

HKSM4

BUILDING WORKS

Hong Kong Standard Method of Measurement of Building Works

Fourth Edition Revised 2017

Incorporating Corrigenda 1 and Amendment 1

(1st Draft for Public Consultation)

The Hong Kong Institute of Surveyors

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Authorised between
The Hong Kong Institute of Surveyors,
The Hong Kong Construction Association Ltd.,
~~The Hong Kong Government~~ Architectural Services Department, of the Hong Kong SAR Government,
Housing Department of the Hong Kong SAR Government
The Hong Kong Institution of Engineers,
The Hong Kong Electrical & Mechanical Constructors' Association,
The Chartered Institution of Building Services Engineers, and
The Association of Cost Engineers (Hong Kong Region).

The Hong Kong Institute of Surveyors

III PRELIMINARIES

(See Section II --- General Principles)

(a) Preliminary Particulars

| CLASSIFICATION TABLE | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION | |
|------------------------------------|---|--|------|-------------------|--|----------------|---------------------------|--|
| 1. Employer and Consultants | 1. The names of the Employer and Consultants are stated. 2. Where appropriate and known, the names of the Main Contractors, Nominated Sub-Contractors (where known) shall also be given. | | Item | | | | | |
| 2. Description of the Works | 1. A general description of the works comprised in the Bills of Quantities shall be given. 2. The size of the building and height above and below ground level are stated together with the number of storeys. | | Item | | M1. Detailed description needs to be given only when the equivalent information is not indicated on the drawings provided. | | | |
| 3. Site and Inspection | 1. The position of the site shall be described with any particulars as to access and any limitations as to the extent and position of the working space. 2. Contractors tendering shall be advised to visit the site and inspect trial holes (if any) and shall be informed where keys may be obtained, if required, and where the drawings and other documents may be seen. 3. Any stipulation as to use or disposal of sand, gravel or rock that may be found on the site are stated. | 1. Attention drawn to any adjacent or abutting buildings | Item | | | | | |

III PRELIMINARIES

(c) Preliminary Particulars

Items shall be given in respect of the following unless they are already covered in the Schedule of Clause Headings given in accordance with item III (b) 5.1 hereof.

| CLASSIFICATION TABLE | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION | | |
|---|---|-------------------|------------------|--|---|---|--|
| 7. Working Hours, Rates of Wages, etc. | 1. Any special stipulations as to working hours or conditions 2. Any conditions that may be imposed as to rates of wages and prices of materials | | Item | | | | |
| 8. Plants, Tools, Sheds, etc. | 1. Plant, tools, scaffolding and staging, and special scaffolds (if required) for Nominated Sub-Contractors' and Specialist Contractors' works 2. Offices, sheds, messrooms, accommodation and attendances and other welfare facilities 3. Sanitary conveniences 4. Temporary screens 5. Telephones | | Item | M.2 Special scaffolding for Nominated Sub-Contractors', Artists' or Tradesmen's and Specialist Contractors' works are measured under item III (c) 32.4.1 hereof. | D.1 Items listed are not exhaustive and are for convenience of pricing only | C.1 Works of a temporary nature are deemed to include rates, fees, and charges related thereto. | |

(c) General Matters (continued)

| CLASSIFICATION TABLE | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|--|--|--|------|-------------------|------------------|----------------|---------------------------|
| <p>9. Notices and Fees Statutory Obligations</p> | <p>1. Compliance with and giving of notices required by any Ordinance of Government, Regulations and Bye-laws of any Government Department, Local Authority and any Public Service Company or Authority statutory undertakers and utility companies and paying of and indemnifying the Employer against any fees or charges legally demandable thereunder</p> | | Item | | | | |
| <p>10. Safety Supervision Plan and Safety Precautions</p> | <p>1. Compliance with the current Labour Department's Construction Sites (Safety) Regulations</p> <p>1. Preparation of safety supervision plan and compliance with the approved plan and all applicable safety ordinances and regulations</p> | | Item | | | | |
| <p>11. Industrial Training Construction Industry Levy</p> | <p>1. Payment of the levy legally demandable under the Industrial Training (Construction Industry) Ordinance Construction Industry Council Ordinance</p> | <p>1. Payment will be made collectively for the whole Contract by the Main Contractor, but in both the Main Contract and Sub-Contract Preliminaries Bills it should be stipulated that the Sub-Contractors will bear the levies applicable to the Sub-Contract works.</p> | Item | | | | |

