meter including taking down and returning existing water meter to Water Supplies Department (WSD) with all necessary records, collect new water meter from WSD and fix to pipework of any materials including all necessary adaptors, connectors, and the like .....	374

## ITEM

## PLUMBING ABOVE GROUND (Cont'd)

## INSPECTION TO WATER HEATERS

(Note : This item will only be paid for when specifically ordered by the Contract Manager in writing and not included in any plumbing works.)

Each.

1311100 Inspection and completing report to tenants' water heaters against current standards and regulations for compliance .....

A  
\$

62

## CISTERNS AND WATER TANKS

Each.

1311200 Fibre glass temporary cistern not exceeding 500 litre, including drilling, fixing brackets and bolt anchors, accessories, connectors and jointing to pipes of any material .....

1311300 Add to item 1311200 for each additional 200 litre or part thereof in capacity .....

Supply and fix	Take down and clear away or take down and set aside for re-use	Fix only
A \$	B \$	C \$
1,239	71	374
439	14	93

Each.

1311400 Fibre glass water tank and cover, overall size not exceeding 3.00 m<sup>3</sup>, including drilling, fixing brackets and bolt anchors, access ladders and safety railings, accessories, connectors and jointing to pipes of any material, and submission of shop drawings and structural calculation as specified .....

1311500 Add to item 1311400 for each additional 1.00 m<sup>3</sup> or part thereof in volume .....

Supply and fix	Take down and clear away or take down and set aside for re-use	Fix only
A \$	B \$	C \$
35,650	1,131	3,565
6,133	188	613

## ITEM

## GUNMETAL PUDDLE FLANGES

		Length (mm)		
		400 - 500 for 200 mm thick concrete wall	450 - 550 for 250 mm thick concrete wall	500 - 600 for 300 mm thick concrete wall
Each.		A \$	B \$	C \$
1311600	Supply only 80 mm diameter gunmetal puddle flanges .....	2,991	3,323	3,656
1311700	Ditto but 100 mm diameter .....	3,739	4,154	4,570
1311800	Ditto but 150 mm diameter .....	5,608	6,231	6,854
1311900	Ditto but 200 mm diameter .....	7,478	8,308	9,139

## ITEM

## SANITARY FITTINGS

		Supply and fix	Take down and clear away or take down and set aside for re-use	Fix only	Re-secure
	<b>Per square metre.</b>	A \$	B \$	C \$	D \$
1330100	2 mm Thick stoved or baked enamel paint finish aluminium bathtub inspection panel complete with frame including anchor bolts (measured overall frame) .....	2,525	117	467	155
	<b>Each.</b>				
1330200	Porcelain enameled cast iron sheet steel bathtub, size not exceeding 1,400 mm long .....	3,216	212	934	168
1330300	Ditto but size exceeding 1,400 mm long .....	4,518	236	1,121	187
1330400	Approved acrylic shower tray, size approximately 800 x 800 mm .....	1,569	188	374	125
1330500	Approved porcelain enameled cast iron / sheet metal shower tray, size approximately 800 x 800 mm .....	1,870	188	561	125
1330600	Vitreous china lavatory basin with bowl depth 170 to 230 mm complete with combined overflow and brackets or wall hangers .....	635	71	187	62
1330700	Fire clay sink overall size not less than 610 x 460 x 250 mm complete with combined overflow and brackets or wall hangers .....	1,801	71	187	62
1330800	Single bowl stainless steel sink with or without folded edges complete with combined overflow, overall size not less than 475 x 305 mm .....	612	71	187	47
1330900	Ditto but with drainboard, overall size not less than 660 x 360 mm .....	1,075	85	224	56
1331000	Ditto but double bowl with drainboard, overall size not less than 1,400 x 490 mm .....	2,673	99	280	75
1331100	Single bowl chemical resistant polypropylene sink, overall size not less than 510 x 310 x 230 mm for laboratory use .....	1,107	85	224	56
1331200	Sensor type water tap or faucet .....	925	47	178	36
1331300	Rubber or vulcanite waste plug not exceeding 64 mm top diameter with chromium plated ring fixed to chain .....	38	4	9	4
1331400	Stout chromium plate brass chain ring and screw fixing stud not exceeding 0.80 m long .....	41	18	19	13

## ITEM

## SANITARY FITTINGS (Cont'd)

		Supply and fix	Take down and clear away or take down and set aside for re-use	Fix only	Re-secure
<b>Each.</b>		<b>A</b> \$	<b>B</b> \$	<b>C</b> \$	<b>D</b> \$
1331500	Vitreous china close coupled water closet (WC) suite of any colour including WC pan with P or S trap with or without vent, solid plastic seat and cover, cistern complete with syphon, ball valve, overflow, chromium plated lever, brackets and all necessary fixing accessories .....	1,535	141	374	62
1331600	Vitreous china close coupled WC suite of any colour including WC pan with P or S trap with or without vent, solid plastic seat and cover, cistern complete with single/dual flushing valve, inlet fill valve, chromium plated flush button, overflow, brackets and all necessary fixing accessories.....	1,797	141	374	62
1331700	Vitreous china squatting type WC pan of any colour with P or S trap with or without vent.....	469	47	110	19
1331800	Vitreous china pedestal WC pan of any colour with P or S trap with or without vent .....	485	51	140	21
1331900	Vitreous china pedestal WC pan of any colour with P or S trap with or without vent for close coupled cistern .....	575	51	140	21
1332000	Vitreous pedestal WC pan for disable of any colour with P or S trap with or without vent.....	1,760	57	206	37
1332100	Solid plastic WC seat and cover of any colour with moulded plastic adjustable hinges.....	209	18	75	9
1332200	Ditto but soft closing .....	262	18	75	9
1332300	Solid plastic WC seat and cover for disable of any colour with moulded plastic adjustable hinges .....	336	18	75	9
1332400	India rubber buffer to WC seat.....	35	8	15	6
1332500	Pair pillar hinges to WC seat, or pair double pillar hinges to WC seat and cover.....	64	8	15	6
1332600	Vitreous china low or high level flushing cistern (minimum 9 litre) of any colour, complete with syphon, ball valve, overflow, chromium plated lever or pull handle with chain or cord, brackets and all necessary fixing accessories.....	812	95	206	37
1332700	Vitreous china close coupled flushing cistern of any colour, complete with syphon, ball valve, overflow, chromium plated lever, brackets and all necessary fixing accessories .....	1,081	95	206	37
1332800	Vitreous china close coupled flushing cistern of any colour, complete with single/dual flushing valve, inlet fill valve, chromium plated flush button, overflow, brackets and all necessary accessories .....	1,292	95	206	37

## ITEM

## SANITARY FITTINGS (Cont'd)

		Supply and fix	Take down and clear away or take down and set aside for re-use	Fix only	Re-secure
Each.		A \$	B \$	C \$	D \$
1332900	Plastic low or high level flushing cistern (minimum 9 litre) of any colour, complete with syphon, ball valve, overflow, chromium plated lever or pull handle with chain or cord, brackets and all necessary accessories .....	418	71	187	32
1333000	Syphon of any material for ball valve complete with chromium plated outlet connector including adjusting and re-fixing lever arm.....	184	35	75	15
1333100	Inlet fill valve for single or dual flushing devices of any material complete with accessories .....	138	35	75	19
1333200	Flushing valve for single or dual flushing devices of any material complete with chromium plated flush button and accessories.....	139	35	75	19
1333300	Automatic flushing sensor with or without flushing valve .....	966	95	356	71
1333400	Chromium plated brass or plastic lever handle with linkage to syphon including adjusting.....	146	28	75	19
1333500	Heavy galvanized chain or nylon cord pull to WC cistern..	46	14	24	19
1333600	Plastic flush pipe for low or high level cistern including connector .....	96	28	62	19
1333700	Universal black plastic flush pipe connector.....	31	14	19	9
1333800	Single individual stall pattern urinal (cistern, spreader, and the like measured separately) .....	---	71	187	47
1333900	Add to item 1333800 for each additional individual stall in the range including overlap facings if required.....	---	71	187	47
1334000	Single section slab pattern urinal not exceeding 1.00 m wide complete with two return ends, floor channel (cistern, spreader, and the like measured separately) .....	---	95	280	75
1334100	Add to item 1334000 for each additional 0.60 m wide back section and length of floor channel in the same range.....	---	47	140	47
1334200	Add to item 1334000 for each intermediate division slab...	---	24	75	26

## ITEM

## SANITARY FITTINGS (Cont'd)

		Supply and fix	Take down and clear away or take down and set aside for re-use	Fix only	Re-secure
<b>Each.</b>		<b>A</b> \$	<b>B</b> \$	<b>C</b> \$	<b>D</b> \$
1334300	Vitreous china wall urinal bowl complete with concealed brackets and hangers (cistern, spreader, trap measured separately) .....	891	95	224	47
1334400	Division slab between wall urinal complete with concealed brackets and hangers .....	---	35	93	24
1334500	Single back section only of slab pattern urinal.....	---	57	187	47
1334600	Tread section only ditto .....	---	57	93	19
1334700	Channel piece only ditto.....	---	47	75	19
1334800	Return end slab or intermediate division slab ditto .....	---	47	125	21
1334900	4.5 Litre glazed fireclay automatic flushing cistern of any colour complete with fixing brackets (syphon and connector measured separately).....	213	47	149	19
1335000	9 Litre ditto (ditto).....	332	57	206	26
1335100	13.5 Litre ditto (ditto).....	470	71	280	32
1335200	10 mm Thick acrylic board not exceeding 0.10 m <sup>2</sup> supported by stainless steel rods with uPVC pipes and jointed with silicone sealant, cut into sizes to cover the void between close coupled vitreous china flushing cistern and the wall.....	212	24	---	---
1335300	Plastic syphon with screwed outlet and rubber washer to suit 4.5 litre automatic flushing cistern.....	318	35	93	32
1335400	Ditto but 9 litre .....	357	47	131	37
1335500	Ditto but 13.5 litre .....	413	57	149	41
1335600	Plastic drip tap for automatic cistern .....	81	24	47	15
1335700	Brass drip tap ditto .....	173	28	47	15
1335800	PVC flush pipe and spreader for single urinal stall or bowl .....	292	57	112	37
1335900	Add to item 1335800 for each additional stall or bowl in a range served from the same cistern .....	160	24	56	19

## ITEM

## SANITARY FITTINGS (Cont'd)

		Supply and fix	Take down and clear away or take down and set aside for re- use	Fix only	Re-secure
<b>Each.</b>		<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
		<b>\$</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>
1336000	UPVC flush pipe and sparge pipe not exceeding 1.00 m long for single section slab urinal.....	235	28	56	19
1336100	Add to item 1336000 for each additional 0.60 m or part thereof in length .....	154	24	47	13
1336200	Chromium plated copper flush pipe and sparge pipe not exceeding 1.00 m long for single section slab urinal.....	246	47	112	37
1336300	Add to item 1336200 for each additional 0.60 m or part thereof in length .....	127	24	47	13
1336400	Grating and waste connection to outlet from urinal .....	138	35	93	17
1336500	Shower fitting comprising tap, connecting pipe, shower arm and shower head .....	---	57	112	26
1336600	Shower rose comprising galvanized mild steel capped end with drilled holes .....	154	24	47	21
1336700	Chromium plated brass shower rose of any size .....	236	24	47	21
1336800	Adjustable swivel pattern chromium plated brass shower rose .....	291	24	47	21
1336900	Hand shower with adjustable spray .....	134	8	17	9
1337000	Non-conductive vertical shower rail not exceeding 1.00 m long complete with soap holder.....	122	28	47	19
1337100	Chromium plated bracket for hand shower including plugging to wall.....	89	16	26	13
1337200	15 mm Diameter chromium plated brass flexible pipe, not less than 1.50 m long.....	115	18	37	21
1337300	Approved automatic hand dryer including all necessary accessories and electrical works.....	1,253	71	356	41
1337400	Ditto wall mounted vertical type .....	3,454	95	356	62



## ITEM

## DRAINAGE ABOVE GROUND

## CAST IRON RAINWATER GUTTERS AND FITTINGS

		Nominal size (mm)				O.G. Pattern, Internal width (mm)	
		50	75	100	150	100	125
		A \$	B \$	C \$	D \$	E \$	F \$
<b>Per linear metre.</b>							
1350100	Gutter fixed on brackets .....	241	328	447	---	---	---
<b>Each.</b>							
Extra over gutter for :							
1350200	Stop end.....	31	40	52	---	---	---
1350300	Internal or external angle.....	57	78	115	---	---	---
1350400	Nozzle outlet .....	143	208	278	---	---	---
1350500	Combined stop end and nozzle outlet.....	169	245	325	---	---	---
<b>Per linear metre.</b>							
1350600	Take down and clear away or take down and set aside for re-use gutter.....	19	28	37	47	41	47
1350700	Fix only ditto .....	62	84	105	125	93	125
1350800	Re-secure ditto .....	9	11	13	19	15	17
<b>Each.</b>							
1350900	Remake existing joint.....	28	34	41	62	47	56

## CAST IRON OR COATED CAST IRON RAINWATER, WASTE, SOIL OR VENT PIPES AND FITTINGS

Cast iron pipes and fittings including all necessary coupling joints :

		Nominal size (mm)			
		50	75	100	150
		A \$	B \$	C \$	D \$
<b>Per linear metre.</b>					
1351000	Pipe fixed to floor, wall or ceiling.....	359	454	623	864

## ITEM

**DRAINAGE ABOVE GROUND (Cont'd)****CAST IRON OR COATED CAST IRON RAINWATER, WASTE, SOIL OR VENT PIPES AND FITTINGS (Cont'd)**

Cast iron pipes and fittings including all necessary coupling joints :

**Each.**

Extra over pipework for :

		Nominal size (mm)			
		50	75	100	150
		A	B	C	D
		\$	\$	\$	\$
1351100 Bend .....		---	121	175	273
1351200 Single junction .....		---	212	274	588
1351300 Double junction .....		---	322	435	799
1351400 Add to items 1351100 to 1351300 when fitted with bolted access door .....		---	74	104	187
1351500 Plug or cap end .....		---	102	142	214
1351600 Shoe .....		---	229	303	428
1351700 Swan-neck of any projection .....		---	247	301	426
1351800 Rainwater head, flat or angular .....		---	447	570	890
1351900 Straight inspection piece fitted with bolted access door .....		---	---	240	365
<b>Each.</b>					
1352000 Roof outlet with square or circular, flat or domed grating .....		143	191	248	364
1352100 Cut or burn out existing joint, remove cap or plug, clean socket and spigot ends and joint new pipe or re-make joint .....		131	146	194	211
1352200 Cut into and remove short length of pipe laid in position, provide and joint in new single junction complete with loose collar .....		218	287	376	711
1352300 Ditto but new double junction .....		273	342	470	879
1352400 Slip-on type repair coupling for joint to existing, comprising centre sleeve, end flanges, rubber rings and bolts and nuts .....		---	585	748	982

## ITEM

## DRAINAGE ABOVE GROUND (Cont'd)

## CAST IRON OR COATED CAST IRON RAINWATER, WASTE, SOIL OR VENT PIPES AND FITTINGS (Cont'd)

Epoxy coated cast iron pipes and fittings including all necessary coupling joints :

**Per linear metre.**

Epoxy coated cast iron pipes and fittings including all necessary coupling joints :  <b>Per linear metre.</b>		Nominal size (mm)						
		50	75	100	150	200	250	300
		A \$	B \$	C \$	D \$	E \$	F \$	G \$
1352500	Pipe fixed to floor, wall or ceiling .  <b>Each.</b>  Extra over pipework for :	611	645	743	929	1,263	1,556	1,918
1352600	Bend.....	---	172	247	352	455	886	1,208
1352700	Single junction .....	---	194	349	609	833	1,029	1,232
1352800	Double junction .....	---	---	571	762	1,047	1,296	1,509
1352900	Add to items 1352600 to 1352800 when fitted with bolted access door	---	74	104	187	271	355	395
1353000	Cap end .....	---	83	96	201	400	653	1,133
1353100	Shoe .....	---	414	549	679	811	933	1,063
1353200	Straight inspection piece fitted with bolted access door.....  <b>Each.</b>	---	---	566	969	1,179	1,444	1,682
1353300	Roof outlet with flat or domed grating.....	398	575	759	1,119	1,480	1,850	2,201
1353400	Joint to existing pipe of any material including socket, connector, coupling and the like ....	112	131	168	206	243	280	318
1353500	Cut into and remove short length of pipe laid in position, provide and joint in new single junction complete with connector .....	137	283	463	741	1,044	1,352	1,679
1353600	Ditto but new double junction .....	---	---	618	879	1,256	1,625	2,002
1353700	Replace existing joint including taking down and clear away existing joint, providing, fixing new coupling including jointing to existing pipes .....	114	142	170	217	263	320	394

## ITEM

## DRAINAGE ABOVE GROUND (Cont'd)

## UPVC RAINWATER GUTTERS AND FITTINGS

		Internal diameter (mm)			
		80	100	125	150
<b>Per linear metre.</b>		A	B	C	D
		\$	\$	\$	\$
1353800	Half round gutter .....	87	105	127	144
<b>Each.</b>					
Extra over half round gutter for :					
1353900	Stop end.....	18	24	29	34
1354000	Internal or external angle.....	38	47	55	62
1354100	Nozzle outlet .....	55	69	83	95
1354200	Combined stop end and nozzle outlet.....	79	94	113	132
<b>Per linear metre.</b>					
1354300	Take down and clear away or take down and set aside for re-use gutter .....	16	18	20	21
1354400	Fix only gutter .....	37	47	56	67
1354500	Re-secure gutter.....	6	7	9	11

## UPVC RAINWATER, WASTE, SOIL OR VENT PIPES AND FITTINGS

		Nominal size (mm)					
		32 or 40	50	65	80	100	150
<b>Per linear metre.</b>		A	B	C	D	E	F
		\$	\$	\$	\$	\$	\$
1354600	Pipe fixed to floor, wall or ceiling.....	65	81	115	137	176	265
<b>Each.</b>							
Extra over pipework for :							
1354700	Bend .....	---	---	49	86	130	297
1354800	Single junction .....	---	---	84	125	178	300
1354900	Double junction.....	---	---	149	191	248	374
1355000	Add to items 1354700 to 1354900 when fitted with bolted access door.....	---	---	19	25	32	52

## ITEM

## DRAINAGE ABOVE GROUND (Cont'd)

## UPVC RAINWATER, WASTE, SOIL OR VENT PIPES AND FITTINGS (Cont'd)

		Nominal size (mm)					
		32 or 40	50	65	80	100	150
		A	B	C	D	E	F
Each.		\$	\$	\$	\$	\$	\$
Extra over pipework for :							
1355100	Cap end.....	---	---	42	52	82	153
1355200	Expansion coupling.....	---	---	---	98	148	238
1355300	Cement joint to junction arm on cast iron pipe.....	---	---	25	29	38	---
1355400	Straight inspection piece fitted with access door.....	---	---	---	---	146	220
Each.							
1355500	Flat roof outlet with raised grating.....	---	---	---	207	256	375
1355600	Joint to existing pipe of any material including socket, connector, coupling and the like.....	18	27	39	66	100	225
1355700	Seal off existing pipe in position including providing and jointing on cap end.....	33	43	55	67	101	171
1355800	Remove cap end and clear away, prepare end of existing pipe for connection of new pipe.....	11	13	15	17	19	19
1355900	Cut into and remove short length of pipe in position, provide and joint in new single junction complete with sockets.....	77	87	128	171	230	364

## ITEM

**DRAINAGE ABOVE GROUND (Cont'd)****LABOUR ON PIPEWORKS**

(Note : The following items 1356000 to 1356300 shall be applicable to all types of pipes and fittings in the pipe length.)

		Nominal size (mm)			
		n.e. 50	50 - 100	100 - 200	200 - 300
<b>Per linear metre.</b>		<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
		\$	\$	\$	\$
1356000	Take down and clear away pipe fixed to floor, wall or ceiling, or laid on slab including associated fittings, brackets, concrete supports and the like.....	30	45	66	92
1356100	Take down and set aside for re-use pipe ditto.....	33	50	74	102
1356200	Fix only pipe ditto.....	77	118	174	241
1356300	Re-secure pipe ditto.....	15	24	36	49

## ITEM

**DRAINAGE ABOVE GROUND (Cont'd)****TRAPS AND WASTE OUTLETS**

Traps and waste outlets, jointed to pipes, fittings, and the like of any material including connectors :

**Each.**

		\$	\$	\$	\$	\$
1356400	Galvanized malleable iron P, S or running trap with 38 or 76 mm seal, as ordered, and screwed cleaning eye....	199	222	272	47	75
1356500	Cast brass or chromium plated brass ditto.....	209	281	436	47	75
1356600	Approved chemical resistant catchpot recovery trap with dilution capacity not less than 2.30 litres for laboratory use .....	---	1,245	---	35	62
1356700	Approved anti-syphonage plastic trap with cleaning eye, or plastic bottle trap.....	86	95	115	18	37
1356800	Brass waste outlet with chromium plated flange and grating, flynut, long shank slotted for overflow if required, and screwed for joint to galvanized steel pipe or trap including rubber or vulcanite plug with chromium plated ring and chain and fixing stud if required, and bedding in red lead cement or mastic in sink or basin .....	134	147	176	35	62
1356900	Ditto but with chromium plated brass overflow grid and connection for bath.....	207	228	---	71	93
1357000	Approved chemical resistant waste outlet with flange, grating and butyl rubber for laboratory use .....	---	284	---	57	125

**Each.**

		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
1357100	Chromium plated brass or uPVC vertical grating of any size.....	84	4	11	19
1357200	Stainless steel or PVC grating of any size complete with waste outlet and set in cement mortar.....	41	4	11	19

## ITEM

**DRAINAGE ABOVE GROUND (Cont'd)****BALLOON GRATINGS AND FRESH AIR INLETS**

	Supply and fix	Take down and clear away or take down and set aside for re- use	Fix only
Each.	A \$	B \$	C \$
1357300 Stout galvanized iron or stout copper wire balloon grating of any size with pronged feet and set in top of pipe of any size .....	71	7	11
1357400 Galvanized cast iron fresh air inlet valve with brass front and mica flap, and joint to top of pipe of any size .....	555	47	111
Each.			A \$
1357500 Replace existing mica flap .....			119

**CONDITION SURVEY BY MOBILE INSPECTION CAMERA SYSTEM**

Condition survey for external wall and/or drainage inspection by mobile inspection camera system, including all necessary preparation works, provision of plant and equipment, operators, submission of records and survey report and subsequent removal from site as specified :

Each.	A \$
1357600 Initial set up and survey at a location for a Works Order.....	14,486
1357700 Subsequent survey including shifting position at other location within the same building or to another building in the same Works Order.....	8,183



## ITEM

## MISCELLANEOUS

## PIPE SLEEVES AND BRACKETS

(Note : The following items 1380100 to 1380400 will be paid for only when specifically ordered by the Contract Manager in writing and not included in other items)

Each.

		A \$
1380100	Galvanized steel pipe sleeve of any size and fixed through slab, wall or beam of any thickness including grouting and caulking with cement mortar and pointing gaps between sleeve and pipe passing through with Approved silicone sealant .....	153
1380200	UPVC pipe sleeve ditto .....	97
1380300	Take down and clear away pipe bracket for pipe not exceeding 80 mm bore without removing the pipe, enlarge or cut mortice for and supply and fix stainless steel two-piece bracket bolted together with stainless steel screws including making good plastered, tiled or other surfaces ...	85
1380400	Ditto but for pipe exceeding 80 mm bore.....	120

## LAGGING AND PROTECTION TO PIPEWORK

		Supply and fix	Take down and clear away or take down and set aside for re-use	Fix only
Per linear metre.		A \$	B \$	C \$
1380500	Wrap pipework not exceeding 55 mm bore with one 15 mm thick hair felt bound on spirally with canvas strip and tarred twice .....	44	8	19
1380600	Ditto but with one 25 mm thick hair felt .....	69	8	26
1380700	Cover insulated pipe not exceeding 150 mm girth with one layer of stout waterproofed felt secured at 225 mm centres with 1.60 mm galvanized wire loops.....	131	11	37
1380800	15 mm Thick phenolic foam insulation including facings and vapour barriers to pipe not exceeding 55 mm bore including fittings at elbows, long bends and the like.....	87	18	37
1380900	Wrap pipe of any size with protective tape .....	48	14	24

## ITEM

## MISCELLANEOUS (Cont'd)

## INSULATION TAPE FOR WATER PIPING CONDENSATION

Per linear metre.

1381000 Wrap pipework with self-adhesive insulation tape.....

Supply and fix		Take down and clear away
Pipe bore (mm)		
n.e. 55	55 - 110	
A \$	B \$	C \$
47	76	14

## FIRE COLLAR AND WRAP

Each.

1381100 Fire collar to suit plastic pipes including fire resisting sealant pointing around edges, provision of fire testing report and stainless steel anchor bolts fixed in accordance with the manufacturer's recommendations.....

Supply and fix							Take down and clear away or take down and set aside for re-use	Fix only
Pipe bore (mm)								
40	50	65	80	100	125	150		
A \$	B \$	C \$	D \$	E \$	F \$	G \$	H \$	I \$
241	277	325	369	427	482	524	35	93

Each.

1381200 Fire wrap to suit plastic pipes fixed in accordance with the manufacturer's recommendations .....

Supply and fix			
Pipe bore (mm)			
n.e. 55	55 - 82	82 - 110	110 - 160
A \$	B \$	C \$	D \$
101	114	156	226

## ACCESSORIES

Each.

1381300 Timer for irrigation system.....

Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
A \$	B \$	C \$	D \$
1,084	95	140	187

## ITEM

## MISCELLANEOUS (Cont'd)

## SUNDRY CLEANING AND SEALING ITEMS

(Note : The following items 1381400 to 1381600 shall be paid for only when specifically ordered by the Contract Manager in writing and not included in other items.)

Each.		A \$
1381400	Thoroughly scrub and clean existing WC pan and cistern, urinal stall, lavatory basin, sink or the like with spirits of salts and hot water.....	47
1381500	Empty cistern or tank of any material not exceeding 10.00 m <sup>3</sup> internal volume, scrape or brush off and remove all growth, rust, scale, and the like, from bottom, sides and top, scrub out and clean with chloride of lime solution (Less than 1 kg chloride of lime to 6.00 m <sup>3</sup> of water) or other Approved solution and thoroughly flush and wash through with fresh water.....	354
1381600	Add to item 1381500 for each additional 10.00 m <sup>3</sup> or part thereof in internal volume.....	188

## GLAZING SPECIAL CONDITIONS

### MEASUREMENT RULES

#### SC14.M01

##### **Glazing**

Circular or irregular shaped panes shall be measured as the smallest square or rectangle size from which the pane can be cut.