III PRELIMINARIES

(c) General Matters (continued)

| CLASSIFICATION TABLE | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|---|--|--|------|-------------------|------------------|----------------|---------------------------|
| 12. Pneumoconiosis Levy | 1. Payment of the levy legally demandable under the Pneumoconiosis and Mesothelioma (Compensation) (Assessment of Levy) Regulations | 1. Payment will be made collectively for the whole Contract by the Main Contractor, but in both the Main Contract and Sub-Contract Preliminaries Bills it should be stipulated that the Sub-Contractors will bear the levies applicable to the Sub-Contract works. | Item | | | | |
| 13. Setting Out | 1. Setting out the Works and provision of all instruments and labour required by the Architect for checking this work | | Item | | | | |
| 14. Foreman Contractor's Site Management Team | 1. General foreman Construction manager and his site management and supervisory team's attendance on the Works | | Item | | | | |
| 15. Protection of Public Property etc. | 1. Maintenance and protection of public property, adjoining properties, existing slopes, roads, footpaths, trees, shrubs and property services of the Public Utility Companies and the making good of or paying for the making good of all damage thereto | | Item | | | | |
| 16. Sub-Letting | 1. The conditions under which the Contractor may sub-let portions of the Works. | | Item | | | | |
| 17. Artists or Tradesmen not Sub-Contractors Persons or Specialist Contractors engaged by the Employer | 1. Permission for execution of work by Artists or Tradesmen persons or Specialist Contractors who are not Nominated Sub-Contractors and who may be engaged by the Employer. | | Item | | | | |

(c) General Matters (continued)

| CLASSIFICATION TABLE | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|--|---|--|------|-------------------|------------------|----------------|---------------------------|
| 18. Injury to Persons and Damage to Property | 1. Responsibility of the Contractor for injury to persons and damage to property including public or private roads | | Item | | | | |
| 19. Insurances, etc. | <p>1. Insurances against or allowances to be made Requirements in respect of the following insurances are given:</p> <p>(a) Fire and extraneous perils Contractors' all risks insurance of the Works</p> <p>(b) Injury to persons and property Third party liability insurance</p> <p>(c) Workmen's Employees' compensation insurance</p> <p>(d) Any other items of insurance or guarantee required by the Conditions of Contract or the Employer</p> <p>2. Special requirements in respect of minimum acceptable limits of liability and excesses are stated.</p> <p>3. Where insurances are to be extended to cover professional fees, particulars are given.</p> | | Item | | | | |

III PRELIMINARIES

(c) General Matters (continued)

| CLASSIFICATION TABLE | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION | |
|--|---|-------------------|--|----------------|---------------------------|---------------------------------|
| 20. Provisional and Prime Cost Sums | 1. Provisional and Prime Cost (P.C.) Sums and the method of adjustment | | 1. Where the cost of cartage, unloading, storing and returning packing material is to be included in the sum, it is so stated. | | | |
| 21. Conditions of Payment | 1. Conditions of payment | | | | | Prov'l Sum ----- P.C. Sum |
| 22. Surety or Bond | 1. Any surety or bond required by the Employer | | | | | Item |
| 23. Watching | 1. Care of the Works generally, employment of watchmen and protective lighting | | | | | Item |
| 24. Protection | 1. Protection of the work and materials from weather 2. Casing or covering up and protecting | | | | | Item |
| 25. Treasure, Trove, Coins, etc. Antiquities | 1. Disposal of any treasure trove, coins or objects of antiquity | | | | | Item |
| 26. Variations and Method of Measuring and Valuing | 1. Particulars relating to variations and the orders for and method of measuring and valuing the same 2. Particulars relating to dayworks accounts | | | | | Item |
| 27. Samples | 1. Submission of samples | | | | | Item |
| 28. Testing of Materials | 1. Conditions relating to the testing of materials | | | | | Item |