#### SC14.M02

##### **Glass block panels**

Glass block panels shall be measured net as built. Deduction shall be made for voids of any size.

### COVERAGE RULES

#### SC14.R01

##### **Glazing**

Rates for glazing shall further include for :

- (a) Glazing in panes or sheets of any size and colour, including straight, raking and curve cutting and treating cut edges with paint as specified, waste and risk of breakage.
- (b) Painting wood or metal surface with priming paint before glazing.
- (c) Providing all putty, glazing compound, springs, glazing clips, glazing beads, silicone sealants, tapes and gaskets, setting and location blocks, distance pieces and the like.
- (d) Cutting or forming holes for fixing or for ironmongery and the like.
- (e) Taking down and re-fixing wood beads including supplying new wood beads to replace existing defective beads where necessary.
- (f) Taking down and re-fixing metal beads supplied with metal windows.
- (g) Carrying out glazing work in position behind guard bars.
- (h) Replacing glass or fixing materials broken or damaged before completion.
- (i) Cleaning glass both sides and leaving perfect on completion.

#### SC14.R02

##### **Louvre blades**

Rates for louvre blades fixed in adjustable metal clips shall further include for bending up clip ends, and adjusting and oiling clips.

#### SC14.R03

##### **“Take down and clear away” and “Take down and set aside for re-use”**

Rates for “Take down and clear away” or “Take down and set aside for re-use” in this Section shall further include for removing all old putty, glazing compound and silicone sealant and cleaning surfaces for re-glazing, or setting aside glazing beads and frames for re-use.

**SC14.R04****Glass block panels**

Rates for glass block panels shall further include for :

- (a) Glass blocks of any size, type, pattern and colour.
- (b) Special blocks at junctions, corners and the like.
- (c) Applying bitumen emulsion paint on surface of concrete or brick cill, jamb or head before laying glass block panels.
- (d) Providing clearance at jambs and head of panels and filling gap with movement joint filler and sealing both sides.
- (e) Building in strips of brickwork reinforcement and carrying ends of strips across the clearance gap and building into or securing to jambs of opening in an approved manner.

## ITEM

## GENERAL GLAZING

Glass, plastic glazing sheet or fibre glass  
glazing sheet and glazing to wood or metal :

**Per square metre.**

		Nominal thickness (mm)				
		n.e. 5	6	8	10	12
		A	B	C	D	E
		\$	\$	\$	\$	\$
1400100	Clear sheet glass.....	299	373	---	---	---
1400200	Clear patterned glass (rough cast or obscured).....	284	359	412	---	---
1400300	Wired cast glass .....	---	459	---	---	---
1400400	Wired polished plate glass .....	---	797	---	---	---
1400500	Clear float glass (polished plate).....	308	337	394	524	581
1400600	Tinted glass .....	---	445	---	---	---
1400700	Reflective glass .....	---	632	---	---	---
1400800	Fully tempered glass .....	---	502	554	705	732
1400900	Plastic glazing sheet.....	1,336	1,594	2,109	2,682	---
1401000	Fibre glass glazing sheet .....	---	---	---	621	---

**Per square metre.**

		Nominal thickness (mm)		
		8.4	8.8	12.8
		A	B	C
		\$	\$	\$
1401100	Laminated glass and glazing to wood or metal .....	1,558	1,568	1,745

**Per square metre.**

		Nominal thickness (mm)	
		11.5	14.5
		A	B
		\$	\$
1401200	Anti-bandit glass and glazing to wood or metal .....	4,375	4,946

**Per square metre.**

		Nominal thickness (mm)			
		6+6	8+8	10+10	12+12
		A	B	C	D
		\$	\$	\$	\$
1401300	Tempered laminated glass with 1.52mm pvb inlay and glazing to wood or metal .....	3,425	6,718	8,832	10,842

## ITEM

**GENERAL GLAZING (Cont'd)****Per square metre.**

<sup>1</sup> / <sub>2</sub> Hour fire rated	1 Hour fire rated	2 Hours fire rated
A \$	B \$	C \$
3,398	3,814	5,064

1401400 Fire resisting glass and glazing to metal.....

**Per square metre.**

Take down and clear away	Take down and set aside for re-use
A \$	B \$
75	95

1401500 Take down and clear away or take down and set aside for re-use glazing of any type and thickness.....

**Per square metre.**

A \$
146

1401600 Fix only glazing of any type and thickness.....

(Note : The following items 1401700 and 1401800 will only be paid for when executed not in connection with new glazing works.)**Per linear metre.**

A \$
36
Each.
72

1401700 Straight or circular cutting to glazing of any type and thickness .....

**Each.**

1401800 Cut hole with straight sides, circular or elliptical hole of any size through glazing of any type and thickness .....

## ITEM

**GLASS AND FIBRE GLASS GLAZING SHEET LOUVRE BLADES**

Glass and fibre glass glazing sheet louvre blades not exceeding 150 mm wide with polished edges and fixing to slots in frames or adjustable louvre metal clips :

**Per linear metre.**

		Nominal thickness (mm)	
		5	6
		A	B
		\$	\$
1401900	Clear sheet glass.....	49	57
1402000	Clear patterned glass (rough cast or obscured) .....	51	55
1402100	Wired cast glass .....	---	79
1402200	Wired polished plate glass .....	---	130
1402300	Clear float glass (polished plate).....	---	52
1402400	Fibre glass glazing sheet with thickening along both edges .....	---	106

**Each.**

1402500	Fix only louvre blade of any length, width or thickness in slots or clips .....	A \$  13
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**Each**

		Take down and clear away	Take down and set aside for re-use
		A	B
		\$	\$
1402600	Louvre blade of any length, width or thickness in slots or clips .....	6	7



## ITEM

## SUNDRIES

## Per square metre.

1402700 6 mm Thick clear patterned glass sliding panel including grinding recess and rounding edges .....

A  
\$

533

## Per linear metre.

1402800 Secure glass of any type in position glazed to wood or metal including removing loose or decayed putty, glazing compound and silicone sealant, cleaning and painting exposed surface with priming paint, applying new putty, glazing compound and silicone sealant, and painting surface to match existing (measured net length re-puttied).....

20

## Each.

1402900 Grinding recess of any size in pane of glass (as for sliding doors to hatches) .....

36

1403000 Supply only clear sheet glass or clear float glass of any size and thickness for hose reel nozzle box .....

6

## GLASS BLOCK PANELS

Hollow glass blocks bedded and jointed in cement mortar and pointed both sides in cement of any colour :

## Per square metre.

1403100 80 - 120 mm Thick glass block panel .....

Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
A \$	B \$	C \$	D \$
1,290	141	358	796

## Each.

1403200 Cut out existing defective glass block and provide and joint in new block .....

A  
\$

96

## ITEM

**MIRRORS****Per square metre.**

- 1403300 6 mm "Silvering quality" polished plate glass mirror silver backed and painted with two coats of shellac varnish after silvering, bevel edged if required, and fixed with chromium plated clips or with screws with chromium plated clip-on heads, including drilling mirror and screwing clips or screws to backing or plugging and screwing same to wall .....

Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
A \$	B \$	C \$	D \$
394	24	59	134

**Per square metre.**

- 1403400 Take down mirror, clean off and re-silver back, apply two coats of shellac varnish after re-silvering and re-fix in position .....

**Each.**

- 1403500 Convex mirror 600 mm (minimum) diameter complete with brackets, mounting poles, visors, bolts, screws and the like, and fixing to concrete or other surfaces including drilling or cutting mortices and grouting .....

A  
\$

235

1,774

**SOLAR CONTROL FILM****Per square metre.**

- 1403600 Solar control film for glazing of any size.....

Supply and fix	Take down and clear away	Fix only
A \$	B \$	C \$
598	24	179

**DOMELIGHTS****Each.**

- 1403700 Circular, square or rectangular glass or plastic glazing sheet domelight of any size including loosening, adjusting and tightening brackets as necessary .....

Take down and clear away	Take down and set aside for re-use	Fix only	Re-secure
A \$	B \$	C \$	D \$
106	134	134	72

## EXTERNAL WORKS SPECIAL CONDITIONS

### MEASUREMENT RULES

#### SC15.M01

##### Generally

External work items not included in this Section shall be measured and paid for in accordance with other Sections of this Schedule.

No deductions shall be made for voids not exceeding 0.50 m<sup>2</sup>.

#### SC15.M02

##### Sub-base material

Sub-base material shall be the compacted thickness as specified by the Contract Manager, whether laid in one or more layers.

#### SC15.M03

##### Road signs

Circular or irregular shaped road signs shall be measured as the smallest square or rectangle from which the sign can be cut.

### COVERAGE RULES

#### SC15.R01

##### External Works

Rates for external works shall further include for :

- (a) Finishing surface level or to falls, gradients, crowns and cambers to exact profile required, with each successive surface finished parallel to the final finished surface.
- (b) Additional bulk of material required to allow for compaction and consolidation.
- (c) Laying materials either by machine or by hand or by combination of both methods, and consolidating same either by roller or by mechanical tamper or by combination of both methods as ordered or permitted by the Contract Manager.
- (d) Cleaning all channels, kerbs, manhole covers and the like, free of all excess material and bitumen.
- (e) Wheeling and multi-handling of material to place of final incorporation in the work.
- (f) Executing the work at specified time to minimize the disturbance of traffic and provision of traffic lights, warning lights, signs and the like and payment of all charges incurring.
- (g) Providing, maintaining and removing of temporary road, walkway covers to pits, trenches and the like.

#### SC15.R02

##### Sub-base

Rates for sub-base shall further include for :

- (a) Trial areas.
- (b) Grading, measuring, mixing, transporting, spreading, levelling and compacting.

**SC15.R03 Bituminous surfacing**

Rates for bituminous surfacing shall further include for :

- (a) Executing work in small areas in repairing potholes, reinstating surfaces over trench excavation and the like including consolidating with mechanical tampers in lieu of rollers if necessary.
- (b) Applying bituminous priming coats when required by the Contract Manager.
- (c) Keeping the surface clean and free from deleterious material.
- (d) Cutting back and making of joints.

**SC15.R04 Tiles, sheets, blocks and slabs**

Rates for tiles, sheets, blocks and slabs shall further include for :

- (a) Any texture, finish, size, colour, shape, thickness, unless otherwise stated.
- (b) Arrises, fair edges and equal margins.
- (c) Mitres, stops, intersections, junctions, wreathed corners and the like.
- (d) Laying or fixing to colours and patterns.

**SC15.R05 Anti-skid road dressing**

Rates for anti-skid road dressing shall further include for :

- (a) Cleaning and drying concrete road surfaces.
- (b) Masking road lines, joints, manholes and the like.
- (c) Brushing and removing surplus chippings.

**SC15.R06 Road signs**

Rates for road signs shall further include for aluminium of any colour or finishes, all setting out, cutting to size, bevelling and polishing edges as required, mirrored images, and fixing including drilling, plugging and screwing with brass, chromium plated or stainless steel screws, and fixing with brackets and the like.

## ITEM

**SUB-BASE, AND THE LIKE****Per square metre.**

		A \$
1500100	Sub-base material not exceeding 225 mm thick, spread evenly, watered and consolidated, and blinded with fine material as specified .....	110
1500200	Add to item 1500100 for each additional 100 mm or part thereof in thickness.....	50
1500300	Trim formation or sub-grade to levels, gradients, falls and cambers, and consolidate including filling any depressions, spreading and levelling, loading and clearing away surplus materials arising from the trimming .....	33
1500400	Spray bituminous emulsion at specified rate evenly on hardcore base course, or existing prepared surface, to form tack coat.....	16

**ROAD BASE****Per square metre.**

	Consolidated thickness	Add to item A for each additional 50 mm or part thereof in thickness
	A \$	B \$
1500500	Bituminous road base not exceeding 150 mm thick .....	178 45

**BITUMINOUS SURFACING**

Supply, lay and compact bituminous surfacing as specified with aggregate of any size :

**Per square metre.**

	Consolidated thickness	Add to item A for each additional 5 mm or part thereof in thickness
	A \$	B \$
1500600	Bituminous base course not exceeding 65 mm thick .....	144 14
1500700	Bituminous wearing course not exceeding 30 mm thick .....	82 13
1500800	Polymer modified friction course not exceeding 10 mm thick .....	39 12
1500900	Asphaltic concrete base or wearing course not exceeding 30 mm thick .....	83 13
1501000	Fine cold asphalt not exceeding 15 mm thick .....	55 9

## ITEM

**REPAIRS AND THE LIKE, TO EXISTING BITUMINOUS SURFACED AREAS****Per square metre.**

1501100	Brush off, prepare for and dress existing surface with bitumen applied hot or bitumen emulsion at specified rate including blinding with granite chippings and sweeping off and clearing away any loose grit .....	41
1501200	Take down and clear away existing bituminous surfacing to an average depth not exceeding 50 mm including squaring and chiselling off edges, trimming off high portions, clearing out loose material in potholes and sunken portions and filling same with fine aggregate well tamped in, and consolidating whole area for resurfacing.....	22

A  
\$

(Note : The following items 1501300 and 1501400 will only be paid for when individual pothole to be repaired not exceeding 2.00 m<sup>2</sup> and not included in item 1501200.)

**Per square metre.**

1501300	Take down and clear away all loose material, mud, dust, and the like, from bottom and sides of pothole of any depth and take down and clear away bituminous surfacing around same to depth of 25 mm (minimum) including squaring and chiselling off edges and filling hole with fine aggregate thoroughly tamped in and consolidated with mechanical rammer, and preparing to receive new surfacing (measured overall size of top surfacing cut out) .....	33
1501400	Ditto but filling hole with proprietary instant road repair materials ("Instant Fill") (ditto) .....	640

A  
\$**ULTRA-RAPID HARDENING CONCRETE****Per square metre.**

1501500	Proprietary ultra-rapid hardening concrete not exceeding 75 mm thick including bonding coat, all in accordance with the manufacturer's recommendations.....	1,005
1501600	Add to item 1501500 for each additional 25 mm or part thereof in thickness.....	330

A  
\$**ANTI-SKID SYSTEM****Per square metre.**

1501700	Anti-skid road dressing to concrete road surfaces including priming the road surfaces, applying anti-skid mortar and sprinkling anti-skid chippings at specified rate.....	341
---------	--	-----

A  
\$**Per linear metre.**

1501800	Proprietary anti-skid system, fast cure epoxy based with calcined bauxite dressing, not exceeding 50 mm wide, in any colour and texture, laid to any surfaces in accordance with the manufacture's recommendations .....	169
1501900	Add to item 1501800 for each additional 50 mm or part thereof in width.....	83

A  
\$

## ITEM

## PEBBLE AND STONE PAVING

Per square metre.

1502000	Pebble paving formed with selected pebbles exceeding 25 mm but not exceeding 75 mm gauge, pressed into top of concrete bed (measured separately) before setting to give roughly level surfaces, including neatly recess pointing between the pebbles in cement and sand mortar .....
1502100	Small stone paving formed with selected stones exceeding 25 mm but not exceeding 100 mm gauge, pressed into top of concrete bed (measured separately) before setting, including dressing off top of stones after setting to give roughly level surfaces and recess pointing between the stones in cement and sand mortar .....

A  
\$

506

725

## SLAB AND BLOCK PAVING

Per square metre.

1502200	32 mm Thick sand bed to receive precast concrete slab paving or block paving.....
1502300	50 mm Thick ditto.....
1502400	Add to item 1502300 for each additional 10 mm or part thereof in thickness .....

A  
\$

45

60

16

Per square metre.

1502500	50 mm Thick precast concrete paving slabs including filling joints as specified .....
---------	---

Supply  
and fix

Fix only

A  
\$B  
\$

194

87

Per square metre.

1502600	Non-slip tactile precast concrete tiles with dots and/or strips on top including filling joints as specified.....
---------	---

Supply  
and fix

Fix only

A  
\$B  
\$

707

130

Per square metre.

1502700	60 mm Thick precast concrete blocks including filling joints using virgin aggregates or a mix of any proportions of virgin aggregates and recycled aggregates as specified .....
1502800	Ditto but 80 mm thick .....

Supply  
and fix

Fix only

A  
\$B  
\$

324

87

403

87

## ITEM

## SLAB AND BLOCK PAVING (Cont'd)

Per square metre.

Supply and fix			Fix only
50 mm thick	60 mm thick	65 mm thick	
A \$	B \$	C \$	D \$
369	426	454	87

1502900 Clay paver blocks including filling joint as specified  
.....

Per square metre.

1503000 Take down and clear away of slab and block paving of any type and size including sand bed  
of any thickness .....

1503100 Take down and set aside for re-use ditto.....

A  
\$

54

73

## RAILINGS

Railings complete with all necessary accessories including excavation, concrete, formwork and reinforcement for footings and curbs, drilling holes into concrete for anchors, anchor bolts, bolts and nuts, painting, making good all affected area, removal of surplus excavated materials and debris (net horizontal length of railing measured) :

Per linear metre.

1503200 Metal railing Type A with concrete curb (Drawing No. MB/S/MISC/A/MET 106).....

1503300 Metal railing Type B with concrete curb (Drawing No. MB/S/MISC/A/MET 107) .....

1503400 Metal railing Type C with concrete curb (Drawing No. MB/S/MISC/A/MET 108) .....

1503500 Galvanized mild steel railing for pavement Type A (Drawing No. MB/S/MISC/A/MET 101)  
.....

1503600 Galvanized mild steel railing for pavement Type B (Drawing No. MB/S/MISC/A/MET 101)  
.....

1503700 Galvanized mild steel railing for pavement Type C (Drawing Nos. MB/S/MISC/A/MET 102  
and 103) .....

1503800 Galvanized mild steel railing for pavement Type D (Drawing No. MB/S/MISC/A/MET 104)  
.....

1503900 Galvanized mild steel railing for podium Type E (Drawing No. MB/S/MISC/A/MET 105)  
.....

1504000 Take down and clear away metal railing of any type including reinstating surfaces to match  
surrounding .....

A  
\$

2,144

1,444

1,615

586

608

1,705

2,217

2,319

212



## ITEM

## SPEED BARRIERS AND RUBBER STOPPER

		Supply and fix	Take down and clear away or take down and set aside for re-use	Fix only
		A \$	B \$	C \$
1504100	Approved proprietary coloured thermoplastic speed barrier, complete with fittings, integral reflectors, bolts, screws and other fixings, installed and fixed to surfaces of any material, all in accordance with manufacturer's specifications and recommendations, including making good all damaged areas arising from the work .....	1,525	226	453
	<b>Per linear metre.</b>			
	<b>Each.</b>			
1504200	Extra over item 1504100 for end piece (each end measured) .....	227	---	---
1504300	Approved coloured thermoplastic rubber stopper; 500 x 150 x 90 mm thick, complete with fittings, integral reflectors, bolts, screws and other fixings, installed and fixed to surfaces of any material, all in accordance with manufacturer's recommendations, including making good all damaged areas arising from the work .....	366	71	141

## ROAD SIGNS

		Supply and fix	Take down and clear away or take down and set aside for re- use	Fix only	Re-secure
		A \$	B \$	C \$	D \$
1504400	3 mm Thick aluminium sign of any shape with overall size not exceeding 0.20 m <sup>2</sup> finished with reflective sheeting composed of retroreflective lenses, including letters, numbers, Chinese characters, logos, symbols, punctuations, lines, arrows, graphics and the like, complete with accessories, fixing devices and the like .....	323	71	106	47
1504500	Ditto exceeding 0.20 m <sup>2</sup> but not exceeding 0.40 m <sup>2</sup> .....	431	71	106	47
1504600	Ditto exceeding 0.40 m <sup>2</sup> but not exceeding 0.60 m <sup>2</sup> .....	648	71	106	47

## ITEM

**PLAYGROUND EQUIPMENT, AND THE LIKE**

Playground equipment, safety matt, and the like of any size unless otherwise stated :

**Per square metre.**

1504700 Safety matt.....

**Each.**

1504800 Seat, bench.....

1504900 Rocking horse, rocking boat, swing with any number of bays and seats, see-saw, joy wheel, Giant Stride.....

1505000 Basketball stand, goal posts with net .....

1505100 Fibreglass guard house not exceeding 5.00 m<sup>3</sup> including suncover (net volume of guard house excluding suncover measured) (concrete base measured separately).....

Take down and clear away	Take down and set aside for re-use	Fix only
A \$	B \$	C \$
47	57	71
95	106	---
566	707	---
424	495	---
566	707	1,218

**Per square metre.**

1505200 Proprietary protective padding to post comprising fire and weather resistant vinyl fabric or heavy duty PVC fabric covering and 25 mm (minimum) thick impact attenuating foam (flat area measured).....

A  
\$

1,110

## UNDERGROUND SERVICES SPECIAL CONDITIONS

### GENERAL RULES

#### SC16.G01 **Underground services works**

Works in this Section include all services below structural ground floor slab, namely water mains and sub-mains, drainage below ground and cable ducting. Plumbing and drainage above ground shall be measured and valued in accordance with Plumbing and Drainage Section of this Schedule.

#### SC16.G02 **Generally**

Works related to underground services not included in this Section shall be measured and paid for in accordance with other Sections of this Schedule.

### MEASUREMENT RULES

#### SC16.M01 **Water supply pipes, drain pipes or cable ducts**

Water supply pipes, drain pipes or cable ducts shall be measured net as laid or fixed along centre line of the pipework over all in-line fittings including bends, branches, junctions, reducers, caps, flanged ends and the like unless otherwise provided.

#### SC16.M02 **Fittings**

Unless otherwise stated, fittings for pipes exceeding 50mm diameter (or 54mm diameter in the case of copper pipes) shall be measured as "Extra over" the pipe runs. Taper pipes, taper bends, tees and junctions with diminishing branches shall be measured as the size of the largest end.

#### SC16.M03 **Surface channel gratings**

Surface channel gratings shall be measured the net length of grating along the centre line.

#### SC16.M04 **Granular beds for drain pipes**

Granular beds for drain pipes shall be measured net as laid after compacting to thickness as specified by the Contract Manager, whether laid in one or more layers. No deduction shall be made for voids not exceeding 1.00 m<sup>3</sup>.

#### SC16.M05 **Manholes and the like**

Manholes and the like shall be measured to the inside face of walls and the height from the soffit of suspended cover slab to the top of base slab.

#### SC16.M06 **Manhole covers and frames**

Manhole covers and frames shall be measured as the net area of the cover.

#### SC16.M07 **High pressure water jetting, mechanical cleaning and close circuit television survey**

High pressure water jetting, mechanical cleaning and close circuit television survey shall be measured net as drain pipes being cleaned or inspected, including length of fittings, traps, manholes, septic tanks and the like in the running length of the drain pipes.

**SC16.M08 Structural pipe lining**

Structural pipe lining shall be measured net as the pipe lining installed.

**COVERAGE RULES****SC16.R01 Concrete beds, haunches and surrounds to pipes**

Rates for concrete beds, haunches and surrounds to pipes shall further include for :

- (a) Providing and laying a layer of polythene sheeting or concrete blinding to the bottom of trenches before concreting.
- (b) Formwork and falsework.
- (c) Forming and including movement joints.
- (d) All necessary precast concrete wedges, blocks or cradles or other approved pipe supports including compressible sheeting.

**SC16.R02 Granular beds**

Rates for granular beds shall include for :

- (a) Compacting and trimming granular beds to correct gradient and shape under barrel and pipe sockets.
- (b) Additional bulk of material required to allow for compaction and consolidation.

**SC16.R03 Water supply pipes, drain pipes or cable ducts**

Rates for water supply pipes, drain pipes or cable ducts shall further include for :

- (a) Short lengths, cutting and waste, laps and joints in running length.
- (b) Waste due to breakage.
- (c) Fittings for pipes equal to and not exceeding 50 mm diameter (or 54 mm diameter in case of copper pipes).
- (d) All jointing including provision of equal or reducing sockets, bushes, loose collars, loose sockets, connectors, couplings and the like, and jointing materials including gaskets, bolts and nuts for flanged pipes..
- (e) Providing and fixing brackets, cutting and pinning, grouting in, plugging and screwing or drilling and bolting the same to any surface as specified.
- (f) Providing anti-corrosion tapes with primers and mastic fillers, bituminous coatings, polyethylene sheetings and the like as specified.
- (g) Testing as specified including re-jointing, re-laying or re-fixing as necessary until the Contract Manager approves the test result.
- (h) Providing and leaving a stout gauge pull-through wire in position inside cable ducts for the subsequent use by others.
- (i) Building in ends of pipes to sides of manholes, gullies, channels and the like.
- (j) Temporary sealing of pipes during progress of works.

**SC16.R04 UPVC pipes and fittings**

Rates for uPVC pipes further include for all made bends.

**SC16.R05 Sub-soil drain pipes**

Rates for sub-soil drain pipes shall further include for fitting tee.

**SC16.R06 Pipe fittings**

Rates for pipe fittings, traps and waste outlets shall further include for :

- (a) Additional cutting and waste on pipe and all extra joints.
- (b) Bend, tee, junction, cross and the like of any correct type and angle including custom size made in factory.
- (c) Jointing to pipes of any material and providing necessary connectors.

**SC16.R07 Cut into pipes in position**

Rates for cut into pipes shall further include for :

- (a) Making good to any length of pipe damaged or cut in excess of the net length required to be removed, including providing new pipes and forming new joints.
- (b) Arranging for temporary system and/or diversion of flow.

**SC16.R08 Take down pipes**

Rates for “Take down and clear away” or “Take down and set aside for re-use pipes” shall further include for :

- (a) Cutting into existing pipe in position.
- (b) Taking down and clearing away or taking down and setting aside for re-use fittings, pipe supports and the like.
- (c) Preparing remaining ends to receive joint with new pipe.
- (d) Plugging ends with plugs or caps.
- (e) Arranging for temporary system and/or diversion of flow.

**SC16.R09 Fix only pipes**

Rates for “Fix only” pipes shall further include for :

- (a) Laying or fixing fittings, brackets and the like.
- (b) Providing new brackets, pipe supports, gaskets, bolts, nuts, accessories, and the like.

**SC16.R10 Emergency repairs to asbestos cement watermains**

Rates for emergency repairs to asbestos cement watermains shall include for :

- (a) Temporary traffic and pedestrian diversion works.
- (b) Breaking up and clearing away concrete and flexible road surfacing and concrete paving blocks.
- (c) Taking down and set aside concrete paving blocks and re-laying upon completion of works.
- (d) Sealing off end of pipes.

**SC16.R11 Surface channel gratings**

Rates for cast iron surface channel gratings shall further include for :

- (a) Multi-handling and placing in position.
- (b) Adjusting to suit channel alignment.
- (c) Bituminous coating to all surfaces.

**SC16.R12 Manholes, traps and gullies of any type**

Rates for manholes, traps and gullies of any type shall further include for :

- (a) Excavating in any material, backfilling with suitable materials, compaction and removal of surplus excavated materials from Site.
- (b) Polyethylene sheeting or blinding layer.
- (c) Concrete, precast concrete, brickwork and blockwork including setting for cover frames to required level.
- (d) Formwork and moulds.
- (e) Reinforcement, steel sections and the like.
- (f) Forming channels and benchings, and building in pipe connections, including pipes, fittings, backdrops and the like.
- (g) Foot-holes, step irons, access ladders and safety chains.
- (h) Intercepting traps, rodding arms and the like.
- (i) Chains, stoppers, sediment buckets and the like.
- (j) All preparatory works, worked finishes, rendering and the like.
- (k) Painting, sealant and the like.

**SC16.R13 Alterations to existing manholes**

Rates for alterations to existing manholes shall further include for :

- (a) All preparation work that are required for the alteration.
- (b) Forming main and branch channels as required in re-formed benching including finishing to falls.
- (c) Providing temporary channels or drain pipes and/or other temporary measures necessary to maintain the existing flow.
- (d) Additional excavation and related works that are required for the alteration.

**SC16.R14 Testing existing drains**

Rates for testing existing drains shall further include for :

- (a) Temporary sealing ends of drains and connections.
- (b) Providing all plant and equipment, plant operator and attendant.
- (c) Taking down covers or gratings of any type and re-fixing upon completion of testing.
- (d) Providing test record.

**SC16.R15 High pressure water jetting or mechanical cleaning**

Rates for clearance of blockage in drain pipes by high pressure water jetting or mechanical cleaning shall further include for :

- (a) Inspection by manual means to identify the location of blockage.
- (b) Providing all plant and equipment, plant operator and attendant.
- (c) Clearing of any type and size of pipework including fittings, manholes, grease traps, septic tanks and the like in the running length.
- (d) Taking down covers or gratings of any type and re-fixing upon completion.
- (e) Clearing and cleaning out sludge, rubbish, solid matter and the like from pipework including fittings, manholes, grease traps, septic tanks and the like in the running length.
- (f) Carrying out verification test.

**SC16.R16 Rehabilitation of underground drainage pipes**

Rates for rehabilitation of underground drainage pipes shall further include for :

- (a) Temporary traffic control including traffic diversion and warning signs and the like during the execution of the relining works.
- (b) Excavating temporary pits or enlarging existing manholes and subsequent reinstatement.
- (c) Diversion of flow to maintain service of pipelines.
- (d) Cleaning pipeline for carrying out CCTV confirmatory survey.
- (e) CCTV survey for re-confirmation/confirmatory inspection of cleaning at any depth and any diameter pipe.
- (f) Taking down covers or gratings of any type and re-fixing upon completion.
- (g) Monitoring and taking measurements of lining after completion.

**SC16.R17 Close circuit television survey**

Rates for carrying out close circuit television survey in drain pipes, sewers and manholes shall further include for :

- (a) Providing all plant and equipment, plant operator and attendant.
- (b) Temporary blocking drain pipes or diversion of flow to maintain service of pipelines.
- (c) Cleaning the pipeline before survey.
- (d) Carrying out survey to any type and size of pipework including fittings, manholes, grease traps, septic tanks and the like in the running length.
- (e) Taking down covers or gratings of any type and re-fixing upon completion.
- (f) Providing video and photograph records, survey reports and record drawings for all drain pipes and sewers and associated manholes.

## ITEM

## WATER MAINS AND SUB-MAINS

## CONCRETE BEDS FOR WATER MAINS AND SUB-MAINS

		Pipe bore (mm)					
		n.e. 150	200	250	300	Two pipes each n.e. 150	Three pipes each n.e. 150
<b>Per linear metre.</b>		A \$	B \$	C \$	D \$	E \$	F \$
1600100	Concrete grade 20/20 bed 100 mm (minimum) thick under pipe or pipes laid including 20/20 haunching up from outside edge of bed to meet pipe barrel tangentially after pipes are laid, compressible padding and all necessary formwork and fibre insulating board or other Approved filler in full cross section of concrete bedding at pipe junctions .....	151	170	194	264	293	378
1600200	Ditto but 150 mm (minimum) thick bed and including surrounding pipes with similar concrete not less than 150 mm thick all round .....	340	410	458	492	558	766

## THRUST BLOCKS

		n.e. 1.00 m <sup>3</sup>	Add to item A for each additional 0.50 m <sup>3</sup> or part thereof in volume
<b>Each.</b>		A \$	B \$
1600300	Concrete thrust block including all necessary formwork .....	966	446



## ITEM

**WATER MAINS AND SUB-MAINS (Cont'd)****DUCTILE IRON PIPES AND FITTINGS**

		Nominal size (mm)					
		80	100	150	200	250	300
<b>Per linear metre.</b>		A	B	C	D	E	F
		\$	\$	\$	\$	\$	\$
1600400	Pipe laid in trench .....	644	716	897	1,187	1,517	1,875
<b>Each.</b>							
1600500	Extra over pipework for bend .....	422	518	804	1,117	1,380	1,666

**GALVANIZED MILD STEEL PIPES AND FITTINGS**

Heavy grade galvanized mild steel pipes and fittings :

		Nominal size (mm)	
		100	150
<b>Per linear metre.</b>		A	B
		\$	\$
1600600	Pipe laid in trench.....	813	1,141
<b>Each.</b>			
1600700	Extra over pipework for bend.....	263	338

## ITEM

## WATER MAINS AND SUB-MAINS (Cont'd)

## COPPER PIPES AND FITTINGS

		Nominal size (mm)				
		n.e. 22	28	35	42	54
		A \$	B \$	C \$	D \$	E \$
1600800	Pipe laid in trench.....	168	226	276	331	395

## UPVC PIPES AND FITTINGS

		Nominal size (mm)								
		n.e. 20	25	32	40	50	65	80	100	150
		A \$	B \$	C \$	D \$	E \$	F \$	G \$	H \$	I \$
1600900	Pipe laid in trench .....	40	49	60	73	88	105	127	154	217
<b>Each.</b>										
1601000	Extra over pipework for bend .....	---	---	---	---	---	92	129	195	357

## LABOURS TO PIPES AND FITTINGS

(Note : The following items 1601100 to 1601400 shall be applicable to all types of pipes and fittings in the pipe length.)

		Nominal size (mm)			
		n.e. 100	100 - 200	200 - 300	Add to item C for each additional 100 mm or part thereof in diameter
		A \$	B \$	C \$	D \$
1601100	Take down and clear away pipe laid in trench including associated fittings and breaking up and clearing away beds, haunches, surrounds, supports and the like .....	57	85	141	49
1601200	Take down and set aside for re-use pipe ditto .....	77	115	192	67
1601300	Fix only pipe and associated fittings .....	115	192	289	96
1601400	Re-secure pipe and associated fittings.....	15	25	31	12

**WATER MAINS AND SUB-MAINS (Cont'd)****EMERGENCY REPAIRS TO ASBESTOS CEMENT WATERMAINS**

(The following items 1601500 to 1602300 shall not be subject to Percentage Additions for Emergency Works and Works at Specific Properties and Locations and will only be paid for when specifically ordered by the Contract Manager in writing and carried out by a registered asbestos contractor as specified, all in compliance with the statutory requirements.)

		A \$
	<b>Per cubic metre.</b>	
1601500	Excavate trenches of any width and depth.....	13,755
1601600	Backfill trenches with approved filling materials .....	17,194
1601700	Disposal of asbestos waste in bulk by licensed waste collector (measured based on disposal records endorsed by the Contract Manager) .....	51,583
	<b>Per linear metre.</b>	
1601800	Cut and remove defective pipeworks including associated fittings, contaminated soil and earth from trenches or chambers of any depth (length of defective pipeworks being cut measured) .....	36,822
1601900	Ductile iron pipes not exceeding 150 mm diameter, laid in trench of any depth, including beds, haunches, surrounds, supports and the like, and connection to existing pipe .....	62,743
1602000	Ditto but 200 mm diameter .....	75,196
1602100	Ditto but 250 mm diameter .....	70,577
1602200	Ditto but 300 mm diameter and above.....	71,665
	<b>Each.</b>	
1602300	Reassurance air test (Note : This item will only be paid once in each Works Order.).....	5,849

## ITEM

## DRAINAGE BELOW GROUND

## CONCRETE AND GRANULAR BEDS FOR DRAIN PIPES

Per cubic metre.

A  
\$

1620100 Granular bedding to drain pipes .....

373

Per linear metre.

1620200 Concrete grade 20/20 bed 300 mm wider than bore of pipe and 100 mm (minimum) thick under pipe including haunching up after drain is tested from outside edge of bed to meet pipe barrel tangentially, compressible padding and all necessary formwork and fibre insulating board or other Approved filler in full cross section of concrete bedding at pipe junctions .....

Pipe bore (mm)										
n.e. 150	225	300	375	450	525	600	675	750	900	
A \$	B \$	C \$	D \$	E \$	F \$	G \$	H \$	I \$	J \$	
152	190	277	329	386	467	539	625	---	---	
329	419	501	588	683	789	898	982	1,094	1,334	

1620300 Ditto but 150 mm (minimum) thick bed including surrounding pipes with similar concrete not less than 150 mm thick all round .....

## PRECAST CONCRETE PIPES

Per linear metre.

Pipe bore (mm)
150
A \$
203

1620400 Precast concrete drain pipes with flexible spigot and socket joints with rubber gaskets and including all necessary reinforcement laid in trench .....

## ITEM

**DRAINAGE BELOW GROUND (Cont'd)****VITRIFIED CLAY PIPES AND FITTINGS**

		Pipe bore (mm)				
		100	150	225	300	375
<b>Per linear metre.</b>		<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>
		<b>\$</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>
1620500	Pipe laid in trench .....	551	828	1,239	1,654	---
<b>Each.</b>						
Extra over pipework for :						
1620600	Bend.....	38	51	181	---	---
1620700	Single junction .....	102	143	230	339	---
1620800	Double junction .....	228	263	428	---	---
1620900	Taper pipe .....	---	114	201	---	---
1621000	Pipe stopper bedded in cement or lime mortar .....	74	104	150	---	---
<b>Each.</b>						
1621100	Joint new pipe to existing including cleaning socket and removing stopper if any .....	21	27	39	48	56
1621200	Cut pipe in position and joint socket end of new pipe or new stopper (measured separately) to the same including cutting into and making good concrete bed or surround afterwards as necessary.....	64	96	129	192	241
1621300	Cut into and remove length of pipe in position not exceeding 900 mm long, provide and joint in new length of pipe and double socket including cutting into and making good concrete bed or surround afterwards as necessary .....	306	453	687	907	1,218
1621400	Add to item 1621300 for each additional 900 mm length adjacent to first length.....	275	424	643	862	1,081
1621500	Cut into and remove length of pipe in position not exceeding 900 mm long, provide and joint in new junction complete with loose collar to spigot end including cutting into and making good concrete bed or surround afterwards as necessary.....	264	376	678	---	---

## ITEM

**DRAINAGE BELOW GROUND (Cont'd)****DUCTILE IRON PIPES AND FITTINGS**

		Pipe laid in trench Nominal size (mm)					
		80	100	150	200	250	300
<b>Per linear metre.</b>		A	B	C	D	E	F
		\$	\$	\$	\$	\$	\$
1621600	Pipe laid in trench.....	649	723	905	1,195	1,527	1,887
<b>Each.</b>							
1621700	Extra over pipework for bend.....	423	520	807	1,120	1,384	1,673

**CAST IRON PIPES AND FITTINGS**

		Pipe bore (mm)					
		50	75	100	150	225	300
<b>Per linear metre.</b>		A	B	C	D	E	F
		\$	\$	\$	\$	\$	\$
1621800	Pipe laid in trench or fixed to internal surfaces of manholes, underground tanks, and the like with brackets .....	236	371	547	814	1,218	1,613
<b>Each.</b>							
Extra over pipework for :							
1621900	Bend .....	---	182	285	448	704	990
1622000	Single junction .....	---	183	352	598	970	1,243
1622100	Double junction.....	---	257	576	781	---	---
1622200	Taper pipe.....	---	249	296	370	---	---
1622300	Plug or cap end.....	---	171	224	310	450	589
1622400	Add to items 1621900 to 1622100 when fitted with bolted access door .....	---	74	104	187	313	439
<b>Each.</b>							
1622500	Joint to vitrified clay pipe including loose socket or large socket .....	---	266	361	531	780	1,067

## ITEM

## DRAINAGE BELOW GROUND (Cont'd)

## CAST IRON PIPES AND FITTINGS (Cont'd)

		Pipe bore (mm)					
		50	75	100	150	225	300
Each.		A	B	C	D	E	F
		\$	\$	\$	\$	\$	\$
1622600	Cut or burn out existing joint, clean spigot and socket ends and re-make joint.....	129	160	214	275	385	551
1622700	Cut or burn out existing joint, remove cap or plug and clear away, clean spigot and socket ends and joint new pipe to same .....	96	129	160	241	321	385
1622800	Cut into and remove short length of pipe in position, provide and joint in new single junction complete with loose collar if required.....	188	266	428	771	1,224	1,770

## FLANGED CAST IRON PIPES AND FITTINGS

		Nominal size (mm)	
		250	300
Per linear metre.		A	B
		\$	\$
1622900	Centrifugally cast iron pipe with screwed on flanges laid in trench .....	1,424	1,851
Each.			
1623000	Extra over pipework for bend .....	2,361	3,395

## ITEM

## DRAINAGE BELOW GROUND (Cont'd)

## UPVC PIPES AND FITTINGS

		Pipe bore (mm)							
		50	75	100	125	150	200	250	300
		A	B	C	D	E	F	G	H
Per linear metre.		\$	\$	\$	\$	\$	\$	\$	\$
1623100	Pipe laid in trench or fixed to internal surfaces of manholes, underground tanks, and the like, with brackets .....	79	159	217	277	336	635	933	1,237
Each.									
Extra over pipework for :									
1623200	Bend .....	---	83	129	241	341	499	631	738
1623300	Single junction.....	---	106	268	430	575	821	1040	1,231
1623400	Taper pipe.....	---	78	129	177	227	---	---	---
1623500	Cap end.....	---	69	153	---	---	---	---	---
Each.									
1623600	Cut into and remove short length of pipe in position, provide and joint in new single junction including providing tapered cores and flanged or special sockets as required .....	73	146	327	506	685	1,038	1,374	1,743

## SUB-SOIL DRAIN PIPES

		Pipe bore (mm)	
		80	150
Per linear metre.		A	B
		\$	\$
1623700	Perforated plastic pipe laid in trench on hardcore bed including fittings.....	104	305



**DRAINAGE BELOW GROUND (Cont'd)****LABOUR TO PIPES AND FITTINGS**

(Note : The following items 1623800 to 1624100 shall be applicable to all types of pipes and fittings in the pipe length.)

		Nominal size (mm)			
		n.e. 100	100 - 200	200 - 300	Add to item C for each additional 100 mm or part thereof in diameter
<b>Per linear metre.</b>		<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
		<b>\$</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>
1623800	Take down and clear away pipe laid in trench including associated fittings and breaking up and clearing away concrete bed, haunch, surround, support and the like .....	57	85	141	50
1623900	Take down and set aside or re-use pipe ditto .....	77	115	192	67
1624000	Fix only drain pipes and associated fittings .....	115	192	289	96
1624100	Re-secure drain pipes and associated fittings.....	15	25	31	12

**TRAPS AND WASTE OUTLETS**

		Supply and Fix	Take down and clear away	Take down and set aside for re-use	Fix only
<b>Each.</b>		<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
		<b>\$</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>
1624200	Cast iron trap with 50 mm bore outlet including cleaning eyes .....	353	11	48	96
1624300	Ditto but 75 mm.....	503	14	64	129
1624400	Ditto but 100 mm.....	664	16	77	173
1624500	Ditto but 150 mm.....	965	18	108	241
1624600	Ditto but 225 mm.....	1,397	35	160	321

## ITEM

## DRAINAGE BELOW GROUND (Cont'd)

## SURFACE CHANNEL GRATINGS

		Net width of grating excluding frame (mm)		
		260 - 340	340 - 420	420 - 500
<b>Per linear metre.</b>		A	B	C
		\$	\$	\$
1624700	Cast iron surface channel grating 13 mm thick including painting all surfaces with bitumen coating .....	288	355	---
1624800	Ditto but 25 mm thick.....	528	657	785
1624900	Ditto but 40 mm thick.....	826	1,031	1,236
1625000	Add to items 1624700 to 1624900 for hinged frame including pointing edges with cement and sand mortar and painting frame with bitumen coating .....	189	212	234
		Take down and clear away	Take down and set aside for re-use	Fix only
<b>Per linear metre.</b>		A	B	C
		\$	\$	\$
1625100	Cast iron surface channel grating with or without hinged frame of any size.....	14	27	56

## ITEM

**DRAINAGE BELOW GROUND (Cont'd)****GULLEY KERBS, HOPPERS AND GRATINGS****Each.**

		A \$
1625200	Kerb 75 mm thick and not exceeding 150 mm high, around two or three sides of gulley top of any size, of concrete or bricks-on-edge in cement mortar, rendered in 15 mm thick cement and sand trowelled smooth on all exposed surfaces and dished to gulley, including any necessary formwork .....	45
1625300	Raise concrete surround of trap or gulley of any size to a height not exceeding 300 mm above top to form hopper (or alternatively providing and fixing vitrified clay or cast iron raising piece surrounded with concrete 100 mm thick) including forming rebate around top, trowelling all surfaces smooth with cement and sand, forming all back inlets, and all additional excavation, disposal and formwork .....	156
1625400	Add to item 1625300 for each additional 150 mm or part thereof in height.....	73

**Each.**

		Supply and Fix	Take down and clear away	Take down and set aside for re-use	Fix only
Each.		A \$	B \$	C \$	D \$
1625500	Galvanized steel or coated cast iron flat or dished grating of any size and set in gulley top or concrete surround to trap or gulley .....	364	4	12	19
1625600	Ditto flat or dished hinged grating and frame of any size and set frame in gulley top ditto .....	470	4	15	33
1625700	Chromium plated brass or uPVC vertical grating of any size.....	84	4	12	19
1625800	Stainless steel or PVC grating of any size complete with waste outlet and set in cement mortar.....	42	4	12	19
1625900	Cast iron overflow weirs.....	329	28	48	96

## ITEM

**DRAINAGE BELOW GROUND (Cont'd)****TRAPS AND GULLIES**

Vitrified clay traps and gullies with concrete grade 20/20 bed and surround, minimum 100 mm thick all round, including excavation, disposal and formwork :

(Note : The following items 1626000 to 1626800 include for concrete bed and surround or breaking up the same as applicable.)

		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
1626000	Trap with bore outlet of any size.....	---	35	48	129
1626100	Gully with 100 mm bore trapped outlet and 150 mm diameter circular or 150 x 150 mm square top rebated for grating (measured separately).....	437	47	64	96
1626200	Ditto but with 150 mm bore trapped outlet and 225 mm diameter circular or 225 x 225 mm square top ditto (ditto).....	852	47	64	192
1626300	Add to items 1626100 and 1626200 for side or back inlet of any bore.....	189	---	---	---
1626400	Grit or grease gully with 100 mm bore trapped outlet and 225 mm diameter circular or 225 x 225 mm square top rebated for grating (measured separately) complete with removable galvanized steel strainer and handle.....	1,133	47	64	385
1626500	Road gully, 300 mm diameter and 600 mm deep, with plain top and 100 mm or 150 mm bore outlet.....	1,324	95	129	577
1626600	Ditto but 300 mm diameter and 750 mm deep.....	1,597	100	137	674
1626700	Ditto but 375 mm diameter and 900 mm deep.....	2,141	117	160	770
1626800	Add to items 1626500 to 1626700 for cleaning eye with sealing plate or stopper.....	60	---	---	---

## ITEM

**DRAINAGE BELOW GROUND (Cont'd)****TRAPS AND GULLIES (Cont'd)**

Cast iron traps and gullies with concrete grade 20/20 bed and surround minimum 100 mm thick all round including excavation, disposal and formwork :

(Note : The following items 1626900 to 1628300 include for concrete bed and surround or breaking up the same as applicable.)

		Supply and Fix	Take down and clear away	Take down and set aside for re-use	Fix only
<b>Each.</b>		<b>A</b> \$	<b>B</b> \$	<b>C</b> \$	<b>D</b> \$
1626900	Trap with 50 mm bore outlet.....	450	28	64	192
1627000	Ditto 75 mm bore outlet .....	567	35	77	192
1627100	Ditto 100 mm bore outlet .....	768	47	108	275
1627200	Ditto 150 mm bore outlet .....	1,114	71	129	385
1627300	Ditto 225 mm bore outlet .....	1,599	95	192	514
1627400	Gulley with 100 mm bore trapped outlet and 150 mm diameter circular or 150 x 150 mm square top rebated for grating (measured separately).....	1,015	57	129	192
1627500	Ditto but with 150 mm bore trapped outlet and 225 mm diameter circular or 225 x 225 mm square top ditto (ditto).....	1,829	71	129	241
1627600	Add to items 1627400 and 1627500 for side or back inlet of any bore .....	219	---	---	---
1627700	Grit or grease gulley with 100 mm bore trapped outlet and 225 mm diameter circular or 225 x 225 mm square top rebated for grating (measured separately) complete with removable galvanized steel strainer and handle .....	1,361	71	148	385
1627800	Intercepting trap with 100 mm bore outlet and square or oblique inspection arm fitted with galvanized stopper in plain or screw pattern joint .....	812	57	96	321
1627900	Ditto but with 150 mm bore outlet .....	1,206	71	129	481
1628000	Ditto but with 225 mm bore outlet .....	1,716	95	192	641
1628100	Ditto but with 300 mm bore outlet .....	2,196	117	275	770
1628200	Ditto but with 375 mm bore outlet .....	2,739	157	385	962
1628300	Add to items 1627800 to 1628200 if fitted with cast iron stopper and lever handle, 1.80 m long galvanized chain, hook and ring .....	137	---	---	---

## ITEM

**DRAINAGE BELOW GROUND (Cont'd)****MANHOLES****Each.**

		A \$
1628400	Manhole not exceeding 0.50 m <sup>3</sup> internal volume constructed of concrete grade 30/20 or brick walls, concrete base slab and suspended cover slab (all slabs and walls 100 mm thick minimum) including 15 mm thick cement and sand rendering trowelled smooth with keys, concrete benching with channels and working to shape and covered with 20 mm cement and sand rendering trowelled smooth, blinding layer, step irons, all excavation, disposal, return fill, reinforcement, rolled steel joists and formwork (cover measured separately) .....	5,754
1628500	Add to item 1628400 for each additional 0.50 m <sup>3</sup> or part thereof in volume .....	2,168

<b>Each.</b>	
1628600	Cast iron manhole cover only in one or two pieces, complete with or without hinges .....
1628700	Ditto and including frame, fixing devices, accessories and the like ....

Area (m <sup>2</sup> )		
n.e. 0.20	0.20 - 0.40	exc. 0.40
A \$	B \$	C \$
672	993	1,633
1,000	1,461	2,418

**COVERS AND FRAMES FOR MANHOLES, GULLY PITS, GULLY SUMPS AND THE LIKE**

<b>Each.</b>	
1628800	Cover only for manhole, gully pit, gully sump and the like including sealing in heavy grease where required .....
1628900	Cover and frame for manhole, gully pit, gully sump and the like including setting and bedding frame in cement mortar, and sealing cover in heavy grease where required .....