(c) General Matters (continued)

| CLASSIFICATION TABLE | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|------------------------|---|---|--|--|------------------|----------------|---|
| 29. Removal of Water | 1. Keeping the site and all excavations thereon free from storm and percolating water by pumping or otherwise, including any necessary temporary drainage and disposal of water | 1. Water levels, where known, are stated. | Item | | | C.1 applies. | S.1 Dewatering requirements, where not at the discretion of the Contractor. |
| | | 2. Where springs or running water are likely to be encountered. | Prov'l Sum Prov'l number of pumping hours | | | | |
| 30. Water | 1. Water for the Works, including that for Nominated Sub-Contractors, Specialist Contractors employed by the Employer, statutory undertakers and utility companies and any necessary temporary plumbing and storage | | Item | 1. If made available by the Employer, details and conditions are stated. | | C.1 applies. | |
| 31. Lighting and Power | 1. Lighting and power for the Works, including that for Nominated Sub-Contractors, Specialist Contractors employed by the Employer, statutory undertakers and utility companies and any necessary temporary wiring and meters | | Item | | | | |

III PRELIMINARIES

(c) General Matters (continued)

| CLASSIFICATION TABLE | | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|----------------------------|--|--|------|--|--|------------------|----------------|--|
| 32. Attendance | <ol style="list-style-type: none"> General attendance of one trade upon another General attendance upon Nominated Sub-Contractors General attendance upon and cutting away for and making good after Artists or Tradesmen Specialist Contractors engaged by the Employer for work not forming part of the Contract | | Item | | <p>M.3 For general attendance upon Nominated Sub-Contractors; and upon Artists and Tradesmen Specialist Contractors are given, including particulars of any unloading, storing, clearing away rubbish and the like, protecting, cutting away for and making good and other facilities to be afforded by the Contractor.</p> <p>M.4 Any other Main Contractor's work in connection with Nominated Sub-Contractors, and upon Artists and Tradesmen Specialist Contractors is measured in detail or covered by Provisional Sums.</p> | | | |
| | <ol style="list-style-type: none"> Special attendances, details stated | <ol style="list-style-type: none"> Special scaffolding Access Roads Hardstandings Hoisting, lowering and positioning of plant or materials Special supply of power | Item | | | | | |
| 33. Hoardings, etc. | <ol style="list-style-type: none"> Provision of hoardings, fans, planked footways, guard rails, gantries, lighting and the like as may be required | <ol style="list-style-type: none"> Providing and erecting Taking over existing and repairing as necessary Maintaining, duration stated Adapting, details stated Clearing away and making good all works disturbed | Item | <ol style="list-style-type: none"> Any special requirements are described and the conditions regarding advertising rights are stated. | | | C.1 applies. | S.2 Design details, where not at the discretion of the Contractor. |

(c) General Matters (continued)

| CLASSIFICATION TABLE | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|--|--|---|------|-------------------|------------------|----------------|---------------------------|
| 34. Works by Public Authorities | 1. Works to be carried out by Government Departments, or Public Utility Companies statutory undertakers and utility companies which are dealt with by means of Provisional Sums, e.g.: (a) Taking up and relaying the paving of public roads and footpaths (b) Forming permanent crossings (c) Connections with to water, gas, electric mains and the like | | | | | | |
| 35. Temporary Roads | 1. Temporary roads and crossings where required with all relevant particulars | 1. Providing and constructing 2. Taking over existing and repairing as necessary 3. Maintaining, duration stated 4. Adapting, details stated 5. Clearing away and making good all works disturbed | Item | | | C.1 applies. | S.2 applies. |
| 36. Drying the Building | 1. Provision of fuel and attendance for drying the building, if required | | Item | | | | |
| 37. Removal of Rubbish | 1. Removal of rubbish and debris, clearing up and cleaning | | Item | | | | |
| 38. Defects after Completion | 1. Making good defects appearing within the Defects Liability Period, and the extent of such period | | Item | | | | |
| 39. Co-ordination of Services | 1. Co-ordination of services, one with the other and with the Main Contract works | | Item | | | | |

| | | | | | | | |
|---|--|--|------|--|--|--|--|
| 40. Building Information Modelling | 1. Requirements in respect of the preparation of building information modelling for design, construction or facility management purposes | | Item | | | | |
|---|--|--|------|--|--|--|--|