Take down and clear away	Take down and set aside for re-use	Fix only
A \$	B \$	C \$
35	56	77
71	129	192

## ITEM

**DRAINAGE BELOW GROUND (Cont'd)****STEP IRONS****Each.**

	A \$
1629000 Hot dip galvanized malleable cast iron step as specified, general purpose with 120 mm long tail built into side of manhole or grouted into existing mortice (Note : This item will only be paid for when specifically ordered by the Contract Manager in writing and <u>not</u> included in other items) .....	54
1629100 Take down and clear away existing step iron including making good side or cutting mortice ready to receive new step iron .....	27

**ALTERATION TO EXISTING MANHOLES****Per square metre.**

	A \$
1629200 Hack up existing defective benching of any thickness and re-form with concrete grade 30/20 rendered smooth in 20 mm thick cement and sand including forming channels .....	402
<b>Each.</b>	
1629300 Block up pipe of any size entering manhole for a length of 300 mm with concrete and make good face of manhole wall .....	28
1629400 Cut hole through manhole wall above manhole invert level for new pipe or fitting of any size, build in pipe or fitting and make good face of manhole wall .....	213
1629500 Ditto but at manhole invert level including cutting out and re-forming benching, and forming new channel .....	321
1629600 Break up existing manhole of any size and fill in void with hardcore or Approved filling materials well rammed .....	394

**TESTING EXISTING DRAINS****Each.**

	A \$
1629700 Water test to existing branch or drain of any size between manholes .....	481

## ITEM

**DRAINAGE BELOW GROUND (Cont'd)****MISCELLANEOUS CLEANING ITEMS**

		A \$
	<b>Per linear metre.</b>	
1629800	Clear and clean out mud, and the like from earth ditch, culvert, concrete rainwater channel and the like in any sectional area including raising and afterwards replacing any covers, trimming sides and bottom, cutting back any vegetation at sides, and the like, and clearing away all arisings.....	10
1629900	Clean out eaves gutter at any height and clear away arisings (no payment for this item when gutter is required to be painted) .....	4
	<b>Each.</b>	
1630000	Remove covers and clean out septic tank or cesspit including pumping if necessary, removing all sludge and solid matter, clearing away and disposing of the contents removed, not exceeding 3.00 m <sup>3</sup> in volume, and replacing and re-sealing the covers in heavy grease on completion .....	3,850
1630100	Add to item 1630000 for each additional 3.00 m <sup>3</sup> or part thereof in volume.....	3,209
1630200	Clear and clean out mud, and the like, from catchpit of any size and clear away arisings including taking off and afterwards replacing any covers .....	71
1630300	Rod out, clear and clean choked drain run including trap, gulley, or manhole at either end and clear away arisings including taking off and afterwards replacing any covers .....	192
1630400	Ditto but choked soil, waste or rainwater downpipe including heads, bends, and the like .....	96
1630500	Ditto but choked trap and soil or waste pipe complete with combined overflow if necessary to lavatory basin, sink, bathtub, WC, gulley, or stall, slab urinal or wall urinal bowl including taking down and re-fixing cleaning eye from trap, and the like and leaving trap and pipe in clean and perfect condition .....	56

**HIGH PRESSURE WATER JETTING**

		A \$
	<b>Each.</b>	
1630600	Clearance of blockages in drain pipes by high pressure water jetting for a Works Order with a total length of drain pipes not exceeding 10 m .....	4,025
1630700	Ditto 10 - 20 m.....	4,888
1630800	Ditto 20 - 30 m.....	5,750
1630900	Add to item 1630800 for each additional 1.00 m or part thereof in length of drain pipes in the same Works Order .....	181



## ITEM

**DRAINAGE BELOW GROUND (Cont'd)****MECHANICAL CLEANING OF PIPELINES****Each.**

		A \$
1631000	Clearance of blockages in drain pipes by mechanical cleaning of pipelines for a Works Order with a total length of drain pipes not exceeding 10 m .....	5,654
1631100	Ditto 10 - 20 m .....	8,146
1631200	Ditto 20 - 30 m .....	10,638
1631300	Add to item 1631200 for each additional 1.00 m or part thereof in length of drain pipes in the same Works Order .....	344

**REHABILITATION OF UNDERGROUND DRAINAGE PIPE**

(Note : Cleaning pipelines by high pressure water jetting and mechanical cleaning shall be measured separately)

**Each.**

		A \$
1631400	Set up plant and equipment, including delivering to Site, moving around Site, maintaining, repairing and subsequent removing from Site for a Works Order .....	14,088

Structural pipe lining :

**Each.**

		A total length of drain pipes not exceeding 20.00 m in a Works Order	Add to item A for each additional 1.00 m or part thereof in length of drain pipes in the same Works Order
		A \$	B \$
1631500	Internal lining for drain pipe diameter not exceeding 100 mm .....	28,898	1,272
1631600	Ditto for drain pipe diameter exceeding 100 mm but not exceeding 150 mm .....	35,260	1,591
1631700	Ditto for drain pipe diameter exceeding 150 mm but not exceeding 225 mm .....	51,165	2,386
1631800	Ditto for drain pipe diameter exceeding 225 mm but not exceeding 300 mm .....	70,251	3,340

ITEM

CLOSE CIRCUIT TELEVISION SURVEY

(Note : Cleaning pipelines by high pressure water jetting and mechanical cleaning shall be measured separately)

Each.

		A \$
1631900	Close circuit television survey to all types and sizes of pipework for a Works Order with a total length of drain pipes not exceeding 20 m.....	11,903
1632000	Ditto 20 - 30 m .....	13,829
1632100	Ditto 30 - 40 m .....	15,755
1632200	Add to item 1632100 for each additional 5.00 m or part thereof in length of drain pipes in the same Works Order.....	963

## ITEM

## CABLE DUCTING

## CONCRETE BEDS FOR CABLE DUCTS

		Width of concrete bed and pipe bore (mm)					
		350 Wide under 100 pipe	400 Wide under 150 pipe	600 Wide under two 100 pipes	650 Wide under two 150 pipes	850 Wide under three 100 pipes	1000 Wide under three 150 pipes
Per linear metre.		A \$	B \$	C \$	D \$	E \$	F \$
1650100	Concrete grade 20/20 bed 100 mm (minimum) thick under pipe or pipes laid including haunching up from outside edge of bed to meet pipe barrel tangentially after pipes are laid and all necessary formwork .....	124	144	191	240	287	358
1650200	Ditto but 150 mm (minimum) thick bed and including surrounding pipes with similar concrete not less than 150 mm thick all round.....	257	306	416	480	634	770

## CABLE DUCTS

		Type and bore of pipe (mm)									
		PVC					Galvanized mild steel				
		50	80	100	150	200	50	80	100	150	200
Per linear metre.		A \$	B \$	C \$	D \$	E \$	F \$	G \$	H \$	I \$	J \$
1650300	Cable duct laid in trench .....	47	67	92	239	383	231	300	374	441	489

Per linear metre.		A \$
1650400	Take down and clear away pipe of any type and size laid in trench including associated fittings and breaking up and clearing away concrete bed, haunch, surround, support and the like .....	18
1650500	Take down and set aside for re-use ditto .....	39
1650600	Fix only drain pipe of any type and size .....	64

## ITEM

**CABLE DUCTING (Cont'd)****DRAW-IN PITS****Each.**

		A \$
1650700	Excavate temporary cable draw-in pit not exceeding 0.50 m <sup>3</sup> , load and cart away surplus excavated material to dumping sites Approved by the Government, maintain sides, and backfill with clean sand after cable laid.....	151
1650800	Add to item 1650700 for each additional 0.50 m <sup>3</sup> or part thereof in volume .....	356
1650900	Permanent draw-in pit not exceeding 0.50 m <sup>3</sup> internal volume constructed of concrete grade 20/20 or brick walls, concrete grade 20/20 base slab or suspended cover slab (all slabs and walls 75 mm thick minimum), including excavation, return fill, disposal of surplus, all necessary reinforcement and formwork, leaving 50 mm diameter hole through base slab, forming 450 x 450 x 300 mm deep soak away sump under and filling the same with 50 mm gauge broken stone, and filling pit with dry sand after cable laid if ordered.....	2,110
1651000	Add to item 1650900 for each additional 0.50 m <sup>3</sup> or part thereof in volume .....	1,218

## LABOUR SPECIAL CONDITIONS

### GENERAL RULES

#### SC17.G01

##### Payment for labour

All labour in relation to any work executed under the Contract shall be deemed to be measured and paid for at rates of the appropriate Sections in this Schedule. Payment for labour on an hourly basis will not be made except in special circumstances where specifically ordered by the Contract Manager in writing and submission of records by the Contractor.

### COVERAGE RULES

#### SC17.R01

##### Curtain wall and glass installer

Rates for curtain wall and glass installer shall include for glazier and curtain wall installer.

#### SC17.R02

##### Drainlayer

Rates for drainlayer shall include for drainlayer and pipelayer.

#### SC17.R03

##### Painter and decorator

Rates for painter and decorator shall include for painter and decorator for roller painting, background preparation, emulsion painting, brushing lacquering, synthetic painting, clear lacquering, texture-spray, metal paint spray, paperhanging, sign writing and digital printing including wall printing devices and the like.

#### SC17.R04

##### Plant and equipment operator (general)

Rates for plant and equipment operator shall include for ground investigation operator/ driller/borer and plant and equipment operators for fork-lift truck, mini-loader, mini-loader (with attachments), grader, piling generally, percussive pile, bored pile, suspended working platform, demolition, excavator, builder's lift operator, plant and equipment operator for bulldozer, dumper, loader, compactor and scraper.

#### SC17.R05

##### Scaffolder

Rates for scaffolder shall include for bamboo scaffolder and metal scaffolder.

## ITEM

## LABOUR

## Per hour.

A  
\$

1700100	Bar bender and fixer.....	288
1700200	Bricklayer.....	159
1700300	Carpenter.....	236
1700400	Concretor.....	223
1700500	Curtain wall and glass installer .....	179
1700600	Drainlayer .....	192
1700700	General workers .....	141
1700800	Joiner.....	168
1700900	Metal worker .....	178
1701000	Painter and decorator .....	169
1701100	Plant and equipment operator (general) .....	170
1701200	Plasterer .....	173
1701300	Plumber .....	187
1701400	Rigger/metal formwork erector.....	193
1701500	Scaffolder.....	183
1701600	Structural steel welder.....	202

## PLANT HIRE SPECIAL CONDITIONS

### GENERAL RULES

#### SC18.G01 **Payment for hired plant**

All plant in relation to any work executed under the Contract shall be deemed to be measured and paid for at the rates of the appropriate Sections in this Schedule. Payment for hire of plant will not be made except in special circumstances where specifically ordered by the Contract Manager in writing.

### MEASUREMENT RULES

#### SC18.M01 **Working hours of hired plant**

The plant hire items under “Hire charge per working hour” shall be measured to the nearest half hour. The term “working hour” is defined as the time during which the plant is actually at work.

#### SC18.M02 **Break-down or unserviceability of plant**

All plant brought onto the Site shall be maintained in good operation condition. Should the plant provided to the Employer break down or be found unserviceable, no payment shall be made for replacement of the same, i.e. charges for “Delivery to Site” and “Return from Site” for use of such plant where applicable will only be paid once for each Works Order.

### COVERAGE RULES

#### SC18.R01 **Plant**

Rates for hire plant shall further include for :

- (a) Plant operator, driver and attendant.
- (b) Fuel, lubricants, maintenance and repair.
- (c) Insurances, license fees, Intellectual Property Rights, where applicable.
- (d) Charges for “Delivery to Site” and “Return from Site” of motor lorries.
- (e) Mobilisation within the Site unless otherwise specified.
- (f) All parking, tunnel and bridge tolls.

## ITEM

## PLANT HIRE

## Each.

		Delivery to Site	Hire charge per working hour	Return from Site
		A	B	C
		\$	\$	\$
1800100	Motor lorry not exceeding 6.50 tonnes .....	---	218	---
1800200	Ditto exceeding 6.50 tonnes but not exceeding 12.00 tonnes .....	---	230	---
1800300	Motor lorry tipper not exceeding 11.00 tonnes .....	---	288	---
1800400	Water pump 50 mm diameter .....	146	23	146
1800500	Ditto 100 mm diameter .....	146	40	146
1800600	Power breaker .....	22	47	22
1800700	Crane, lorry mounted, not exceeding 7.50 tonnes	---	224	---
1800800	Ditto exceeding 7.50 tonnes but not exceeding 22.00 tonnes .....	---	273	---
1800900	Excavator not exceeding 1.00 m <sup>3</sup> capacity .....	1,323	358	1,323
1801000	Tractor (crawler) with bull or angle dozer with flywheel .....	1,323	319	1,323
1801100	Dumper exceeding 1.20 tonnes .....	435	67	435



## PRELIMINARY ITEMS SPECIAL CONDITIONS

### GENERAL RULES

#### SC25.G01 Payment for items in this Section

All costs in connection with compliance with preliminary items required under the Contract are deemed to have been allowed in the Tendered Percentage Adjustment quoted in the Form of Tender for the Contract unless otherwise stated expressly in the Contract that particular preliminary items will be measured and valued in accordance with the Schedule of Rates.

Items in this Section will only be measured and paid for when specifically ordered by the Contract Manager in writing. Items in this Section shall not be subject to the Percentage Additions for Emergency Works and Works at Specific Properties and Locations.

#### SC25.G02 Application of rates in this Section

Items in this Section are only applicable to preliminary items. Rates for preliminary items shall not be used for the assessment of rates for items not specifically mentioned in this Section.

### MEASUREMENT RULES

#### SC25.M01 Site personnel

Payment for site personnel shall be measured and paid for the period as specified in the Work Order on monthly basis, subject to deduction on a pro-rata calendar day basis under the following situation :

- (a) Provision of service is not a whole month.
- (b) The Contractor has not provided the site personnel during the specified period.
- (c) The performance of the site personnel is not to the satisfaction of the Contract Manager.

#### SC25.M02 Supervising public relation officer and public relation officer

Payment for supervising public relation officer (SPRO) and public relation officer (PRO) shall only be made when the Contractor has provided the monthly salary receipt as specified.

Where the amount paid by the Contractor to a SPRO or PRO is less than the monthly salary as specified, unless such amount is adjusted and deducted in accordance with the Employment Ordinance in force only, the rate to be paid to the Contractor for the provision of the SPRO or PRO shall be reduced proportionally by a reduction factor calculated as follows :

$$\text{Reduction Factor} = \frac{\text{Monthly salary as specified (including deductions in accordance with the Employment Ordinance in force) minus amount paid to the SPRO or PRO}}{\text{Monthly salary as specified (including deductions in accordance with the Employment Ordinance in force)}}$$

#### SC25.M03 Petrol and electric vehicle

Payment for petrol and electric vehicle shall be measured and paid for the period as specified in the Works Order on monthly basis, subject to deduction on a pro-rata calendar day basis under the following situation :

- (a) Provision of service is not a whole month.
- (b) The Contractor has not provided the vehicle during the specified period.

**COVERAGE RULES****SC25.R01****Preliminary items**

Rates for preliminary items in this Section shall further include for :

- (a) Works outside normal working hours.
- (b) Works on General Holidays.
- (c) Emergency Works, Urgent Works and Works at Specific Properties and Locations.
- (d) Contractor's profit, establishment charges, material cost and overheads.
- (e) Any other related costs that the Contractor may incur.

**SC25.R02****Building Maintenance Worker**

Rates for Building Maintenance Worker shall further include for :

- (a) Carrying out minor repair works.
- (b) Providing materials and equipment for minor repair works.
- (c) Employing a registered electrical worker of an appropriate grade to inspect and check bonding conductors reinstated or re-fixed by the building maintenance worker.

**SC25.R03****Petrol and electric vehicle**

Rates for petrol and electric vehicle shall further include for :

- (a) Driver.
- (b) Fuel, lubricants, maintenance and repair.
- (c) Insurances and license fees.
- (d) All parking, tunnel and bridge tolls.

ITEM

PRELIMINARY ITEMS

Each.

2500100	Works Co-ordinator <u>per month</u> .....
2500200	Technical Assistant (Works) <u>per month</u> .....

A
\$
28,800
26,200

Each.

2500300	Technical Assistant (Architectural/Structural) <u>per month</u> .....
---------	---

Relevant drafting experience as specified								
n.e. 1 year	1 to 2 years	2 to 3 years	3 to 4 years	4 to 5 years	5 to 8 years	8 to 10 years	exc. 10 years	exc. 15 years with high calibre
A \$	B \$	C \$	D \$	E \$	F \$	G \$	H \$	I \$
28,000	29,700	31,500	33,500	35,500	37,300	39,200	41,100	43,200

Each.

2500400	Public Relation Officer (PRO) for the Responsive In-flat Maintenance Service (RIMS) <u>per month</u> .....
2500500	Public Relation Officer (PRO) for the Total Maintenance Scheme (TMS) <u>per month</u> .....

Relevant experience as specified		
n.e. 1½ years	1½ - 3 years	exc. 3 years
A \$	B \$	C \$
15,900	16,900	18,000
18,300	19,500	20,700

## ITEM

## PRELIMINARY ITEMS (Cont'd)

		Relevant experience as specified		
		exc. 3 years of PRO	1½ - 3 years of SPRO	exc. 3 years of SPRO
<b>Each.</b>		<b>A</b> \$	<b>B</b> \$	<b>C</b> \$
2500600	Supervising Public Relation Officer (SPRO) for the RIMS <u>per month</u> .....	19,200	20,400	21,800

		<b>A</b> \$
2500700	Assistant Public Relation Manager <u>per month</u> .....	24,700
2500800	Building Maintenance Worker including carrying out specified repair work <u>per month</u> .....	38,600

		Relevant post qualifications experience in building maintenance aspects		
		1 – 3 years	3 – 5 years	Exc. 5 years
<b>Each.</b>		<b>A</b> \$	<b>B</b> \$	<b>C</b> \$
2500900	Assistant Site Agent (Building Works) <u>per month</u> .....	33,500	37,300	41,100

		<b>A</b> \$
2501000	Assistant Site Agent (Building Works) who is a Grade T1 technically competent person with 5 years or more relevant experience in Building Works <u>per month</u> .....	43,200
2501100	Assistant Site Agent Trainee (Building Works) <u>per month</u> .....	21,800
2501200	Competent Person (for confined space in connection with or in vicinity of underground pipework, drainage or sewage manholes or chambers only) / Designated Competent Person <u>per day</u> .....	1,200

ITEM

PRELIMINARY ITEMS (Cont'd)

Each.

A  
\$

2501300	Petrol vehicles of engine capacity not less than 1,400 c.c. and with seating capacity of 5-seater for the Contract Manager and representatives <u>per month</u> .....
2501400	Petrol vehicles of engine capacity not less than 1,950 c.c. and with seating capacity of 7-seater for the Contract Manager and representatives <u>per month</u> .....
2501500	Electric vehicles with seating capacity of 5-seater for the Contract Manager and representatives <u>per month</u> .....
2501600	Electric vehicles with seating capacity of 7-seater for the Contract Manager and representatives <u>per month</u> .....

26,600  
27,900  
26,100  
27,500

## VACANT FLAT REFURBISHMENT SPECIAL CONDITIONS

### GENERAL RULES

#### SC27.G01 **Payment for items in this Section**

Items in this Section will only be measured and paid for when specifically ordered by the Contract Manager in writing.

#### SC27.G02 **Application of rates in this Section**

Items in this Section are only applicable to vacant flat refurbishment. The rates for vacant flat refurbishment shall not be used for the assessment of rates for items not specifically mentioned in this Section.

#### SC27.G03 **Generally**

The term “vacant flat” includes all areas within an unoccupied flat, which are available for the exclusive use of the occupier. Unless otherwise stated, vacant flat refurbishment includes refurbishment to facilities installed for the flat such as laundry rack, laundry rod, water supply pipes, drain pipes and traps, and the like, which may be fixed or installed outside the flat, but excludes refurbishment to facilities for the flat needed to be fixed or installed in adjacent occupied flats.

#### SC27.G04 **Definitions**

- (a) Words and expressions for items in this Section shall have the meaning hereby assigned to them except the context otherwise requires :
  - (i) “Internal Floor Area” means the internal space measured from the internal faces of walls which is available for the exclusive use of the occupier but excluding all common or service areas used in common of the building as a whole.
  - (ii) “Service Area” means the total internal floor area in the kitchen, toilet(s)/bathroom(s), balcony and utility of a flat/unit.
  - (iii) “Living Area” means the total internal floor area other than the Service Area in a flat/unit.
- (b) Rates for items described as “Repair”, “Replace”, “Partially replace” and the like shall include all associated cost to complete the work in accordance with the quality standard of the Approved sample flat, or to match the quality standard and/or design of the existing estates, and to the satisfaction of the Contract Manager.

#### SC27.G05 **Temporary Works**

Unless otherwise stated, rates in this Section shall deem to include for all temporary works necessary for the execution of the work and protection of the public from harm, dust or nuisance.

Provisions of truss-out scaffolding for the refurbishment of each vacant flat will only be paid once for only if replacement of window and/or burglar grille at external facades is/are ordered.

### MEASUREMENT RULES

#### SC27.M01 **Windows, burglar grilles and louvres**

Windows, burglar grilles and louvres to be replaced within the whole flat shall be measured net overall area of the new windows, burglar grilles and louvres as fixed but excluding all small projecting articles such as fixing lugs and the like.

**COVERAGE RULES****SC27.R01****Generally**

Rates for vacant flat refurbishment shall further include for works as specified and relevant Special Conditions throughout this Schedule and are deemed to cover all such items in the whole of the vacant flat/unit.

**SC27.R02****Replace / Reconstruct**

Rates for replace /reconstruct shall further include for taking down and clearing away any existing items to be replaced /reconstructed, and supplying, installing, fixing, applying new items.

**SC27.R03****Repaint**

Unless otherwise stated, rates for repaint shall further include for stripping off loose existing paint film to sound substrate, proper preparing and making good the substrate, applying primer and paint with at least 2 finishing coats, matching colour and texture to surrounding.

**SC27.R04****Essential touch up package**

Rates for essential touch up package shall further include for works as specified in G.S. and/or P.S. Clauses VFR.W110 and VFR.W120 for Living Area and Service Area respectively, including inspection, adjusting, cleaning, re-painting and/or similar works, and refurbishment works to all fixtures and items retained inside the flat unless items for repair or replacement have been separately provided in this Section.

**SC27.R05****Supplementary touch up package**

Rates for supplementary touch up package shall further include for works as specified in G.S. and/or P.S. Clauses VFR.W130 and VFR.W140 for Living Area and Service Area respectively, including inspection, adjusting, cleaning, re-painting and/or similar works, and refurbishment works to all fixtures and items retained inside the flat unless items for repair or replacement have been separately provided in this Section.

**SC27.R06****Re-plumb**

Rates for re-plumb shall further include for the dismantling and clearing away existing plumbing installation, providing and installing new pipeworks and fittings with and including fixing accessories, devices and the like, unless otherwise stated.

**SC27.R07****Replace water closet pan and flushing cistern with close coupled water closet suite**

Rates for replace water closet pan and flushing cistern with close coupled water closet suite shall further include for :

- (a) All pipes modification works and all necessary fittings to suit the site conditions.
- (b) Disconnect and re-connect to all services pipes.
- (c) Supply and installation of water closet pan connector with ventilating pipe outlet or elbow pipe fitting with ventilating pipe connection outlet for connection to drainage and ventilating pipes as necessary.
- (d) Acrylic covering board including supporting rods, uPVC rod covers and sealant as necessary and approved.
- (e) All fixing accessories.

**SC27.R08      Rescreeding and replastering**

Rates for rescreeding and replastering shall further include for :

- (a) Preparing existing substrates including removing existing finishes, backing mortar and the like, filling up voids, hacking, brushing, cleaning and applying spatterdash to the surfaces to form key or bond for the new finishes.
- (b) Providing and fixing metal lathing or wire netting as specified.
- (c) Screeds, rendering and plastering of any types including tanking system.
- (d) Laying in accordance with the manufacturer's recommendations.
- (e) Surface treatment including steel trowelled, wood float, brushed, combed finish and the like.
- (f) Taking down and set aside for re-use of sanitary fittings, sink and cooking bench, fixtures and re-fixing the same upon completion of all finishing works.

**SC27.R09      Retiling**

Rates for retiling shall further include for :

- (a) Tiles of any types and dimensions.
- (b) Cutting and laying in patterns.
- (c) All slurry, grout, mortar bed, tile adhesives and the like.
- (d) Pointing joints.

**SC27.R10      Replace louvres and windows**

Rates for replace louvres and replace windows shall further include for :

- (a) Providing and fixing galvanized mild steel glazing beads, drips, anchors, clamps, fixing lugs, and the like.
- (b) Providing all ironmongeries and accessories that are compatible with the louvres and/or windows.
- (c) Raking joints, sealing and pointing edges of the louvre and/or window frames.
- (d) Glazing and glass units.
- (e) Window grilles.

**SC27.R11      Reinstate window casement**

Rates for reinstate window casement shall further include for :

- (a) Removal of existing window casement sash, frame, glazing, ironmongeries and the like.
- (b) Supply and fix of window casement complete with glass and glazing to match the size of the existing window frame, including ironmongeries and accessories.



## ITEM

**RENTAL DOMESTIC VACANT FLAT (BUILDING WORKS)**

Essential touch up package :

**Each.**

2700100 Living Area .....

Living Area (m <sup>2</sup> )					
n.e. 15	15 - 20	20 - 25	25 - 30	30 - 35	exc. 35
A	B	C	D	E	F
\$	\$	\$	\$	\$	\$
3,427	3,728	5,239	6,051	7,211	7,767

**Each.**

2700200 Service Area .....

Service Area (m <sup>2</sup> )					
n.e. 4	4 - 6	6 - 8	8 - 10	10 - 12	exc. 12
A	B	C	D	E	F
\$	\$	\$	\$	\$	\$
1,685	1,965	1,971	2,198	2,298	2,356

Supplementary touch up package :

**Each.**

2700300 Living Area .....

Living Area (m <sup>2</sup> )					
n.e. 15	15 - 20	20 - 25	25 - 30	30 - 35	exc. 35
A	B	C	D	E	F
\$	\$	\$	\$	\$	\$
3,185	3,537	4,739	4,850	6,869	7,047

**Each.**

2700400 Service Area .....

Service Area (m <sup>2</sup> )					
n.e. 4	4 - 6	6 - 8	8 - 10	10 - 12	exc. 12
A	B	C	D	E	F
\$	\$	\$	\$	\$	\$
1,103	1,332	1,895	2,043	2,532	2,638

## ITEM

## RENTAL DOMESTIC VACANT FLAT (BUILDING WORKS) (Cont'd)

## Option I Items

Rescreeding and retiling including normal-set waterproofing system to floor and skirting at Service Area :

**Each.**

		Service Area (m <sup>2</sup> )					
		n.e. 4	4 - 6	6 - 8	8 - 10	10 - 12	exc.12
		A \$	B \$	C \$	D \$	E \$	F \$
2702100	Toilet (applicable to single-toilet flat and one of the toilets in twin-toilet flat).....	1,295	3,042	3,042	3,042	3,042	3,042
2702200	Both toilets (applicable to twin-toilet flat) .....	---	---	---	4,762	4,762	4,762
2702300	Whole of the Service Area (other than toilet) .....	2,569	3,205	6,294	8,060	10,087	12,643
2702400	Balcony / utility .....	---	---	1,600	3,231	5,258	7,814
2702500	Kitchen .....	2,569	3,205	4,694	4,829	4,829	4,829

Replastering and retiling to wall at Service Area :

**Each.**

		Service Area (m <sup>2</sup> )					
		n.e. 4	4 - 6	6 - 8	8 - 10	10 - 12	exc.12
		A \$	B \$	C \$	D \$	E \$	F \$
2702600	Toilet (applicable to single-toilet flat and one of the toilets in twin-toilet flat) including normal-set waterproofing system.....	3,365	6,378	6,378	6,378	6,378	6,378
2702700	Both toilets (applicable to twin-toilet flat) including normal-set waterproofing system .....	---	---	---	11,658	11,658	11,658
2702800	Whole of the Service Area (other than toilet) .....	5,136	5,786	9,391	10,495	11,832	12,587
2702900	Balcony / utility .....	---	---	2,795	3,344	4,681	5,436
2703000	Kitchen .....	5,136	5,786	6,596	7,151	7,151	7,151

## ITEM

**RENTAL DOMESTIC VACANT FLAT (BUILDING WORKS) (Cont'd)**

## Option I Items (Cont'd)

<b>Each.</b>		A \$
2703100	Re-plumb (including all new taps, cocks, lever type mixers and fittings) with supply points for shower / bathtub, basin, sink and washing machine (from meter which is located at public corridor immediately outside the flat or flat inlet to each supply point including distribution from water heater and providing a tee with plug for future connection to water heater) .....	4,731
2703200	Partial replace fresh water supply pipes (including all new taps, cocks, lever type mixers and fittings) with supply points for shower / bathtub, basin, sink and washing machine .....	3,081
<b>Each.</b>		A \$
2703300	Replace water closet pan (replacement of plastic seat and cover is included in "Essential touch up package") .....	536
2703400	Replace water closet pan and flushing cistern with close coupled water closet suite (replacement of plastic seat and cover is included in "Essential touch up package") .....	2,229
2703500	Replace high or low level PVC flushing cistern with/without backboard .....	499
2703600	Replace low level vitreous flushing cistern .....	906
2703700	Replace low level vitreous flushing cistern including stainless steel brackets .....	1,101
2703800	Replace basin .....	801
2703900	Replace kitchen sink with / without drainboard .....	1,035
2704000	Replace basin with polymer resin vanity top, backing board and metal supporting frames to match with estate standard including take down and clear away concrete block dwarf walls .....	5,014
2704100	Supply and fix grab rail 32 mm to 40 mm diameter of any length .....	286
2704200	Modify uPVC branch pipes from shower / bathtub, basin and sink to replenish water seal of floor drains for the flat or flat above including providing new pipes, traps and the like, forming new openings in walls /slabs and connecting to existing .....	382

## ITEM

**RENTAL DOMESTIC VACANT FLAT (BUILDING WORKS) (Cont'd)**

## Option II Items

Replace existing vinyl floor tiling of Living Area :

**Each**

Living Area (m <sup>2</sup> )		
n.e. 10	10 - 25	exc. 25
A	B	C
\$	\$	\$
1,461	3,951	7,022

2712100 Living Area .....

**Each.**

A
\$
465
727
1,105
3,229

2712200 Replace concrete balustrades at Service Area including finishes .....

2712300 Replace dwarf brick walls at Service Area including finishes .....

2712400 Reconstruct full height brick partition walls including finishes .....

2712500 Replace collapsible / sliding / swing gate and frame complete with ironmongery and painting .....

**Each.**

A
\$
1,848
972
2,820
3,489

2712600 Replace flat entrance door leaf complete with ironmongery and painting (excludes door frame and door closer, and door lock is included in "Essential touch up package") .....

2712700 Replace flat entrance door frame including painting (excludes door leaf) .....

2712800 Replace non-fire rated flat entrance doorset (excludes door closer, and door lock is included in "Essential touch up package") .....

2712900 Replace flat entrance fire resisting doorset of minimum half-hour fire rated (door lock is included in "Essential touch up package") .....

**Each**

No. of Doors		
1 No.	2 Nos.	3 Nos.
A	B	C
\$	\$	\$
2,266	4,531	6,797

2713000 Replace bedroom and/or pipe duct door leaf and frame complete with ironmongery and painting .....

## ITEM

**RENTAL DOMESTIC VACANT FLAT (BUILDING WORKS) (Cont'd)**

## Option II Items (Cont'd)

**Each.**

	A \$
2713100 Replace wooden toilet doorset with / without louvre and fixed light complete with ironmongery and painting.....	2,316
2713200 Replace pressed steel toilet door leaf and frame set with / without fixed light complete with ironmongery and painting .....	2,667

**Each.**

	A \$
2713300 Replace kitchen door leaf complete with ironmongery and painting (excludes door frame and door closer).....	1,434
2713400 Replace kitchen door frame including painting (excludes door leaf).....	910
2713500 Replace non-fire rated kitchen doorset (excludes door closer).....	2,433
2713600 Replace kitchen fire resisting doorset of minimum half-hour fire rated.....	2,767

**Each.**

	A \$
2713700 Replace door closer .....	304

The following items 2713800 to 2714300 are applicable for composite partition and balcony door between Living / Service Area and balcony :

**Each.**

	A \$
2713800 Replace metal glazed partition / grille / louvre including frame and complete with ironmongery, glazing and painting .....	1,953
2713900 Replace wooden / metal glazed partition / grille / louvre rested on dwarf wall including ditto .....	2,085
2714000 Replace balcony door with / without fanlight / louvre on top including ditto .....	2,025
2714100 Repair metal glazed partition / grille / louvre.....	710
2714200 Repair wooden / metal glazed partition / grille / louvre rested on dwarf wall.....	710
2714300 Repair balcony door and frame including fanlight / louvre on top.....	710

## ITEM

**RENTAL DOMESTIC VACANT FLAT (BUILDING WORKS) (Cont'd)**

Option II Items (Cont'd)

**Each.**

2714400 Replace louvre and burglar grille between public corridor and Living Area.....

Louvre Area (m <sup>2</sup> )			
n.e. 0.5	0.5 - 1.0	1.0 - 1.5	exc. 1.5
A	B	C	D
\$	\$	\$	\$
844	1,064	1,503	1,942

**Each.**

2714500 Repair louvre and burglar grille between public corridor and Living Area .....

A
\$
710

**Each**

2714600 Replace isolated internal louvre (other than the louvre formed part of the partition between Living / Service Area and balcony).....

Louvre Area (m <sup>2</sup> )		
n.e. 1.0	1.0 - 2.0	exc. 2.0
A	B	C
\$	\$	\$
689	1,033	1,377

## ITEM

## RENTAL DOMESTIC VACANT FLAT (BUILDING WORKS) (Cont'd)

## Option II Items (Cont'd)

Each.

2714700 Replace louvre at external facade.....

Louvre Area (m <sup>2</sup> )			
n.e. 1.0	1.0 - 2.0	2.0 - 3.0	exc. 3.0
A	B	C	D
\$	\$	\$	\$
519	945	1,515	1,800

Each.

2714800 Replace windows at external facade.....

Window Area (m <sup>2</sup> )				
n.e. 2.0	2.0 - 4.0	4.0 - 6.0	6.0 - 9.0	exc. 9.0
A	B	C	D	E
\$	\$	\$	\$	\$
2,862	9,085	15,141	22,712	30,283

Each.

2714900 Reinstall window casement at external facade (removal of exhaust fan or air-conditioning unit and supporting frame is included in "Essential touch up package").....

No. of Window Casements			
1 No.	2 Nos.	3 Nos.	4 Nos.
A	B	C	D
\$	\$	\$	\$
652	1,305	1,953	2,683

Each

2715000 Replace burglar grille at external facade .....

Burglar Grille Area (m <sup>2</sup> )		
n.e. 2.0	2.0 - 4.0	exc. 4.0
A	B	C
\$	\$	\$
	1,756	2,634
		3,951

Each.

2715100 Repair burglar grille at external facade .....

A
\$
710

(Note : The following item 2715200 will only be paid once for each vacant flat when items 2714800 and/or 2715000 is/are ordered.)

Each.

2715200 Provision of truss-out scaffolding for the whole flat.....

A
\$
3,378

## ITEM

**RENTAL DOMESTIC VACANT FLAT (BUILDING WORKS) (Cont'd)**

## Option II Items (Cont'd)

**Each.**

	A \$
2715300 Replace shower areas (Note : This item will only be paid for when items 2702100, 2702200, 2702600 and/or 2702700 is/are <u>not</u> ordered.).....	2,472
2715400 Replace cooking bench, sink bench and shelf at kitchen (kitchen sink measured separately) .....	2,172
2715500 Repair cooking bench, sink bench and shelf at kitchen (ditto).....	919
2715600 Replace grease receptacle at kitchen .....	1,914
2715700 Co-ordinate new water meter installation by utility companies including payment of fee .....	460
2715800 Remove unauthorized window in balcony and make good affected areas .....	622
2715900 Remove unauthorized or non-standard enclosure, partition walls of converted flat, tenant's partitions, fixture and furniture .....	1,131
2716000 Patch repair for spalling concrete.....	1,100
2716100 Disconnect and remove defective electrical and CABD installation, and the like left by the former tenant and make good.....	283
2716200 Supply and install of fire collar .....	1,259
2716300 Replace laundry rack at external wall .....	1,598
2716400 Replace laundry rod at external wall .....	1,793



## ITEM

## RENTAL DOMESTIC VACANT FLAT (BUILDING SERVICES)

Optional Items :

- Each**
- 2722100 Renew package adopting surface wiring or concealed conduit system - complete renewal of the electrical and CABD installation .....

Internal Floor Area (m <sup>2</sup> )					
n.e. 12	12 - 19	19 - 26	26 - 34	34 - 42	exc. 42
A	B	C	D	E	F
\$	\$	\$	\$	\$	\$
4,214	4,649	5,374	6,285	7,158	8,030

- Each.**
- 2722200 Renew except consumer unit package adopting surface wiring or concealed conduit system - complete renewal of the electrical and CABD installation (except renewal of consumer unit).....

Internal Floor Area (m <sup>2</sup> )					
n.e. 12	12 - 19	19 - 26	26 - 34	34 - 42	exc. 42
A	B	C	D	E	F
\$	\$	\$	\$	\$	\$
3,493	3,928	4,653	5,508	6,380	7,253

- Each.**
- 2722300 Repair package adopting surface wiring or concealed conduit system - repair only the electrical and CABD installation.....

Internal Floor Area (m <sup>2</sup> )					
n.e. 12	12 - 19	19 - 26	26 - 34	34 - 42	exc. 42
A	B	C	D	E	F
\$	\$	\$	\$	\$	\$
1,661	1,879	2,241	2,582	3,018	3,455

- Each.**
- 2722400 Repair electrical provisions with addition of A/C circuits package adopting surface wiring or concealed conduit system - repair electrical provisions with addition of A/C circuit(s).....

Internal Floor Area (m <sup>2</sup> )					
n.e. 12	12 - 19	19 - 26	26 - 34	34 - 42	exc. 42
A	B	C	D	E	F
\$	\$	\$	\$	\$	\$
1,895	2,110	2,472	3,044	3,482	3,919

## ITEM

**RENTAL DOMESTIC VACANT FLAT (BUILDING SERVICES) (Cont'd)**

Optional Items (Cont'd) :

**Each**

2722500 Renew package adopting mini trunking - complete renewal of the electrical and CABD installation .....

Internal Floor Area (m <sup>2</sup> )					
n.e. 12	12 - 19	19 - 26	26 - 34	34 - 42	exc. 42
A	B	C	D	E	F
\$	\$	\$	\$	\$	\$
6,345	7,000	8,095	9,468	10,818	12,144

**Each.**

2722600 Renew except consumer unit package adopting mini trunking - complete renewal of the electrical and CABD installation (except renewal of consumer unit) .....

Internal Floor Area (m <sup>2</sup> )					
n.e. 12	12 - 19	19 - 26	26 - 34	34 - 42	exc. 42
A	B	C	D	E	F
\$	\$	\$	\$	\$	\$
5,506	6,191	7,335	8,685	10,034	11,407

**Each.**

2722700 Repair package adopting mini trunking - repair only the electrical and CABD installation .....

Internal Floor Area (m <sup>2</sup> )					
n.e. 12	12 - 19	19 - 26	26 - 34	34 - 42	exc. 42
A	B	C	D	E	F
\$	\$	\$	\$	\$	\$
2,659	3,009	3,589	4,131	4,805	5,502

**Each.**

2722800 Repair electrical provisions with addition of A/C circuits package adopting mini trunking - repair electrical provisions with addition of A/C circuit(s) .....

Internal Floor Area (m <sup>2</sup> )					
n.e. 12	12 - 19	19 - 26	26 - 34	34 - 42	exc. 42
A	B	C	D	E	F
\$	\$	\$	\$	\$	\$
2,881	3,211	3,763	4,631	5,306	5,975

## ITEM

**RENTAL DOMESTIC VACANT FLAT (BUILDING SERVICES) (Cont'd)**

Optional Items (Cont'd) :

Each	A \$
2722900 Carry out testing to existing electrical installation in the whole flat including issue of Form WR1.....	165
2723000 Carry out inspection to gas installation and/or disconnection/dismantling of unsafe gas installation work in the whole flat.....	200
2723100 Carry out co-ordination and engage gas supply companies to carry out the alteration, installation or reinstatement works of gas installation for the whole flat with settlement of the payment (Note : This item will only be paid for when the invoice issued by gas supply companies is submitted.).....	897
2723200 Carry out co-ordination and engage Hong Kong Cable Television Limited (Cable TV) to carry out CABD system repair/replacement/reinstatement works for the whole flat with settlement of the payment which covers the provision of labour and materials including new Cable TV wallplate, to resume all free digital terrestrial and TV channels (Note : This item will only be paid for when the invoice issued by Cable TV is submitted.).....	1,300
2723300 Carry out co-ordination and engage Hong Kong Cable Television Limited (Cable TV) to carry out CABD system repair/replacement/reinstatement works for the whole flat with settlement of the payment which covers the provision of labour and materials to install the drop-in coaxial cable from the end tap to run via the G.I. conduit provided by HA to the designated flat and terminated at a new Cable TV wallplate and to resume all free digital terrestrial and TV channels ( Note : This item will only be paid for when the invoice issued by Cable TV is submitted.).....	3,000

## **PAY FOR SAFETY SCHEME (PFSS) SPECIAL CONDITIONS**

### **GENERAL RULES**

#### **SC28.G01**

##### **Payment for items in this Section**

Items in this Section will only be measured and paid for when applied for by the Contractor and recommended for payment by the Contract Manager. Items in this Section shall not be subject to the Tendered Percentage Adjustment and the Percentage Additions for Emergency Works and Works at Specific Properties and Locations.

#### **SC28.G02**

##### **Application of rates in this Section**

Items in this Section are only applicable to PFSS. Rates for PFSS shall not be used for the assessment of rates for items not specifically mentioned in this Section.

#### **SC28.G03**

##### **Generally**

If the Contractor considers any rate in this Section is insufficient or inadequate, the Contractor is deemed to have made all necessary allowances in the Tendered Percentage Adjustment in the Contract for executing the works as contained in this Section and in compliance with all required as stipulated in the Contract, notwithstanding that the rates in this Section shall not be subject to Tendered Percentage Adjustment.

## ITEM

**RESOURCES****Month.**

2800100 Safety Officers Provision and Discharge of Duties .....

A  
\$

---

**MANAGEMENT****Month.**

2800200 Site Safety Committee .....

A  
\$

---

**Each.**

2800300 Weekly Safety Walk .....

A  
\$

---

**KEY PERFORMANCE INDICATORS (KPIs)****Month.**

2800400 Compliance with Regulations.....

A  
\$

---

**Each.**

2800500 Safety Audit Performance.....

A  
\$

---

2800600 Accident Indicator .....

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## ITEM

## AWARENESS

Per number of persons.

2800700 Site Specific Induction Training .....

2800800 Tool Box Talks .....

A  
\$

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---

Month.

2800900 Silver Card Compliance.....

A  
\$

---

Each.

2801000 Subsidy for Participating in Safety Campaigns .....

A  
\$

---

## INNOVATION

Each.

2801100 Recognition of Innovative and Functional Safety Installation or Safety Measures .....

A  
\$

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## MEMORANDA

Table	Description	Page
1	Metric/Imperial equivalents.....	A1/2
2	Mass (Weight) of wire.....	A1/3
3	Mass (Weight) of sheet lead.....	A1/4
4	Mass (Weight) of sheet zinc.....	A1/4
5	Mass (Weight) of sheet metal.....	A1/5
6	Mass (Weight) of metal plates.....	A1/6
7	Mass (Weight) of steel chequer plate.....	A1/6
8	Mass (Weight) of mild steel round bars.....	A1/7
9	Mass (Weight) of rolled steel square bars.....	A1/7
10	Mass (Weight) of rolled steel flat bars.....	A1/8
11	Mass (Weight) of black bolts and nuts.....	A1/9
12	Mass (Weight) of cup-headed rivets.....	A1/10
13	Mass (Weight) of rolled steel equal angles.....	A1/11
14	Mass (Weight) of rolled steel unequal angles.....	A1/11
15	Mass (Weight) of rolled steel universal beams.....	A1/12
16	Mass (Weight) of rolled steel universal columns.....	A1/14
17	Mass (Weight) of rolled steel universal bearing piles.....	A1/15
18	Mass (Weight) of rolled steel joists with taper flanges.....	A1/16
19	Mass (Weight) of rolled steel structural tees cut from universal beams.....	A1/17
20	Mass (Weight) of rolled steel structural tees cut from universal columns.....	A1/18
21	Mass (Weight) of rolled steel parallel flange channels.....	A1/19
22	Mass (Weight) of rolled steel round hollow tubes.....	A1/20
23	Mass (Weight) of rolled steel square hollow sections.....	A1/21
24	Mass (Weight) of rolled steel rectangular hollow sections.....	A1/22
25	Mass (Weight) of solid aluminium round bars.....	A1/23
26	Mass (Weight) of solid aluminium square bars.....	A1/23
27	Mass (Weight) of solid aluminium flats.....	A1/24
28	Mass (Weight) of aluminium equal angles.....	A1/25
29	Mass (Weight) of aluminium unequal angles.....	A1/25
30	Mass (Weight) of aluminium channels.....	A1/26
31	Mass (Weight) of aluminium tee sections.....	A1/26
32	Mass (Weight) of aluminium round hollow tubes.....	A1/27
33	Mass (Weight) of aluminium square hollow sections.....	A1/28
34	Mass (Weight) of aluminium rectangular hollow sections.....	A1/28
35	Mass (Weight) of stainless steel flat bars.....	A1/29
36	Mass (Weight) of stainless steel angles.....	A1/29
37	Mass (Weight) of stainless steel channels.....	A1/29
38	Mass (Weight) of stainless steel round tubes.....	A1/29
39	Mass (Weight) of stainless steel square hollow sections.....	A1/29
40	Mass (Weight) of stainless steel rectangular hollow sections.....	A1/29
41	Standard BRC fabrics square meshes.....	A1/30
42	Standard BRC fabrics rectangular meshes.....	A1/30

TABLE 1

## METRIC/IMPERIAL EQUIVALENTS

Metric sizes or dimensions (millimetres)	Imperial equivalents (inches)
3	1/8
6	1/4
10	3/8
13	1/2
16	5/8
19	3/4
22	7/8
25	1
32	1-1/4
35	1-3/8
38	1-1/2
44	1-3/4
51	2
57	2-1/4
64	2-1/2
70	2-3/4
76	3
83	3-1/4
89	3-1/2
95	3-3/4
100	4
125	5
150	6
175	7
200	8
225	9
250	10
275	11
300	12
450	18
600	24
750	30
900	36
1,200	48

Examples :-

1. An imperial sized scantling measuring 2"x 3" shall be paid for as a 50x75 mm scantling.
2. An imperial sized tower bolt measuring 9" long shall be paid for as a 225 mm long tower bolt.



TABLE 2

## MASS (WEIGHT) OF WIRE

Preferred diameter (mm)	S.W.G.	Gauge diameter (mm)	kg/100 m	
			Steel	Brass
	40	0.122	0.01	0.01
<b>0.125</b>			<b>0.01</b>	<b>0.01</b>
	39	0.132	0.01	0.01
	38	0.152	0.01	0.02
<b>0.160</b>			<b>0.02</b>	<b>0.02</b>
	37	0.173	0.02	0.02
	36	0.193	0.02	0.02
<b>0.200</b>			<b>0.02</b>	<b>0.02</b>
	35	0.213	0.03	0.03
	34	0.234	0.03	0.04
<b>0.250</b>			<b>0.04</b>	<b>0.04</b>
	33	0.254	0.04	0.04
	32	0.274	0.05	0.05
	31	0.295	0.05	0.06
<b>0.300</b>			<b>0.06</b>	<b>0.06</b>
	30	0.315	0.06	0.07
	29	0.345	0.07	0.08
	28	0.376	0.09	0.09
<b>0.400</b>			<b>0.10</b>	<b>0.11</b>
	27	0.417	0.11	0.11
	26	0.457	0.13	0.14
<b>0.500</b>			<b>0.15</b>	<b>0.17</b>
	25	0.508	0.16	0.17
	24	0.559	0.19	0.21
<b>0.600</b>			<b>0.22</b>	<b>0.24</b>
	23	0.610	0.23	0.25
<b>0.700</b>			<b>0.30</b>	<b>0.32</b>
	22	0.711	0.31	0.33
<b>0.800</b>			<b>0.39</b>	<b>0.42</b>
	21	0.813	0.41	0.44
<b>0.900</b>			<b>0.50</b>	<b>0.54</b>
	20	0.914	0.52	0.55

Preferred diameter (mm)	S.W.G.	Gauge diameter (mm)	kg/100 m	
			Steel	Brass
<b>1.000</b>			<b>0.62</b>	<b>0.66</b>
	19	1.016	0.64	0.68
<b>1.200</b>			<b>0.89</b>	<b>0.95</b>
	18	1.219	0.92	0.98
	17	1.422	1.25	1.34
<b>1.600</b>			<b>1.58</b>	<b>1.69</b>
	16	1.626	1.63	1.75
	15	1.829	2.06	2.21
<b>2.000</b>			<b>2.47</b>	<b>2.64</b>
	14	2.032	2.55	2.73
	13	2.337	3.37	3.61
<b>2.500</b>			<b>3.85</b>	<b>4.13</b>
	12	2.642	4.31	4.62
	11	2.946	5.35	5.74
<b>3.000</b>			<b>5.55</b>	<b>5.95</b>
	10	3.251	6.52	6.99
	9	3.658	8.25	8.85
<b>4.000</b>			<b>9.87</b>	<b>10.58</b>
	8	4.064	10.19	10.92
	7	4.470	12.32	13.21
	6	4.877	14.67	15.73
<b>5.000</b>			<b>15.42</b>	<b>16.53</b>
	5	5.385	17.89	19.17
	4	5.893	21.42	22.96
<b>6.000</b>			<b>22.20</b>	<b>23.80</b>
	3	6.401	25.27	27.09
	2	7.010	30.31	32.49
	1	7.620	35.81	38.39
<b>8.000</b>			<b>39.47</b>	<b>42.32</b>

Note :-

For mass of iron wire, multiply the mass of steel wire by 0.991.

For mass of copper wire, multiply the mass of steel wire by 1.134.

TABLE 3

## MASS (WEIGHT) OF SHEET LEAD

Code number	Thickness (mm)	kg/m <sup>2</sup> *	Colour marking
3	1.25	14.18	green
4	1.80	20.41	blue
5	2.24	25.40	red
6	2.50	28.36	black
7	3.15	35.72	white
8	3.55	40.26	orange

\* Basic value : 11,340kg/m<sup>3</sup>

TABLE 4

## MASS (WEIGHT) OF SHEET ZINC

Metric thickness	Zinc gauge	Gauge thickness (mm)	kg/m <sup>2</sup> *
	1	0.102	0.73
	2	0.152	1.09
	3	0.178	1.28
	4	0.203	1.46
<b>0.25</b>			<b>1.80</b>
	5	0.254	1.83
	6	0.273	1.97
<b>0.30</b>			<b>2.16</b>
	7	0.330	2.38
	8	0.381	2.74
<b>0.40</b>			<b>2.88</b>
	9	0.432	3.11
	10	0.483	3.48
<b>0.50</b>			<b>3.60</b>
	11	0.559	4.02
<b>0.60</b>			<b>4.32</b>
	12	0.635	4.57
<b>0.70</b>			<b>5.04</b>
	13	0.711	5.12
	14	0.787	5.67
<b>0.80</b>			<b>5.76</b>
<b>0.90</b>			<b>6.48</b>
	15	0.914	6.58
<b>1.00</b>			<b>7.20</b>
	16	1.041	7.50
	17	1.168	8.41
<b>1.20</b>			<b>8.64</b>
	18	1.295	9.32
	19	1.448	10.43
<b>1.60</b>	20	1.600	<b>11.52</b>
	21	1.778	12.80
<b>2.00</b>			<b>14.40</b>

\*Basic value : 7,200 kg/m<sup>3</sup>

TABLE 5

## MASS (WEIGHT) OF SHEET METAL

Metric thickness (mm)	S.W.G.	Gauge thickness (mm)	kg/m <sup>2</sup> *			
			Steel	Stainless steel	Copper	Aluminium
	34	0.234	1.84	1.84	2.09	0.63
<b>0.25</b>			<b>1.96</b>	<b>1.97</b>	<b>2.23</b>	<b>0.68</b>
	33	0.254	1.99	2.00	2.27	0.69
	32	0.274	2.15	2.16	2.45	0.74
	31	0.295	2.31	2.32	2.64	0.80
<b>0.30</b>			<b>2.35</b>	<b>2.36</b>	<b>2.68</b>	<b>0.81</b>
	30	0.315	2.47	2.48	2.82	0.85
	29	0.345	2.71	2.72	3.08	0.93
	28	0.376	2.95	2.96	3.36	1.02
<b>0.40</b>			<b>3.14</b>	<b>3.15</b>	<b>3.58</b>	<b>1.08</b>
	27	0.417	3.27	3.29	3.73	1.13
	26	0.457	3.58	3.60	4.08	1.24
<b>0.50</b>			<b>3.92</b>	<b>3.94</b>	<b>4.47</b>	<b>1.35</b>
	25	0.508	3.98	4.00	4.54	1.38
	24	0.559	4.38	4.41	5.00	1.51
<b>0.60</b>			<b>4.71</b>	<b>4.73</b>	<b>5.36</b>	<b>1.62</b>
	23	0.610	4.78	4.81	5.45	1.65
<b>0.70</b>			<b>5.49</b>	<b>5.52</b>	<b>6.26</b>	<b>1.89</b>
	22	0.711	5.58	5.60	6.35	1.92
<b>0.80</b>			<b>6.27</b>	<b>6.30</b>	<b>7.15</b>	<b>2.17</b>
	21	0.813	6.38	6.41	7.27	2.20
<b>0.90</b>			<b>7.06</b>	<b>7.09</b>	<b>8.04</b>	<b>2.44</b>
	20	0.914	7.17	7.20	8.17	2.47
<b>1.00</b>			<b>7.84</b>	<b>7.88</b>	<b>8.94</b>	<b>2.71</b>
	19	1.016	7.97	8.01	9.08	2.75
<b>1.20</b>			<b>9.41</b>	<b>9.46</b>	<b>10.73</b>	<b>3.25</b>
	18	1.219	9.56	9.61	10.90	3.30
	17	1.422	11.15	11.21	12.71	3.85
<b>1.60</b>			<b>12.55</b>	<b>12.61</b>	<b>14.30</b>	<b>4.33</b>
	16	1.626	12.75	12.81	14.53	4.40
	15	1.829	14.34	14.41	16.35	4.95
<b>2.00</b>			<b>15.69</b>	<b>15.76</b>	<b>17.88</b>	<b>5.41</b>
	14	2.032	15.94	16.01	18.16	5.50
	13	2.337	18.33	18.42	20.89	6.33
<b>2.50</b>			<b>19.61</b>	<b>19.70</b>	<b>22.35</b>	<b>6.77</b>
	12	2.642	20.72	20.82	23.61	7.15
	11	2.946	23.11	23.22	26.33	7.97
<b>3.00</b>			<b>23.53</b>	<b>23.64</b>	<b>26.81</b>	<b>8.12</b>
	10	3.251	25.50	25.62	29.06	8.80
	9	3.658	28.69	28.83	32.70	9.90
<b>4.00</b>			<b>31.37</b>	<b>31.52</b>	<b>35.75</b>	<b>10.83</b>
	8	4.064	31.87	32.03	36.32	11.00
	7	4.470	35.06	35.23	39.95	12.10
	6	4.877	38.25	38.44	43.59	13.20
<b>5.00</b>			<b>39.22</b>	<b>39.41</b>	<b>44.69</b>	<b>13.54</b>
	5	5.385	42.23	42.44	48.13	14.58
	4	5.893	46.22	46.44	52.67	15.95
<b>6.00</b>			<b>47.06</b>	<b>47.29</b>	<b>53.63</b>	<b>16.24</b>
	3	6.401	50.20	50.45	57.21	17.33
	2	7.010	54.98	55.25	62.66	18.98
	1	7.620	59.76	60.05	68.11	20.63
<b>8.00</b>			<b>62.74</b>	<b>63.05</b>	<b>71.50</b>	<b>21.66</b>

\* Basic value : Mild steel 7,843 kg/m<sup>3</sup>  
 Stainless steel 7,881 kg/m<sup>3</sup>  
 Copper 8,938 kg/m<sup>3</sup>  
 Aluminium 2,707 kg/m<sup>3</sup>

For mass of iron sheeting, multiply the mass of steel sheeting by 0.991.  
 For mass of brass sheeting, multiply the mass of steel sheeting by 1.072.  
 For mass of sheeting galvanized on both sides, add 0.730 kg/m<sup>2</sup>.

TABLE 6

## MASS (WEIGHT) OF METAL PLATES

Metric thickness (mm)	Imperial thickness (inches)	Metric equivalents (mm)	kg/m <sup>2</sup> *			
			Steel	Stainless steel	Copper	Aluminium
	1/16	1.59	12.47	12.53	14.21	4.30
<b>1.60</b>			<b>12.55</b>	<b>12.61</b>	<b>14.30</b>	<b>4.33</b>
<b>2.00</b>			<b>15.69</b>	<b>15.76</b>	<b>17.88</b>	<b>5.41</b>
<b>3.00</b>			<b>23.53</b>	<b>23.64</b>	<b>26.81</b>	<b>8.12</b>
	1/8	3.18	24.94	25.06	28.42	8.61
<b>4.00</b>			<b>31.37</b>	<b>31.52</b>	<b>35.75</b>	<b>10.83</b>
	3/16	4.76	37.33	37.51	42.54	12.89
<b>5.00</b>			<b>39.22</b>	<b>39.41</b>	<b>44.69</b>	<b>13.54</b>
<b>6.00</b>			<b>47.06</b>	<b>47.29</b>	<b>53.63</b>	<b>16.24</b>
	1/4	6.35	49.80	50.04	56.76	17.19
<b>8.00</b>			<b>62.74</b>	<b>63.05</b>	<b>71.50</b>	<b>21.66</b>
	3/8	9.53	74.74	75.11	85.18	25.80
<b>10.00</b>			<b>78.43</b>	<b>78.81</b>	<b>89.38</b>	<b>27.07</b>
<b>12.00</b>			<b>94.12</b>	<b>94.57</b>	<b>107.26</b>	<b>32.48</b>
	1/2	12.70	99.61	100.09	113.51	34.38
<b>15.00</b>			<b>117.65</b>	<b>118.22</b>	<b>134.07</b>	<b>40.61</b>
	5/8	15.88	124.55	125.15	141.94	42.99
<b>18.00</b>			<b>141.17</b>	<b>141.86</b>	<b>160.88</b>	<b>48.73</b>
	3/4	19.05	149.41	150.13	170.27	51.57
<b>20.00</b>			<b>156.86</b>	<b>157.62</b>	<b>178.76</b>	<b>54.14</b>
	7/8	22.23	174.35	175.19	198.69	60.18
<b>25.00</b>			<b>196.08</b>	<b>197.03</b>	<b>223.45</b>	<b>67.68</b>
	1	25.40	199.21	200.18	227.03	68.76

\* Basic value : Mild steel                      7,843 kg/m<sup>3</sup>  
                          Stainless steel                7,881 kg/m<sup>3</sup>  
                          Copper                                    8,938 kg/m<sup>3</sup>  
                          Aluminium                            2,707 kg/m<sup>3</sup>

For mass of iron sheeting, multiply the mass of steel sheeting by 0.991.  
 For mass of brass sheeting, multiply the mass of steel sheeting by 1.072.  
 For mass of sheeting galvanized on both sides, add 0.730 kg/m<sup>2</sup>.

TABLE 7

## MASS (WEIGHT) OF STEEL CHEQUER PLATE

Thickness on plain mm	Approximate weight kg/m <sup>2</sup>
3.0	28.7
4.5	40.5
6.0	52.2
8.0	67.9
10.0	83.6
12.5	103.1

TABLE 8

MASS (WEIGHT) OF  
MILD STEEL ROUND BARS

Preferred metric diameter (mm)	Imperial sizes (inches)	Metric equivalents of imperial sizes (mm)	kg/m*
<b>6</b>			<b>0.22</b>
	1/4	6.350	0.25
<b>8</b>			<b>0.40</b>
	3/8	9.525	0.56
<b>10</b>			<b>0.62</b>
<b>12</b>			<b>0.89</b>
	1/2	12.700	0.99
	5/8	15.875	1.55
<b>16</b>			<b>1.58</b>
	3/4	19.050	2.24
<b>20</b>			<b>2.47</b>
	7/8	22.225	3.04
<b>25</b>			<b>3.85</b>
	1	25.400	3.98
	1-1/8	28.575	5.03
	1-1/4	31.750	6.21
<b>32</b>			<b>6.31</b>
	1-3/8	34.925	7.52
	1-1/2	38.100	8.95
<b>40</b>			<b>9.86</b>
	1-5/8	41.275	10.50
	1-3/4	44.450	12.18
	1-7/8	47.625	13.98
	2	50.800	15.90

TABLE 9

MASS (WEIGHT) OF  
ROLLED STEEL SQUARE BARS

Recommended metric size (mm)	Imperial sizes (inches)	Metric equivalents of imperial sizes (mm)	kg/m*
	1/4	6.350	0.32
	5/16	7.938	0.49
	3/8	9.525	0.71
<b>10</b>			<b>0.78</b>
	7/16	11.112	0.97
<b>12</b>			<b>1.13</b>
	1/2	12.700	1.26
<b>14</b>			<b>1.54</b>
	9/16	14.288	1.60
	5/8	15.875	1.98
<b>16</b>			<b>2.01</b>
	11/16	17.462	2.39
<b>18</b>			<b>2.54</b>
	3/4	19.050	2.85
<b>20</b>			<b>3.14</b>
	13/16	20.638	3.34
	7/8	22.225	3.87
	15/16	23.812	4.45
<b>25</b>			<b>4.91</b>
	1	25.400	5.06
<b>28</b>			<b>6.15</b>
	1-1/8	28.575	6.40
	1-1/4	31.750	7.91
<b>32</b>			<b>8.04</b>
	1-3/8	34.925	9.57
<b>35</b>			<b>9.62</b>
	1-1/2	38.100	11.38
<b>40</b>			<b>12.60</b>
	1-5/8	41.275	13.36
	1-3/4	44.450	15.50
	1-7/8	47.625	17.80
	2	50.800	20.24

\*Basic value : Mild steel 7,843 kg/m<sup>3</sup>

For mass of cast iron bars, multiply the mass of steel bars by 0.919.

For mass of wrought iron bars, multiply the mass of steel bars by 0.991.

For mass of brass bars, multiply the mass of steel bars by 1.072.

For mass of copper bars, multiply the mass of steel bars by 1.134.

TABLE 10  
MASS (WEIGHT) OF ROLLED STEEL FLAT BARS

Width (mm)	kg/m*															
	Thickness (mm)															
	1	2	3	4	5	6	7	8	9	10	15	20	25	30	40	50
5	0.04	0.08	0.12	0.16	0.20	0.24	0.27	0.31	0.35	0.39	0.59	0.78	0.98	1.18	1.57	1.96
10	0.08	0.16	0.24	0.31	0.39	0.47	0.55	0.63	0.71	0.78	1.18	1.57	1.96	2.35	3.14	3.92
15	0.12	0.24	0.35	0.47	0.59	0.71	0.82	0.94	1.06	1.18	1.76	2.35	2.94	3.53	4.71	5.88
20	0.16	0.31	0.47	0.63	0.78	0.94	1.10	1.25	1.41	1.57	2.35	3.14	3.92	4.71	6.27	7.84
25	0.20	0.39	0.59	0.78	0.98	1.18	1.37	1.57	1.76	1.96	2.94	3.92	4.90	5.88	7.84	9.80
30	0.24	0.47	0.71	0.94	1.18	1.41	1.65	1.88	2.12	2.35	3.53	4.71	5.88	7.06	9.41	11.76
35	0.27	0.55	0.82	1.10	1.37	1.65	1.92	2.20	2.47	2.75	4.12	5.49	6.86	8.24	10.98	13.73
40	0.31	0.63	0.94	1.25	1.57	1.88	2.20	2.51	2.82	3.14	4.71	6.27	7.84	9.41	12.55	15.69
45	0.35	0.71	1.06	1.41	1.76	2.12	2.47	2.82	3.18	3.53	5.29	7.06	8.82	10.59	14.12	17.65
50	0.39	0.78	1.18	1.57	1.96	2.35	2.75	3.14	3.53	3.92	5.88	7.84	9.80	11.76	15.69	19.61
55	0.43	0.86	1.29	1.73	2.16	2.59	3.02	3.45	3.88	4.31	6.47	8.63	10.78	12.94	17.25	21.57
60	0.47	0.94	1.41	1.88	2.35	2.82	3.29	3.76	4.24	4.71	7.06	9.41	11.76	14.12	18.82	23.53
65	0.51	1.02	1.53	2.04	2.55	3.06	3.57	4.08	4.59	5.10	7.65	10.20	12.74	15.29	20.39	25.49
70	0.55	1.10	1.65	2.20	2.75	3.29	3.84	4.39	4.94	5.49	8.24	10.98	13.73	16.47	21.96	27.45
75	0.59	1.18	1.76	2.35	2.94	3.53	4.12	4.71	5.29	5.88	8.82	11.76	14.71	17.65	23.53	29.41
80	0.63	1.25	1.88	2.51	3.14	3.76	4.39	5.02	5.65	6.27	9.41	12.55	15.69	18.82	25.10	31.37
85	0.67	1.33	2.00	2.67	3.33	4.00	4.67	5.33	6.00	6.67	10.00	13.33	16.67	20.00	26.67	33.33
90	0.71	1.41	2.12	2.82	3.53	4.24	4.94	5.65	6.35	7.06	10.59	14.12	17.65	21.18	28.23	35.29
95	0.75	1.49	2.24	2.98	3.73	4.47	5.22	5.96	6.71	7.45	11.18	14.90	18.63	22.35	29.80	37.25
100	0.78	1.57	2.35	3.14	3.92	4.71	5.49	6.27	7.06	7.84	11.76	15.69	19.61	23.53	31.37	39.22
110	0.86	1.73	2.59	3.45	4.31	5.18	6.04	6.90	7.76	8.63	12.94	17.25	21.57	25.88	34.51	43.14
120	0.94	1.88	2.82	3.76	4.71	5.65	6.59	7.53	8.47	9.41	14.12	18.82	23.53	28.23	37.65	47.06
130	1.02	2.04	3.06	4.08	5.10	6.12	7.14	8.16	9.18	10.20	15.29	20.39	25.49	30.59	40.78	50.98
140	1.10	2.20	3.29	4.39	5.49	6.59	7.69	8.78	9.88	10.98	16.47	21.96	27.45	32.94	43.92	54.90
150	1.18	2.35	3.53	4.71	5.88	7.06	8.24	9.41	10.59	11.76	17.65	23.53	29.41	35.29	47.06	58.82
160	1.25	2.51	3.76	5.02	6.27	7.53	8.78	10.04	11.29	12.55	18.82	25.10	31.37	37.65	50.20	62.74
170	1.33	2.67	4.00	5.33	6.67	8.00	9.33	10.67	12.00	13.33	20.00	26.67	33.33	40.00	53.33	66.67
180	1.41	2.82	4.24	5.65	7.06	8.47	9.88	11.29	12.71	14.12	21.18	28.23	35.29	42.35	56.47	70.59
190	1.49	2.98	4.47	5.96	7.45	8.94	10.43	11.92	13.41	14.90	22.35	29.80	37.25	44.71	59.61	74.51
200	1.57	3.14	4.71	6.27	7.84	9.41	10.98	12.55	14.12	15.69	23.53	31.37	39.22	47.06	62.74	78.43
210	1.65	3.29	4.94	6.59	8.24	9.88	11.53	13.18	14.82	16.47	24.71	32.94	41.18	49.41	65.88	82.35
220	1.73	3.45	5.18	6.90	8.63	10.35	12.08	13.80	15.53	17.25	25.88	34.51	43.14	51.76	69.02	86.27
230	1.80	3.61	5.41	7.22	9.02	10.82	12.63	14.43	16.24	18.04	27.06	36.08	45.10	54.12	72.16	90.19
240	1.88	3.76	5.65	7.53	9.41	11.29	13.18	15.06	16.94	18.82	28.23	37.65	47.06	56.47	75.29	94.12
250	1.96	3.92	5.88	7.84	9.80	11.76	13.73	15.69	17.65	19.61	29.41	39.22	49.02	58.82	78.43	98.04
260	2.04	4.08	6.12	8.16	10.20	12.24	14.27	16.31	18.35	20.39	30.59	40.78	50.98	61.18	81.57	101.96
270	2.12	4.24	6.35	8.47	10.59	12.71	14.82	16.94	19.06	21.18	31.76	42.35	52.94	63.53	84.70	105.88
280	2.20	4.39	6.59	8.78	10.98	13.18	15.37	17.57	19.76	21.96	32.94	43.92	54.90	65.88	87.84	109.80
290	2.27	4.55	6.82	9.10	11.37	13.65	15.92	18.20	20.47	22.74	34.12	45.49	56.86	68.23	90.98	113.72
300	2.35	4.71	7.06	9.41	11.76	14.12	16.47	18.82	21.18	23.53	35.29	47.06	58.82	70.59	94.12	117.65
310	2.43	4.86	7.29	9.73	12.16	14.59	17.02	19.45	21.88	24.31	36.47	48.63	60.78	72.94	97.25	121.57
320	2.51	5.02	7.53	10.04	12.55	15.06	17.57	20.08	22.59	25.10	37.65	50.20	62.74	75.29	100.39	125.49
330	2.59	5.18	7.76	10.35	12.94	15.53	18.12	20.71	23.29	25.88	38.82	51.76	64.70	77.65	103.53	129.41
340	2.67	5.33	8.00	10.67	13.33	16.00	18.67	21.33	24.00	26.67	40.00	53.33	66.67	80.00	106.66	133.33
350	2.75	5.49	8.24	10.98	13.73	16.47	19.22	21.96	24.71	27.45	41.18	54.90	68.63	82.35	109.80	137.25
360	2.82	5.65	8.47	11.29	14.12	16.94	19.76	22.59	25.41	28.23	42.35	56.47	70.59	84.70	112.94	141.17
370	2.90	5.80	8.71	11.61	14.51	17.41	20.31	23.22	26.12	29.02	43.53	58.04	72.55	87.06	116.08	145.10
380	2.98	5.96	8.94	11.92	14.90	17.88	20.86	23.84	26.82	29.80	44.71	59.61	74.51	89.41	119.21	149.02
390	3.06	6.12	9.18	12.24	15.29	18.35	21.41	24.47	27.53	30.59	45.88	61.18	76.47	91.76	122.35	152.94
400	3.14	6.27	9.41	12.55	15.69	18.82	21.96	25.10	28.23	31.37	47.06	62.74	78.43	94.12	125.49	156.86
410	3.22	6.43	9.65	12.86	16.08	19.29	22.51	25.73	28.94	32.16	48.23	64.31	80.39	96.47	128.63	160.78
420	3.29	6.59	9.88	13.18	16.47	19.76	23.06	26.35	29.65	32.94	49.41	65.88	82.35	98.82	131.76	164.70
430	3.37	6.74	10.12	13.49	16.86	20.23	23.61	26.98	30.35	33.72	50.59	67.45	84.31	101.17	134.90	168.62
440	3.45	6.90	10.35	13.80	17.25	20.71	24.16	27.61	31.06	34.51	51.76	69.02	86.27	103.53	138.04	172.55
450	3.53	7.06	10.59	14.12	17.65	21.18	24.71	28.23	31.76	35.29	52.94	70.59	88.23	105.88	141.17	176.47
460	3.61	7.22	10.82	14.43	18.04	21.65	25.25	28.86	32.47	36.08	54.12	72.16	90.19	108.23	144.31	180.39
470	3.69	7.37	11.06	14.74	18.43	22.12	25.80	29.49	33.18	36.86	55.29	73.72	92.16	110.59	147.45	184.31
480	3.76	7.53	11.29	15.06	18.82	22.59	26.35	30.12	33.88	37.65	56.47	75.29	94.12	112.94	150.59	188.23
490	3.84	7.69	11.53	15.37	19.22	23.06	26.90	30.74	34.59	38.43	57.65	76.86	96.08	115.29	153.72	192.15
500	3.92	7.84	11.76	15.69	19.61	23.53	27.45	31.37	35.29	39.22	58.82	78.43	98.04	117.65	156.86	196.08

\* Basic value : Mild steel 7,843 kg/m<sup>3</sup>

For mass of cast iron bars, multiply the mass of steel bars by 0.919.

For mass of wrought iron bars, multiply the mass of steel bars by 0.991.

For mass of brass bars, multiply the mass of steel bars by 1.072.

For mass of copper bars, multiply the mass of steel bars by 1.134

For mass of lead bars, multiply the mass of steel bars by 1.454.

TABLE 11

## MASS (WEIGHT) OF BLACK BOLTS AND NUTS

Length under head (mm)	Approximate mass in kilograms per 1,000 bolts complete including hexagon head and one nut each										
	Nominal size of bolt										
	M6	M8	M10	M12	M16	M20	M24	M30	M36	M42	M48
25	8.97	18.70	36.60	52.50	-	-	-	-	-	-	-
30	10.10	20.70	39.10	56.10	107.00	186.00	-	-	-	-	-
35	11.20	22.70	42.20	59.70	114.00	196.00	-	-	-	-	-
40	12.30	24.70	45.30	64.10	121.00	207.00	347.00	-	-	-	-
45	13.40	26.70	48.40	68.50	128.00	217.00	362.00	-	-	-	-
50	14.50	28.70	51.50	72.90	136.00	227.00	377.00	-	-	-	-
55	15.60	30.70	54.60	77.30	144.00	238.00	392.00	-	-	-	-
60	16.70	32.70	57.70	81.70	152.00	251.00	407.00	-	-	-	-
65	17.80	34.70	60.80	86.10	160.00	264.00	422.00	-	-	-	-
70	18.90	36.70	63.90	90.50	168.00	277.00	440.00	-	-	-	-
75	20.00	38.70	67.00	95.00	176.00	290.00	458.00	-	-	-	-
80	21.10	40.70	70.10	100.00	182.00	303.00	476.00	853.00	-	-	-
90	-	44.70	76.30	109.00	198.00	329.00	511.00	908.00	-	-	-
100	-	48.70	82.50	118.00	214.00	355.00	547.00	963.00	1,520.00	-	-
110	-	-	88.70	127.00	230.00	381.00	-	-	-	-	-
120	-	-	94.90	136.00	246.00	407.00	618.00	1,070.00	1,680.00	2,450.00	-
130	-	-	101.00	145.00	262.00	433.00	-	-	-	-	-
140	-	-	107.00	154.00	278.00	459.00	689.00	1,180.00	1,840.00	2,670.00	-
150	-	-	113.00	163.00	294.00	485.00	725.00	1,230.00	1,920.00	2,780.00	3,860.00
160	-	-	119.00	172.00	310.00	501.00	760.00	1,290.00	2,000.00	2,890.00	4,000.00
170	-	-	125.00	181.00	326.00	527.00	-	-	-	-	-
180	-	-	131.00	190.00	342.00	553.00	831.00	1,400.00	2,160.00	3,110.00	4,280.00
190	-	-	137.00	199.00	358.00	579.00	-	-	-	-	-
200	-	-	143.00	208.00	374.00	605.00	902.00	1,510.00	2,320.00	3,330.00	4,560.00
Add for extra nut per 1,000	2.32	4.82	10.90	15.90	30.80	60.30	103.00	216.00	369.00	610.00	924.00

For mass of stainless steel bolts, multiply the mass of black bolts by 7881/7843.

TABLE 12

## MASS (WEIGHT) OF CUP-HEADED RIVETS

Length under head (mm)	Approximate mass in kilogrammes per 1,000						
	Diameter of rivet						
	(mm)						
	10	12	16	20	22	24	27
25	21.50	31.90	-	-	-	-	-
30	24.60	36.30	71.00	125.00	-	-	-
35	27.70	40.80	78.80	137.00	-	-	-
40	30.80	45.20	86.70	149.00	186.00	238.00	-
45	33.80	49.70	94.60	162.00	201.00	255.00	-
50	36.90	54.10	103.00	174.00	216.00	273.00	-
55	40.00	58.50	110.00	186.00	231.00	291.00	-
60	43.10	63.00	118.00	199.00	246.00	309.00	386.00
65	46.20	67.40	126.00	211.00	261.00	326.00	408.00
70	49.30	71.80	134.00	223.00	276.00	344.00	431.00
75	52.30	76.30	142.00	236.00	291.00	362.00	453.00
80	55.40	80.70	150.00	248.00	306.00	380.00	476.00
90	-	89.60	166.00	273.00	335.00	415.00	521.00
100	-	98.50	181.00	297.00	365.00	451.00	566.00
110	-	-	197.00	322.00	395.00	486.00	611.00
120	-	-	213.00	347.00	425.00	522.00	656.00
130	-	-	-	371.00	455.00	557.00	700.00
140	-	-	-	396.00	485.00	593.00	745.00
150	-	-	-	-	514.00	628.00	790.00
160	-	-	-	-	554.00	664.00	835.00
170	-	-	-	-	574.00	699.00	880.00
180	-	-	-	-	604.00	735.00	925.00
190	-	-	-	-	-	770.00	970.00
200	-	-	-	-	-	806.00	1,050.00
Approx. mass in kg of 1,000 heads	6.10	9.70	23.60	50.60	66.80	95.50	116.20
Variation in mass of 1,000 rivets per mm of length	0.62	0.89	1.58	2.47	2.98	3.55	4.49



TABLE 13

MASS (WEIGHT) OF ROLLED STEEL  
EQUAL ANGLES

Source: BS EN10056-1:1999

Designation		Mass/unit length (kg/m)
Size (mm)	Thickness (mm)	
20 x 20	3	0.88
25 x 25	3	1.12
25 x 25	4	1.45
30 x 30	3	1.36
30 x 30	4	1.78
35 x 35	4	2.09
40 x 40	4	2.42
40 x 40	5	2.97
45 x 45	4.5	3.06
50 x 50	4	3.06
50 x 50	5	3.77
50 x 50	6	4.47
60 x 60	5	4.57
60 x 60	6	5.42
60 x 60	8	7.09
65 x 65	7	6.83
70 x 70	6	6.38
70 x 70	7	7.38
75 x 75	6	6.85
75 x 75	8	8.99
80 x 80	8	9.63
80 x 80	10	11.90
90 x 90	7	9.61
90 x 90	8	10.90
90 x 90	9	12.20
90 x 90	10	13.40
100 x 100	8	12.20
100 x 100	10	15.00
100 x 100	12	17.80
120 x 120	10	18.20
120 x 120	12	21.60
130 x 130	12	23.60
150 x 150	10	23.00
150 x 150	12	27.30
150 x 150	15	33.80
160 x 160	15	36.20
180 x 180	16	43.50
180 x 180	18	48.60
200 x 200	16	48.50
200 x 200	18	54.30
200 x 200	20	59.90
200 x 200	24	71.10
250 x 250	28	104.00
250 x 250	35	128.00

TABLE 14

MASS (WEIGHT) OF ROLLED STEEL  
UNEQUAL ANGLES

Source: BS EN10056-1:1999

Designation		Mass/unit length (kg/m)
Size (mm)	Thickness (mm)	
30 x 20	3	1.12
30 x 20	4	1.46
40 x 20	4	1.77
40 x 25	4	1.93
45 x 30	4	2.25
50 x 30	5	2.96
60 x 30	5	3.36
60 x 40	5	3.76
60 x 40	6	4.46
65 x 50	5	4.35
70 x 50	6	5.41
75 x 50	6	5.65
75 x 50	8	7.39
80 x 40	6	5.41
80 x 40	8	7.07
80 x 60	7	7.36
100 x 50	6	6.84
100 x 50	8	8.97
100 x 65	7	8.77
100 x 65	8	9.94
100 x 65	10	12.30
100 x 75	8	10.60
100 x 75	10	13.00
100 x 75	12	15.40
120 x 80	8	12.20
120 x 80	10	15.00
120 x 80	12	17.80
125 x 75	8	12.20
125 x 75	10	15.00
125 x 75	12	17.80
135 x 65	8	12.20
135 x 65	10	15.00
150 x 75	9	15.40
150 x 75	10	17.00
150 x 75	12	20.20
150 x 75	15	24.80
150 x 90	10	18.20
150 x 90	12	21.60
150 x 90	15	26.60
150 x 100	10	19.00
150 x 100	12	22.50
200 x 100	10	23.00
200 x 100	12	27.30
200 x 100	15	33.75
200 x 150	12	32.00
200 x 150	15	39.60

TABLE 15

## MASS (WEIGHT) OF ROLLED STEEL UNIVERSAL BEAMS

Source: BS4-1:2005, Table 2

Section designation					Mass per unit length kg/m	Depth mm	Width mm
914	x	419	x	388	388.0	921.0	420.5
914	x	419	x	343	343.3	911.8	418.5
914	x	305	x	289	289.1	926.6	307.7
914	x	305	x	253	253.4	918.4	305.5
914	x	305	x	224	224.2	910.4	304.1
914	x	305	x	201	200.9	903.0	303.3
838	x	292	x	226	226.5	850.9	293.8
838	x	292	x	194	193.8	840.7	292.4
838	x	292	x	176	175.9	834.9	291.7
762	x	267	x	197	196.8	769.8	268.0
762	x	267	x	173	173.0	762.2	266.7
762	x	267	x	147	146.9	754.0	265.2
762	x	267	x	134	133.9	750.0	264.4
686	x	254	x	170	170.2	692.9	255.8
686	x	254	x	152	152.4	687.5	254.5
686	x	254	x	140	140.1	683.5	253.7
686	x	254	x	125	125.2	677.9	253.0
610	x	305	x	238	238.1	635.8	311.4
610	x	305	x	179	179.0	620.2	307.1
610	x	305	x	149	149.1	612.4	304.8
610	x	229	x	140	139.9	617.2	230.2
610	x	229	x	125	125.1	612.2	229.0
610	x	229	x	113	113.0	607.6	228.2
610	x	229	x	101	101.2	602.6	227.6
533	x	210	x	122	122.0	544.5	211.9
533	x	210	x	109	109.0	539.5	210.8
533	x	210	x	101	101.0	536.7	210.0
533	x	210	x	92	92.1	533.1	209.3
533	x	210	x	82	82.2	528.3	208.8
457	x	191	x	98	98.3	467.2	192.8
457	x	191	x	89	89.3	463.4	191.9
457	x	191	x	82	82.0	460.0	191.3
457	x	191	x	74	74.3	457.0	190.4
457	x	191	x	67	67.1	453.4	189.9
457	x	152	x	82	82.1	465.8	155.3
457	x	152	x	74	74.2	462.0	154.4
457	x	152	x	67	67.2	458.0	153.8
457	x	152	x	60	59.8	454.6	152.9
457	x	152	x	52	52.3	449.8	152.4

TABLE 15 (CONT'D)

## MASS (WEIGHT) OF ROLLED STEEL UNIVERSAL BEAMS (CONT'D)

Source: BS4-1:2005, Table 2

Section designation					Mass per unit length kg/m	Depth mm	Width mm
406	x	178	x	74	74.2	412.8	179.5
406	x	178	x	67	67.1	409.4	178.8
406	x	178	x	60	60.1	406.4	177.9
406	x	178	x	54	54.1	402.6	177.7
406	x	140	x	46	46.0	403.2	142.2
406	x	140	x	39	39.0	398.0	141.8
356	x	171	x	67	67.1	363.4	173.2
356	x	171	x	57	57.0	358.0	172.2
356	x	171	x	51	51.0	355.0	171.5
356	x	171	x	45	45.0	351.4	171.1
356	x	127	x	39	39.1	353.4	126.0
356	x	127	x	33	33.1	349.0	125.4
305	x	165	x	54	54.0	310.4	166.9
305	x	165	x	46	46.1	306.6	165.7
305	x	165	x	40	40.3	303.4	165.0
305	x	127	x	48	48.1	311.0	125.3
305	x	127	x	42	41.9	307.2	124.3
305	x	127	x	37	37.0	304.4	123.4
305	x	102	x	33	32.8	312.7	102.4
305	x	102	x	28	28.2	308.7	101.8
305	x	102	x	25	24.8	305.1	101.6
254	x	146	x	43	43.0	259.6	147.3
254	x	146	x	37	37.0	256.0	146.4
254	x	146	x	31	31.1	251.4	146.1
254	x	102	x	28	28.3	260.4	102.2
254	x	102	x	25	25.2	257.2	101.9
254	x	102	x	22	22.0	254.0	101.6
203	x	133	x	30	30.0	206.8	133.9
203	x	133	x	25	25.1	203.2	133.2
203	x	102	x	23	23.1	203.2	101.8
178	x	102	x	19	19.0	177.8	101.2
152	x	89	x	16	16.0	152.4	88.7
127	x	76	x	13	13.0	127.0	76.0

TABLE 16

## MASS (WEIGHT) OF ROLLED STEEL UNIVERSAL COLUMNS

Source: BS4-1:2005, Table 3

Section designation					Mass per unit length kg/m	Depth mm	Width mm
356	x	406	x	634	633.9	474.6	424.0
356	x	406	x	551	551.0	455.6	418.5
356	x	406	x	467	467.0	436.6	412.2
356	x	406	x	393	393.0	419.0	407.0
356	x	406	x	340	339.9	406.4	403.0
356	x	406	x	287	287.1	393.6	399.0
356	x	406	x	235	235.1	381.0	394.8
356	x	368	x	202	201.9	374.6	374.7
356	x	368	x	177	177.0	368.2	372.6
356	x	368	x	153	152.9	362.0	370.5
356	x	368	x	129	129.0	355.6	368.6
305	x	305	x	283	282.9	365.3	322.2
305	x	305	x	240	240.0	352.5	318.4
305	x	305	x	198	198.1	339.9	314.5
305	x	305	x	158	158.1	327.1	311.2
305	x	305	x	137	136.9	320.5	309.2
305	x	305	x	118	117.9	314.5	307.4
305	x	305	x	97	96.9	307.9	305.3
254	x	254	x	167	167.1	289.1	265.2
254	x	254	x	132	132.0	276.3	261.3
254	x	254	x	107	107.1	266.7	258.8
254	x	254	x	89	88.9	260.3	256.3
254	x	254	x	73	73.1	254.1	254.6
203	x	203	x	86	86.1	222.2	209.1
203	x	203	x	71	71.0	215.8	206.4
203	x	203	x	60	60.0	209.6	205.8
203	x	203	x	52	52.0	206.2	204.3
203	x	203	x	46	46.1	203.2	203.6
152	x	152	x	37	37.0	161.8	154.4
152	x	152	x	30	30.0	157.6	152.9
152	x	152	x	23	23.0	152.4	152.2

TABLE 17

MASS (WEIGHT) OF ROLLED STEEL  
UNIVERSAL BEARING PILES

Source: BS4-1:2005, Table 4

Section designation					Mass per unit length kg/m	Depth mm	Width mm
356	x	368	x	174	173.9	361.4	378.5
356	x	368	x	152	152.0	356.4	376.0
356	x	368	x	133	133.0	352.0	373.8
356	x	368	x	109	108.9	346.4	371.0
305	x	305	x	223	222.9	337.9	325.7
305	x	305	x	186	186.0	328.3	320.9
305	x	305	x	149	149.1	318.5	316.0
305	x	305	x	126	126.1	312.3	312.9
305	x	305	x	110	110.0	307.9	310.7
305	x	305	x	95	94.9	303.7	308.7
305	x	305	x	88	88.0	301.7	307.8
305	x	305	x	79	78.9	299.3	306.4
254	x	254	x	85	85.1	254.3	260.4
254	x	254	x	71	71.0	249.7	258.0
254	x	254	x	63	63.0	247.1	256.6
203	x	203	x	54	53.9	204.0	207.7
203	x	203	x	45	44.9	200.2	205.9

TABLE 18

**MASS (WEIGHT) OF ROLLED STEEL  
JOISTS WITH TAPER FLANGES**

Source: BS4-1:2005, Table 5

Section designation					Mass per unit length kg/m	Depth mm	Width mm
254	x	203	x	82	82.0	254.0	203.2
254	x	114	x	37	37.2	254.0	114.3
203	x	152	x	52	52.3	203.2	152.4
152	x	127	x	37	37.3	152.4	127.0
127	x	114	x	29	29.3	127.0	114.3
127	x	114	x	27	26.9	127.0	114.3
127	x	76	x	16	16.5	127.0	76.2
114	x	114	x	27	26.9	114.3	114.3
102	x	102	x	23	23.0	101.6	101.6
102	x	44	x	7	7.5	101.6	44.5
89	x	89	x	19	19.5	88.9	88.9
76	x	76	x	15	15.0	76.2	80.0
76	x	76	x	13	12.8	76.2	76.2

TABLE 19

## MASS (WEIGHT) OF ROLLED STEEL STRUCTURAL TEES CUT FROM UNIVERSAL BEAMS

Source: BS 4-1:2005 Table 6

Section designation					Mass per unit length (kg/m)	Cut from universal beam (see BS4-1:2005, Table 2) Sectional designation					Width of section (mm)	Depth of section (mm)
305	x	457	x	127	126.7	914	x	305	x	253	305.5	459.1
305	x	457	x	112	112.1	914	x	305	x	224	304.1	455.1
305	x	457	x	101	100.4	914	x	305	x	201	303.3	451.4
292	x	419	x	113	113.2	838	x	292	x	226	293.8	425.4
292	x	419	x	97	96.9	838	x	292	x	194	292.4	420.3
292	x	419	x	88	87.9	838	x	292	x	176	291.7	417.4
267	x	381	x	99	98.3	762	x	267	x	197	268.0	384.8
267	x	381	x	87	86.5	762	x	267	x	173	266.7	381.0
267	x	381	x	74	73.4	762	x	267	x	147	265.2	376.9
254	x	343	x	85	85.1	686	x	254	x	170	255.8	346.4
254	x	343	x	76	76.2	686	x	254	x	152	254.5	343.7
254	x	343	x	70	70.0	686	x	254	x	140	253.7	341.7
254	x	343	x	63	62.6	686	x	254	x	125	253.0	338.9
305	x	305	x	119	119.0	610	x	305	x	238	311.4	317.8
305	x	305	x	90	89.5	610	x	305	x	179	307.1	310.0
305	x	305	x	75	74.6	610	x	305	x	149	304.8	306.1
229	x	305	x	70	69.9	610	x	229	x	140	230.2	308.5
229	x	305	x	63	62.5	610	x	229	x	125	229.0	306.0
229	x	305	x	57	56.5	610	x	229	x	113	228.2	303.7
229	x	305	x	51	50.6	610	x	229	x	101	227.6	301.2
210	x	267	x	61	61.0	533	x	210	x	122	211.9	272.2
210	x	267	x	55	54.5	533	x	210	x	109	210.8	269.7
210	x	267	x	51	50.5	533	x	210	x	101	210.0	268.3
210	x	267	x	46	46.0	533	x	210	x	92	209.3	266.5
210	x	267	x	41	41.1	533	x	210	x	82	208.8	264.1
191	x	229	x	49	49.1	457	x	191	x	98	192.8	233.5
191	x	229	x	45	44.6	457	x	191	x	89	191.9	231.6
191	x	229	x	41	41.0	457	x	191	x	82	191.3	229.9
191	x	229	x	37	37.1	457	x	191	x	74	190.4	228.4
191	x	229	x	34	33.5	457	x	191	x	67	189.9	226.6
152	x	229	x	41	41.0	457	x	152	x	82	155.3	232.8
152	x	229	x	37	37.1	457	x	152	x	74	154.4	230.9
152	x	229	x	34	33.6	457	x	152	x	67	153.8	228.9
152	x	229	x	30	29.9	457	x	152	x	60	152.9	227.2
152	x	229	x	26	26.1	457	x	152	x	52	152.4	224.8
178	x	203	x	37	37.1	406	x	178	x	74	179.5	206.3
178	x	203	x	34	33.5	406	x	178	x	67	178.8	204.6
178	x	203	x	30	30.0	406	x	178	x	60	177.9	203.1
178	x	203	x	27	27.0	406	x	178	x	54	177.7	201.2
140	x	203	x	23	23.0	406	x	140	x	46	142.2	201.5
140	x	203	x	20	19.5	406	x	140	x	39	141.8	198.9
171	x	178	x	34	33.5	356	x	171	x	67	173.2	181.6
171	x	178	x	29	28.5	356	x	171	x	57	172.2	178.9
171	x	178	x	26	25.5	356	x	171	x	51	171.5	177.4
171	x	178	x	23	22.5	356	x	171	x	45	171.1	175.6
127	x	178	x	20	19.5	356	x	127	x	39	126.0	176.6
127	x	178	x	17	16.5	356	x	127	x	33	125.4	174.4

TABLE 19 (CONT'D)

## MASS (WEIGHT) OF ROLLED STEEL STRUCTURAL TEES CUT FROM UNIVERSAL BEAMS (CONT'D)

Section designation					Mass per unit length (kg/m)	Cut from universal beam (see BS4-1:2005, Table 2) Sectional designation					Width of section (mm)	Depth of section (mm)
165	x	152	x	27	27.0	305	x	165	x	54	166.9	155.1
165	x	152	x	23	23.0	305	x	165	x	46	165.7	153.2
165	x	152	x	20	20.1	305	x	165	x	40	165.0	151.6
127	x	152	x	24	24.0	305	x	127	x	48	125.3	155.4
127	x	152	x	21	20.9	305	x	127	x	42	124.3	153.5
127	x	152	x	19	18.5	305	x	127	x	37	123.4	152.1
102	x	152	x	17	16.4	305	x	102	x	33	102.4	156.3
102	x	152	x	14	14.1	305	x	102	x	28	101.8	154.3
102	x	152	x	13	12.4	305	x	102	x	25	101.6	152.5
146	x	127	x	22	21.5	254	x	146	x	43	147.3	129.7
146	x	127	x	19	18.5	254	x	146	x	37	146.4	127.9
146	x	127	x	16	15.5	254	x	146	x	31	146.1	125.6
102	x	127	x	14	14.1	254	x	102	x	28	102.2	130.1
102	x	127	x	13	12.6	254	x	102	x	25	101.9	128.5
102	x	127	x	11	11.0	254	x	102	x	22	101.6	126.9
133	x	102	x	15	15.0	203	x	133	x	30	133.9	103.3
133	x	102	x	13	12.5	203	x	133	x	25	133.2	101.5

TABLE 20

## MASS (WEIGHT) OF ROLLED STEEL STRUCTURAL TEES CUT FROM UNIVERSAL COLUMNS

Source: BS 4-1:2005 Table 7

Section designation					Mass per unit length (kg/m)	Cut from universal column (see BS4-1:2005, Table 3) Sectional designation					Width of section (mm)	Depth of section (mm)
406	x	178	x	118	117.5	356	x	406	x	235	394.8	190.4
368	x	178	x	101	100.9	356	x	368	x	202	374.7	187.2
368	x	178	x	89	88.5	356	x	368	x	177	372.6	184.0
368	x	178	x	77	76.4	356	x	368	x	153	370.5	180.9
368	x	178	x	65	64.5	356	x	368	x	129	368.6	177.7
305	x	152	x	79	79.0	305	x	305	x	158	311.2	163.5
305	x	152	x	69	68.4	305	x	305	x	137	309.2	160.2
305	x	152	x	59	58.9	305	x	305	x	118	307.4	157.2
305	x	152	x	49	48.4	305	x	305	x	97	305.3	153.9
254	x	127	x	66	66.0	254	x	254	x	132	261.3	138.1
254	x	127	x	54	53.5	254	x	254	x	107	258.8	133.3
254	x	127	x	45	44.4	254	x	254	x	89	256.3	130.1
254	x	127	x	37	36.5	254	x	254	x	73	254.6	127.0
203	x	102	x	43	43.0	203	x	203	x	86	209.1	111.0
203	x	102	x	36	35.5	203	x	203	x	71	206.4	107.8
203	x	102	x	30	30.0	203	x	203	x	60	205.8	104.7
203	x	102	x	26	26.0	203	x	203	x	52	204.3	103.0
203	x	102	x	23	23.0	203	x	203	x	46	203.6	101.5
152	x	76	x	19	18.5	152	x	152	x	37	154.4	80.8
152	x	76	x	15	15.0	152	x	152	x	30	152.9	78.7
152	x	76	x	12	11.5	152	x	152	x	23	152.2	76.1



TABLE 21

**MASS (WEIGHT) OF ROLLED STEEL  
PARALLEL FLANGE CHANNELS**

Source: BS 4-1:2005 Table 8

Section designation					Mass per unit length kg/m	Depth mm	Width mm
430	x	100	x	64	64.4	430.0	100.0
380	x	100	x	54	54.0	380.0	100.0
300	x	100	x	46	45.5	300.0	100.0
300	x	90	x	41	41.4	300.0	90.0
260	x	90	x	35	34.8	260.0	90.0
260	x	75	x	28	27.6	260.0	75.0
230	x	90	x	32	32.2	230.0	90.0
230	x	75	x	26	25.7	230.0	75.0
200	x	90	x	30	29.7	200.0	90.0
200	x	75	x	23	23.4	200.0	75.0
180	x	90	x	26	26.1	180.0	90.0
180	x	75	x	20	20.3	180.0	75.0
150	x	90	x	24	23.9	150.0	90.0
150	x	75	x	18	17.9	150.0	75.0
125	x	65	x	15	14.8	125.0	65.0
100	x	50	x	10	10.2	100.0	50.0

TABLE 22

## MASS (WEIGHT) OF ROLLED STEEL CIRCULAR HOLLOW SECTIONS

Source: BS-EN-10210-2:2006, Table B.1

Diameter (mm)	Thickness (mm)	Mass/unit length (kg/m)
21.30	2.30	1.08
	2.60	1.20
	3.20	1.43
26.90	2.30	1.40
	2.60	1.56
	3.20	1.87
33.70	2.60	1.99
	3.20	2.41
	4.00	2.93
42.40	2.60	2.55
	3.20	3.09
	4.00	3.79
48.30	2.60	2.93
	3.20	3.56
	4.00	4.37
	5.00	5.34
60.30	2.60	3.70
	3.20	4.51
	4.00	5.55
	5.00	6.82
76.10	2.60	4.71
	3.20	5.75
	4.00	7.11
	5.00	8.77
88.90	3.20	6.76
	4.00	8.38
	5.00	10.30
	6.30	12.80
101.60	3.20	7.77
	4.00	9.63
	5.00	11.90
	6.30	14.80
	8.00	18.50
114.30	3.20	8.77
	4.00	10.90
	5.00	13.50
	6.30	16.80
	8.00	21.00
139.70	10.00	25.70
	4.00	13.40
	5.00	16.60
	6.30	20.70
	8.00	26.00
	10.00	32.00
168.30	12.50	39.20
	4.00	16.20
	5.00	20.10
	6.30	25.20
	8.00	31.60
	10.00	39.00
	12.50	48.00

Diameter (mm)	Thickness (mm)	Mass/unit length (kg/m)
177.80	5.00	21.30
	6.30	26.60
	8.00	33.50
	10.00	41.40
	12.50	51.00
193.70	5.00	23.30
	6.30	29.10
	8.00	36.60
	10.00	45.30
	12.50	55.90
219.10	14.20	62.90
	16.00	70.10
	5.00	26.40
	6.30	33.10
	8.00	41.60
244.50	10.00	51.60
	12.50	63.70
	14.20	71.80
	16.00	80.10
	20.00	98.20
	5.00	29.50
	6.30	37.00
	8.00	46.70
	10.00	57.80
	12.50	71.50
273.00	14.20	80.60
	16.00	90.20
	20.00	110.70
	25.00	135.00
	5.00	33.00
	6.30	41.40
	8.00	52.30
	10.00	64.90
	12.50	80.30
	14.20	90.60
323.90	16.00	101.00
	20.00	125.00
	25.00	153.00
	5.00	39.30
	6.30	49.30
	8.00	62.30
	10.00	77.40
	12.50	96.00
	14.20	108.50
	16.00	121.00
	20.00	150.00
	25.00	184.00

Diameter (mm)	Thickness (mm)	Mass/unit length (kg/m)
355.60	6.30	54.30
	8.00	68.60
	10.00	85.20
	12.50	106.00
	14.20	120.00
	16.00	134.00
	20.00	166.00
	25.00	204.00
406.40	6.30	62.20
	8.00	78.60
	10.00	97.80
	12.50	121.00
	14.20	137.00
	16.00	154.00
	20.00	191.00
	25.00	235.00
	30.00	278.00
	40.00	361.00
457.00	6.30	70.00
	8.00	88.60
	10.00	110.00
	12.50	137.00
	14.20	155.00
	16.00	174.00
	20.00	216.00
	25.00	266.00
	30.00	316.00
	40.00	411.00
508.00	6.30	77.90
	8.00	98.60
	10.00	123.00
	12.50	153.00
	14.20	173.00
	16.00	194.00
	20.00	241.00
	25.00	298.00
	30.00	354.00
	40.00	462.00
610.00	50.00	565.00
	6.30	93.80
	8.00	119.00
	10.00	148.00
	12.50	184.00
	14.20	209.00
	16.00	234.00
	20.00	291.00
	25.00	361.00
	30.00	429.00
	40.00	562.00
	50.00	691.00

TABLE 23

## MASS (WEIGHT) OF ROLLED STEEL SQUARE HOLLOW SECTIONS

Source: BS-EN-10210-2:2006, Table B.2

Size (mm)	Thickness (mm)	Mass/unit length (kg/m)
40 x 40	2.60	3.00
	3.20	3.61
	4.00	4.39
	5.00	5.28
50 x 50	2.60	3.81
	3.20	4.62
	4.00	5.64
	5.00	6.85
60 x 60	2.60	4.63
	3.20	5.62
	4.00	6.90
	5.00	8.42
70 x 70	2.60	10.30
	3.20	12.50
	4.00	15.00
	5.00	17.50
80 x 80	2.60	17.50
	3.20	20.10
	4.00	22.60
	5.00	27.40
90 x 90	2.60	27.40
	3.20	33.70
	4.00	40.90
	5.00	49.00
100 x 100	2.60	49.00
	3.20	57.80
	4.00	66.00
	5.00	75.80
120 x 120	2.60	75.80
	3.20	85.40
	4.00	95.80
	5.00	108.00
140 x 140	2.60	108.00
	3.20	122.00
	4.00	131.00
	5.00	148.00
150 x 150	2.60	148.00
	3.20	166.00
	4.00	181.00
	5.00	200.00

Size (mm)	Thickness (mm)	Mass/unit length (kg/m)
160 x 160	2.60	24.10
	3.20	30.10
	4.00	37.60
	5.00	46.30
180 x 180	2.60	56.60
	3.20	63.30
	4.00	70.20
	5.00	77.30
200 x 200	2.60	81.10
	3.20	88.20
	4.00	95.80
	5.00	103.00
220 x 220	2.60	115.00
	3.20	122.00
	4.00	131.00
	5.00	141.00
250 x 250	2.60	141.00
	3.20	155.00
	4.00	166.00
	5.00	177.00
260 x 260	2.60	177.00
	3.20	191.00
	4.00	200.00
	5.00	210.00
300 x 300	2.60	210.00
	3.20	222.00
	4.00	235.00
	5.00	245.00
350 x 350	2.60	245.00
	3.20	260.00
	4.00	274.00
	5.00	288.00
400 x 400	2.60	288.00
	3.20	301.00
	4.00	315.00
	5.00	329.00

TABLE 24

## MASS (WEIGHT) OF ROLLED STEEL RECTANGULAR HOLLOW SECTIONS

Source: BS-EN-10210-2:2006, Table B.3

Size (mm)	Thickness (mm)	Mass/unit length (kg/m)
50 x 30	2.60	3.00
	3.20	3.61
	4.00	4.39
	5.00	5.28
60 x 40	2.60	3.81
	3.20	4.62
	4.00	5.64
	5.00	6.85
80 x 40	6.30	8.31
	3.20	5.62
	4.00	6.90
	5.00	8.42
90 x 50	6.30	10.30
	8.00	12.50
	3.20	6.63
	4.00	8.15
100 x 50	5.00	9.99
	6.30	12.30
	8.00	15.00
	3.20	7.13
100 x 60	4.00	8.78
	5.00	10.80
	6.30	13.30
	8.00	16.30
120 x 60	3.20	7.63
	4.00	9.41
	5.00	11.60
	6.30	14.20
120 x 80	8.00	17.50
	4.00	10.70
	5.00	13.10
	6.30	16.20
140 x 80	8.00	20.10
	10.00	24.30
	4.00	11.90
	5.00	14.70
150 x 100	6.30	18.20
	8.00	22.60
	10.00	27.40
	4.00	13.20
160 x 80	5.00	16.30
	6.30	20.20
	8.00	25.10
	10.00	30.60
150 x 100	4.00	15.10
	5.00	18.60
	6.30	23.10
	8.00	28.90
160 x 80	10.00	35.30
	12.50	42.80
	4.00	14.40
	5.00	17.80
160 x 80	6.30	22.20
	8.00	27.60
	10.00	33.70
	12.50	40.90

Size (mm)	Thickness (mm)	Mass/unit length (kg/m)
180 x 100	4.00	16.90
	5.00	21.00
	6.30	26.10
	8.00	32.60
200 x 100	10.00	40.00
	12.50	48.70
	4.00	18.20
	5.00	22.60
200 x 120	6.30	28.10
	8.00	35.10
	10.00	43.10
	12.50	52.70
250 x 150	16.00	65.20
	6.30	30.10
	8.00	37.60
	10.00	46.30
250 x 150	12.50	56.60
	6.30	38.00
	8.00	47.70
	10.00	58.80
260 x 180	12.50	72.30
	14.20	81.10
	16.00	90.30
	6.30	41.90
300 x 200	8.00	52.70
	10.00	65.10
	12.50	80.10
	14.20	90.10
300 x 200	16.00	100.00
	6.30	47.90
	8.00	60.30
	10.00	74.50
350 x 250	12.50	91.90
	14.20	103.00
	16.00	115.00
	6.30	57.80
400 x 200	8.00	72.80
	10.00	90.20
	12.50	112.00
	14.20	126.00
400 x 200	16.00	141.00
	8.00	72.80
	10.00	90.20
	12.50	112.00
450 x 250	14.20	126.00
	16.00	141.00
	8.00	85.40
	10.00	106.00
500 x 300	12.50	131.00
	14.20	148.00
	16.00	166.00
	10.00	122.00
500 x 300	12.50	151.00
	14.20	170.00
	16.00	191.00
	20.00	235.00

TABLE 25

## MASS (WEIGHT) OF SOLID ALUMINIUM ROUND BARS

Diameter (mm)	Mass/unit length (kg/m)	Diameter (mm)	Mass/unit length (kg/m)	Diameter (mm)	Mass/unit length (kg/m)
5.00	0.054	17.45	0.649	35.99	2.760
6.35	0.086	19.05	0.772	36.50	2.838
6.73	0.097	19.84	0.838	38.10	3.092
7.14	0.109	20.62	0.906	44.45	4.210
7.92	0.134	21.44	0.979	46.99	4.695
8.74	0.162	22.22	1.052	47.62	4.832
9.14	0.178	23.80	1.207	50.80	5.497
9.52	0.193	25.40	1.375	52.98	5.968
10.31	0.226	26.97	1.552	57.15	6.959
11.10	0.263	28.19	1.694	60.32	7.753
11.89	0.301	28.58	1.740	63.50	8.590
12.70	0.344	30.15	1.936	69.85	10.387
14.27	0.434	31.75	2.147	76.20	12.359
15.06	0.484	33.32	2.366		
15.87	0.537	34.92	2.598		

TABLE 26

## MASS (WEIGHT) OF SOLID ALUMINIUM SQUARE BARS

Size (mm)	Mass/unit length (kg/m)	Size (mm)	Mass/unit length (kg/m)	Size (mm)	Mass/unit length (kg/m)
6.35	0.109	12.19	0.403	19.05	0.984
7.92	0.171	12.70	0.438	22.22	1.341
9.52	0.244	15.88	0.682	25.40	1.750

TABLE 27

## MASS (WEIGHT) OF SOLID ALUMINIUM FLATS

Size (mm)	Mass/unit length (kg/m)	Size (mm)	Mass/unit length (kg/m)	Size (mm)	Mass/unit length (kg/m)
6.35x3.18	0.054	25.40x19.05	1.312	63.50x3.18	0.546
9.52x2.36	0.061	25.58x3.18	0.220	63.50x6.35	1.094
9.52x3.18	0.082	25.58x6.35	0.440	63.50x9.52	1.644
9.52x6.35	0.164	31.75x1.60	0.138	63.50x12.70	2.188
10.10x2.01	0.055	31.75x3.18	0.274	63.50x19.05	3.281
11.10x3.96	0.118	31.75x4.75	0.409	69.85x3.18	0.601
11.10x6.35	0.190	31.75x6.35	0.546	69.85x4.75	0.898
12.70x1.57	0.054	31.75x9.52	0.820	69.85x6.35	1.204
12.70x2.36	0.080	31.75x12.70	1.089	69.85x9.52	1.804
12.70x3.18	0.109	34.92x3.18	0.301	69.85x12.70	2.406
12.70x4.75	0.164	34.92x6.35	0.600	69.85x15.88	3.008
12.70x6.35	0.219	34.92x9.52	0.903	76.20x1.57	0.324
14.00x3.00	0.113	34.92x12.70	1.204	76.20x3.18	0.658
15.88x1.57	0.067	38.10x1.57	0.162	76.20x6.35	1.312
15.88x2.36	0.101	38.10x2.36	0.244	76.20x9.52	1.969
15.88x3.18	0.137	38.10x3.18	0.327	76.20x12.70	2.619
15.88x4.75	0.204	38.10x4.75	0.490	76.20x19.05	3.938
15.88x6.35	0.272	38.10x6.35	0.656	82.55x3.18	0.711
15.88x9.52	0.409	38.10x9.52	0.982	82.55x6.35	1.423
17.45x3.18	0.150	38.10x12.70	1.310	82.55x12.70	2.844
17.45x4.75	0.223	38.10x15.88	1.640	88.90x3.18	0.765
17.45x6.35	0.301	38.10x19.05	1.964	88.90x6.35	1.531
18.24x8.74	0.427	38.10x25.40	2.625	88.90x9.52	2.296
18.64x4.37	0.219	41.28x3.18	0.356	88.90x12.70	3.063
19.05x1.57	0.082	41.28x6.35	0.711	95.25x3.18	0.821
19.05x2.36	0.122	41.28x9.52	1.065	95.25x6.35	1.641
19.05x3.18	0.164	44.45x3.18	0.382	95.25x9.52	2.461
19.05x4.75	0.246	44.45x6.35	0.765	95.25x12.70	3.281
19.05x6.35	0.329	44.45x9.52	1.149	101.60x3.18	0.875
19.05x9.52	0.491	44.45x12.70	1.531	101.60x6.35	1.750
19.99x3.00	0.162	50.80x1.57	0.217	101.60x9.52	2.619
22.22x3.18	0.192	50.80x3.18	0.438	101.60x31.75	8.732
22.22x6.35	0.381	50.80x4.75	0.655	114.30x2.03	0.629
22.22x9.52	0.574	50.80x6.35	0.875	114.30x6.35	1.969
23.80x3.18	0.205	50.80x9.52	1.312	114.30x9.52	2.952
23.80x6.35	0.409	50.80x12.70	1.750	114.30x12.70	3.929
23.80x9.52	0.615	50.80x15.88	2.188	127.00x6.35	2.188
24.99x8.00	0.543	57.15x2.29	0.354	127.00x9.52	3.273
25.40x1.57	0.109	57.15x3.18	0.492	127.00x12.70	4.375
25.40x2.36	0.162	57.15x6.35	0.984	127.00x19.05	6.549
25.40x3.18	0.219	57.15x9.52	1.476	133.35x6.35	2.292
25.40x4.75	0.327	57.15x12.70	1.969	139.70x6.35	2.406
25.40x6.35	0.438	57.15x19.05	2.952	146.05x6.35	2.511
25.40x7.92	0.546	59.44x3.56	0.573	152.40x3.18	1.312
25.40x9.52	0.656	63.37x19.30	3.319	152.40x6.35	2.625
25.40x12.70	0.875	63.50x1.57	0.271	152.40x9.52	3.927
25.40x15.88	1.094	63.50x2.36	0.406		

TABLE 28

MASS (WEIGHT) OF ALUMINIUM  
EQUAL ANGLES

Size (mm)	Thickness (mm)	Mass/unit length (kg/m)
9.52	1.19	0.058
9.52	1.57	0.076
12.70	1.02	0.067
12.70	1.19	0.079
12.70	1.57	0.101
12.70	2.36	0.147
12.70	3.18	0.192
15.88	1.57	0.129
15.88	3.18	0.244
15.88	4.75	0.351
19.05	1.19	0.119
19.05	1.57	0.156
19.05	2.39	0.231
19.05	3.18	0.301
20.22	1.17	0.124
22.22	3.18	0.356
25.40	1.19	0.161
25.40	1.57	0.210
25.40	2.36	0.308
25.40	3.18	0.409
25.40	6.35	0.766
28.58	3.18	0.464
31.75	1.57	0.266
31.75	3.18	0.521
31.75	6.35	0.982
34.92	3.18	0.574
38.10	1.57	0.318
38.10	3.18	0.629
38.10	4.75	0.918
38.10	6.35	1.202
44.45	3.18	0.738
44.45	6.35	1.421
50.00	3.00	0.789
50.00	5.00	1.290
50.80	1.60	0.432
50.80	2.36	0.635
50.80	3.18	0.845
50.80	4.75	1.244
50.80	6.35	1.640
63.50	3.18	1.066
63.50	6.35	2.068
63.50	7.92	2.553
76.20	6.35	2.511
80.01	5.99	2.504
80.01	10.01	4.065

TABLE 29

MASS (WEIGHT) OF ALUMINIUM  
UNEQUAL ANGLES

Size (mm)	Thickness (mm)	Mass/unit length (kg/m)
12.70x6.35	3.18	0.137
15.88x12.70	3.18	0.219
19.05x6.35	3.18	0.190
19.05x9.52	3.18	0.219
19.05x12.70	1.19	0.100
19.05x12.70	1.57	0.129
19.05x12.70	3.18	0.247
22.22x12.70	1.19	0.109
22.22x12.70	3.18	0.274
25.40x12.70	1.19	0.119
25.40x12.70	1.57	0.158
25.40x12.70	2.36	0.231
25.40x12.70	3.18	0.301
25.40x19.05	3.18	0.356
31.75x12.70	1.19	0.140
31.75x12.70	1.57	0.183
31.75x12.70	2.36	0.272
31.75x12.70	3.18	0.355
31.75x19.05	2.08	0.275
31.75x19.05	3.18	0.409
31.75x25.40	3.18	0.464
38.10x11.10	1.57	0.204
38.10x12.70	1.19	0.161
38.10x12.70	1.27	0.170
38.10x12.70	1.57	0.210
38.10x12.70	2.36	0.311
38.10x12.70	3.18	0.409
38.10x19.05	2.36	0.354
38.10x19.05	3.18	0.464
38.10x25.40	1.57	0.265
38.10x25.40	2.36	0.391
38.10x25.40	3.18	0.521
38.10x31.75	3.18	0.574
44.45x12.70	1.57	0.234
44.45x12.70	3.18	0.464
44.45x25.40	1.57	0.292
44.45x25.40	2.36	0.432
44.45x25.40	3.18	0.574
47.72x15.88	3.18	0.516
50.80x12.70	1.19	0.202
50.80x12.70	1.57	0.265
50.80x12.70	2.36	0.391
50.80x12.70	3.18	0.519
50.80x19.05	3.18	0.574
50.80x25.40	1.57	0.318
50.80x25.40	3.18	0.626
50.80x38.10	3.18	0.738
63.50x12.70	2.54	0.507
63.50x25.40	3.18	0.740
63.50x38.10	6.35	1.637
76.20x12.70	1.60	0.379
76.20x12.70	2.36	0.555
76.20x25.40	3.18	0.847
76.20x31.75	3.18	0.903
88.90x25.40	6.35	1.856
88.90x44.45	3.18	1.122

TABLE 30

## MASS (WEIGHT) OF ALUMINIUM CHANNELS

Size (mm)	Thickness (mm)	Mass/unit length (kg/m)
7.14 x 5.16	1.19	0.049
7.39 x 5.99	1.29	0.059
7.77 x 5.54	1.52	0.065
7.92 x 12.70	1.57	0.129
9.53 x 9.53	1.19	0.085
9.53 x 9.53	1.57	0.109
11.94 x 15.24	2.36	0.239
12.70 x 9.53	1.57	0.122
12.70 x 9.53	3.18	0.219
12.70 x 12.70	1.57	0.149
12.70 x 12.70	2.36	0.214
12.70 x 19.05	1.57	0.202
12.70 x 19.05	2.36	0.293
12.70 x 19.05	3.18	0.384
14.23 x 4.75	2.36	0.122
15.87 x 3.96	1.57	0.087
15.88 x 12.70	3.18	0.301
15.88 x 15.88	1.57	0.190
15.88 x 15.88	1.60	0.192
15.88 x 25.40	3.18	0.519
17.45 x 11.10	3.18	0.286
19.05 x 9.53	1.57	0.149
19.05 x 9.53	2.54	0.228
19.05 x 12.70	1.19	0.137
19.05 x 12.70	2.54	0.271
19.05 x 19.05	1.57	0.231
19.05 x 19.05	3.18	0.437
19.05 x 38.10	3.18	0.763
22.22 x 12.79	1.19	0.147
25.40 x 12.70	1.57	0.202
25.40 x 19.05	2.36	0.379
25.40 x 25.40	3.18	0.601
25.40 x 38.10	3.18	0.818
31.75 x 12.70	1.19	0.180
31.75 x 12.70	3.40	0.466
31.75 x 25.40	2.36	0.498
31.75 x 25.40	3.18	0.656
31.75 x 41.28	3.18	0.930

Size (mm)	Thickness (mm)	Mass/unit length (kg/m)
34.92 x 6.35	1.57	0.190
38.10 x 12.70	1.57	0.257
38.10 x 12.70	2.36	0.376
38.10 x 19.05	3.18	0.602
38.10 x 25.40	1.57	0.366
38.10 x 38.10	3.18	0.930
38.10 x 69.85	1.78	0.841
44.45 x 15.88	3.18	0.602
44.45 x 25.40	3.18	0.766
50.80 x 12.70	1.14	0.229
50.80 x 12.70	1.57	0.311
50.80 x 12.70	2.36	0.457
50.80 x 12.70	3.18	0.601
50.80 x 25.40	1.57	0.419
50.80 x 25.40	2.03	0.537
50.80 x 25.40	3.18	0.820
50.80 x 25.40	9.50	2.124
50.80 x 50.80	3.18	1.257
53.97 x 6.53	1.57	0.271
57.15 x 12.70	1.57	0.337
63.50 x 12.70	2.36	0.538
63.50 x 15.88	3.18	0.766
63.50 x 22.22	3.18	0.875
63.50 x 38.10	3.18	1.147
70.00 x 25.00	3.00	0.928
76.20 x 12.70	1.60	0.427
76.20 x 12.70	2.36	0.620
76.20 x 12.70	3.18	0.818
76.20 x 25.40	2.36	0.783
76.20 x 25.40	3.18	1.040
76.20 x 38.10	2.54	1.015
76.20 x 44.45	2.36	1.028
95.25 x 25.40	3.18	1.202
100.00 x 20.00	1.75	0.649
101.60 x 25.40	2.03	0.817
101.60 x 38.10	3.18	1.473
127.00 x 69.85	3.18	2.241

TABLE 31

## MASS (WEIGHT) OF ALUMINIUM TEE SECTIONS

Size (mm)	Thickness (mm)	Mass/unit length (kg/m)
12.70 x 12.70	3.18	0.190
15.88 x 15.88	3.18	0.245
19.05 x 19.05	1.57	0.156
19.05 x 19.05	3.18	0.305
19.05 x 31.75	3.18	0.409
25.40 x 19.05	1.57	0.180
25.40 x 25.40	1.57	0.211
25.40 x 25.40	3.18	0.409
25.40 x 30.15	1.57	0.231
25.40 x 31.75	3.18	0.466
25.40 x 38.10	1.57	0.262
25.40 x 38.10	3.18	0.519

Size (mm)	Thickness (mm)	Mass/unit length (kg/m)
28.58 x 38.10	3.18	0.549
31.75 x 19.05	2.08	0.275
31.75 x 25.40	3.18	0.466
38.10 x 25.40	2.39	0.396
38.10 x 25.40	3.96	0.641
38.10 x 38.10	3.18	0.629
38.10 x 38.10	6.35	1.201
50.80 x 19.05	3.18	0.574
50.80 x 25.40	3.18	0.629
50.80 x 38.10	3.18	0.738
50.80 x 50.80	4.75	1.247



TABLE 32

## MASS (WEIGHT) OF ALUMINIUM ROUND HOLLOW TUBES

Size (mm)	Thickness (mm)	Mass/unit length (kg/m)	Size (mm)	Thickness (mm)	Mass/unit length (kg/m)	Size (mm)	Thickness (mm)	Mass/unit length (kg/m)
10.31	1.27	0.098	31.75	2.03	0.515	47.75	6.60	2.310
12.29	1.45	0.134	31.75	3.18	0.774	48.21	5.61	2.037
12.70	1.22	0.122	31.75	4.75	1.091	48.26	1.91	0.753
12.70	1.57	0.149	31.75	6.35	1.372	49.99	4.04	1.579
13.34	1.57	0.159	32.99	1.52	0.405	50.50	13.23	4.193
15.65	1.42	0.173	33.02	6.35	1.440	50.80	1.57	0.661
15.88	1.57	0.191	33.35	3.18	0.820	50.80	3.18	1.289
15.88	2.03	0.239	34.93	1.47	0.420	50.80	5.38	2.078
18.01	1.50	0.211	34.93	2.79	0.763	50.80	7.92	2.888
19.05	1.24	0.188	34.93	3.18	0.859	50.80	9.39	3.307
19.05	1.57	0.235	34.93	4.75	1.222	50.80	13.41	4.264
19.05	2.03	0.295	34.93	4.95	1.262	50.80	14.30	4.439
19.05	2.36	0.336	34.93	6.35	1.543	50.93	4.00	1.596
19.05	3.18	0.429	34.93	7.14	1.692	50.93	7.49	2.769
19.99	4.50	0.594	35.00	1.50	0.427	51.00	11.99	3.978
20.00	1.50	0.236	38.10	3.25	0.966	51.00	16.76	4.880
21.49	3.51	0.537	38.10	1.57	0.490	51.56	6.09	2.355
22.23	1.57	0.277	38.10	2.36	0.719	51.56	8.31	3.057
22.23	2.03	0.349	38.10	2.64	0.798	51.99	10.00	3.571
23.01	1.50	0.277	38.10	3.18	0.945	51.99	11.99	4.079
23.01	5.00	0.768	38.10	5.08	1.430	52.50	1.50	0.652
23.50	1.50	0.281	38.10	6.17	1.677	52.50	16.00	4.967
23.50	3.81	0.638	38.10	8.74	2.186	52.98	15.49	4.939
24.13	3.18	0.567	38.99	7.98	2.104	53.26	2.03	0.884
25.40	1.24	0.256	39.37	9.37	2.391	53.98	6.99	2.793
25.40	1.91	0.381	39.67	6.35	1.802	54.00	2.24	0.991
25.40	2.03	0.405	40.13	9.07	2.400	54.00	2.26	0.991
25.40	2.36	0.464	41.28	4.70	1.461	54.48	2.59	1.140
25.40	3.18	0.601	41.28	5.94	1.785	54.51	2.29	1.018
25.91	1.27	0.266	41.28	10.34	2.723	55.88	16.51	5.528
26.19	1.09	0.234	42.85	1.57	0.551	57.15	3.86	1.749
26.49	3.25	0.643	42.93	6.93	2.124	57.51	1.50	0.716
26.97	2.39	0.500	43.99	8.00	2.449	58.93	11.48	4.633
26.97	5.94	1.062	44.45	1.57	0.573	58.98	11.99	4.791
27.00	4.90	0.921	44.45	3.18	1.115	60.96	5.84	2.738
27.20	1.60	0.350	44.45	4.06	1.399	60.96	9.83	4.274
28.58	1.47	0.339	44.45	6.02	1.967	60.96	8.26	3.702
28.58	2.49	0.554	44.45	6.73	2.164	61.11	2.36	1.183
29.01	8.99	1.534	44.45	8.74	2.654	63.50	1.60	0.844
29.06	4.57	0.954	44.45	14.22	3.656	63.50	3.13	1.607
29.11	5.41	1.090	44.45	15.88	3.858	63.50	6.99	3.359
29.11	7.01	1.317	45.24	1.98	0.731	76.20	2.36	1.487
29.36	6.35	1.246	45.72	2.03	0.749	76.20	4.76	2.897
30.99	9.00	1.686	45.72	2.34	0.865	76.20	20.32	9.656
31.24	2.74	0.664	47.63	3.66	1.371	101.60	6.35	5.144
31.75	1.47	0.379	47.63	4.75	1.732	127.00	12.70	12.345
31.75	1.57	0.408	47.63	7.32	2.509			

TABLE 33

MASS (WEIGHT) OF ALUMINIUM  
SQUARE HOLLOW SECTIONS

Size (mm)	Thickness (mm)	Mass/unit length (kg/m)
9.54	1.57	0.135
12.88	1.20	0.150
12.70	1.57	0.189
15.88	1.20	0.191
18.24	3.18	0.519
19.05	1.20	0.232
19.05	1.57	0.296
19.05	2.36	0.428
25.40	1.40	0.364
25.40	1.60	0.415
25.40	2.03	0.515
25.40	2.36	0.589
25.40	3.18	0.765
30.00	2.00	0.604
31.75	2.03	0.655
38.10	1.57	0.623
38.10	2.03	0.795
38.10	3.18	1.205
44.45	2.39	1.091
46.62	3.18	1.496
50.00	2.00	1.039
50.80	2.03	1.074
50.80	2.36	1.241
63.50	3.18	2.077
76.20	3.18	2.516
80.00	2.49	2.092

TABLE 34

MASS (WEIGHT) OF ALUMINIUM  
RECTANGULAR HOLLOW SECTIONS

Size (mm)	Thickness (mm)	Mass/unit length (kg/m)
12.70 x 9.85	1.59	0.165
25.40 x 12.70	1.60	0.302
25.40 x 12.70	1.20	0.232
31.75 x 19.05	2.36	0.591
36.10 x 19.05	2.36	0.644
38.10 x 25.40	1.40	0.461
38.10 x 25.40	2.03	0.655
38.10 x 25.40	2.54	0.803
47.63 x 23.80	3.18	1.122
50.00 x 40.00	2.00	0.933
50.80 x 25.40	1.40	0.557
50.80 x 25.40	1.57	0.624
50.80 x 25.40	2.03	0.795
50.80 x 25.40	2.36	0.917
50.80 x 38.10	1.60	0.744
50.80 x 38.10	2.03	0.935
50.80 x 38.10	2.36	1.076
63.50 x 31.75	2.36	1.161
63.50 x 38.10	2.54	1.327
63.50 x 38.10	3.18	1.640
69.85 x 31.75	3.18	1.641
76.20 x 25.40	1.80	0.957
76.20 x 25.40	2.36	1.241
76.20 x 38.10	3.18	1.860
76.20 x 44.45	1.80	1.143
76.20 x 44.45	2.36	1.481
76.20 x 44.45	3.18	1.958
76.20 x 50.80	2.36	1.567
76.20 x 50.80	3.18	2.076
80.00 x 20.00	2.00	1.039
80.00 x 40.00	2.00	1.258
80.00 x 50.00	2.50	1.688
82.55 x 28.58	2.36	1.360
100.00 x 40.00	2.50	1.823
101.60 x 25.40	1.80	1.205
101.60 x 25.40	2.03	1.354
101.60 x 25.40	2.36	1.567
101.60 x 38.10	3.18	2.292
101.60 x 44.45	1.80	1.391
101.60 x 44.45	1.98	1.523
101.60 x 44.45	2.36	1.806
101.60 x 44.45	3.18	2.403
101.60 x 60.33	2.36	2.009
127.00 x 25.40	2.36	1.887

TABLE 35

MASS (WEIGHT) OF STAINLESS  
STEEL FLAT BARS

Size (mm)	Thickness (mm)	Mass/unit length (kg/m)
19.05	3.00	0.450
19.05	6.00	0.901
25.40	3.00	0.601
25.40	6.00	1.201
31.80	3.00	0.751
31.80	3.60	0.901
31.80	6.00	1.504
50.80	6.00	2.402

TABLE 37

MASS (WEIGHT) OF STAINLESS  
STEEL CHANNELS

Size (mm)	Thickness (mm)	Mass/unit length (kg/m)
9.52 x 9.52	0.50	0.109
9.52 x 9.52	0.80	0.170
12.70 x 12.70	0.50	0.146
12.70 x 12.70	0.80	0.230
12.70 x 19.05	0.50	0.171
12.70 x 25.40	0.50	0.196
12.70 x 38.10	0.50	0.246
12.70 x 50.80	0.50	0.296
12.70 x 76.20	0.50	0.396
12.70 x 101.60	0.80	0.791

TABLE 39

MASS (WEIGHT) OF STAINLESS  
STEEL SQUARE HOLLOW SECTIONS

Size (mm)	Thickness (mm)	Mass/unit length (kg/m)
19.05	1.00	0.569
25.40	1.00	0.769
12.70	1.00	0.369
19.05	1.00	0.569
25.40	1.20	0.915
31.75	1.20	1.156
38.10	1.20	1.396
50.80	1.20	1.876

TABLE 36

MASS (WEIGHT) OF STAINLESS  
STEEL ANGLES

Size (mm)	Thickness (mm)	Mass/unit length (kg/m)
9.52 x 9.52	1.00	0.142
12.70 x 12.70	1.00	0.192
19.05 x 19.05	1.00	0.292
25.40 x 25.40	1.00	0.392
12.70 x 25.40	1.00	0.293
38.10 x 38.10	3.00	1.731

TABLE 38

MASS (WEIGHT) OF STAINLESS  
STEEL ROUND TUBES

Size (mm)	Thickness (mm)	Mass/unit length (kg/m)
9.52	0.80	0.173
12.70	1.00	0.290
15.87	0.80	0.298
19.05	1.00	0.447
19.05	1.20	0.530
25.40	1.00	0.604
25.40	1.50	0.888
31.75	1.00	0.761
31.75	1.50	1.123
38.10	1.50	1.359
44.45	1.50	1.595
50.80	1.50	1.831
60.32	1.50	2.184

TABLE 40

MASS (WEIGHT) OF STAINLESS  
STEEL RECTANGULAR HOLLOW SECTIONS

Size (mm)	Thickness (mm)	Mass/unit length (kg/m)
12.70 x 25.40	1.00	0.569
15.87 x 31.75	1.20	0.855
25.40 x 38.10	1.20	1.156
25.40 x 50.80	1.20	1.396
38.10 x 76.20	1.50	2.631
44.45 x 76.20	1.50	2.782
50.80 x 101.60	2.00	4.678

TABLE 41

STANDARD BRC FABRICS  
SQUARE MESHES

BS 4483 reference number	Main wire		Cross wire		Mass per unit area (kg/m <sup>2</sup> )
	Size (mm)	Spacing (mm)	Size (mm)	Spacing (mm)	
A393	10.00	200.00	10.00	200.00	6.16
A252	8.00	200.00	8.00	200.00	3.95
A193	7.00	200.00	7.00	200.00	3.02
A142	6.00	200.00	6.00	200.00	2.22

TABLE 42

STANDARD BRC FABRICS  
RECTANGULAR MESHES

BS 4483 reference number	Main wire		Cross wire		Mass per unit area (kg/m <sup>2</sup> )
	Size (mm)	Spacing (mm)	Size (mm)	Spacing (mm)	
B 1131	12.00	100.00	8.00	200.00	10.90
B 785	10.00	100.00	8.00	200.00	8.14
B 503	8.00	100.00	8.00	200.00	5.93
B 385	7.00	100.00	7.00	200.00	4.53
B 283	6.00	100.00	7.00	200.00	3.73
C 785	10.00	100.00	6.00	400.00	6.72
C 636	9.00	100.00	6.00	400.00	5.55
C 503	8.00	100.00	6.00	400.00	4.51
C 385	7.00	100.00	6.00	400.00	3.58
C 283	6.00	100.00	6.00	400.00	2.78