V PILING AND CAISSONS

(a) Piling General

(Clauses applicable to all Piling sections)

| INFORMATION PROVIDED | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|---|-------------------|------------------|----------------|---|
| <p>1. Generally</p> <p>The following general information, where available, shall be given:</p> <ul style="list-style-type: none"> (a) Ground level in relation to high and low water tables and Ordinance Principal Datum (b) Soil investigation reports, nature of strata and details of any bore holes (c) The various levels from which piling frames will operate the measurements have been taken are stated, irregular ground levels are so described (d) Conditions under which Contractors will be permitted to carry out their own soil investigations during the tender period (e) Details of special provisions in respect of noise suppression, noisy working, time limitations and vibration limitations other than Statutory requirements. (f) Any particular requirement regarding phasing or sequence of driving piles. (g) Any limitations on driving methods. | | | | <p>S.1 Details of treatments and coatings of piles.</p> |

(b) Steel Sheet Piling

(See Section V(a) Piling General)

| CLASSIFICATION TABLE | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|---|--|--|-------------|-------------------|------------------|----------------|---------------------------|
| <p>1. Providing and assembling the equipment on the Site and the subsequent dismantling and removal</p> | | | <p>Item</p> | | | | |

V PILING AND CAISSONS

27

(b) Steel Sheet Piling (continued)

| CLASSIFICATION TABLE | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|---|--|---|------------------|-------------------|---|---|--|
| 6. Cutting or burning through steel sheet piling | 1. Size of the cross section of each pile and the thickness, substance, section modulus or manufacturer's catalogue reference stated | | m | | M.5 Measured in plane (not developed) elevation along the centre line of the piling | C.3 Any necessary excavation and disposal is deemed to be included. | S.2 Requirements in respect of ownership and disposal of offcuts |
| 7. Cutting or burning holes for pipes and the like through the steel sheet piling | 1. Fully described | | nr | | | | |
| 8. Withdrawing steel sheet piling | 1. Size of the cross section of each pile and the thickness, substance, section modulus or manufacturer's catalogue reference stated | | m ² | | M.6 Measured from formation level of the ground to the bottom edge of the piling and in plane (not developed) elevation along the centre line of the piling | | S.3 Requirements in respect of ownership and disposal of withdrawn piles |
| 9. Strutting and shoring to steel sheet piling during subsequent excavation and foundation work | 1. The length and height of the piling face to be upheld | | Item | | M.7 Alternatively such strutting and shoring may be measured in detail | | S.4 Any special requirements |
| 10. Pre-boring the pile holes | 1. Size of the cross-section of each pile stated | 1. Depth of individual bores ≤ 10.00 m 2. Depth of individual bores > 10.00 m in stages of 5.00 m | m (nr stated) | | M.8 Pre-boring is only measured where it is specifically required. M.9 Measured from point of entry | C.4 This work is deemed to include: (a) Movement of boring rigs into position and about the site, any necessary excavation or filling required to place the rigs, raising or lowering the rigs and any staging, barges or the like required to support the rigs (b) Drilling to required depths (c) Filling voids between sides of piles and bores with approved materials | S.5 Materials for filling |

(c) Precast Concrete Piles

(See Section V (a) Piling General)

| CLASSIFICATION TABLE | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|--|--|--|---------------|---|---|--|---|
| 1. Providing and assembling the equipment on the Site and the subsequent dismantling and removal | | | Item | | | | |
| 2. Supplying precast concrete piles | 1. Size of cross section stated | | m (nr stated) | 1. Piles permitted to be cast on site are so described | | C.1 Moulds are deemed to be included | |
| 3. Reinforcement | | | | | M.1 Reinforcement shall be given in accordance with the rules for reinforced concrete in Section VII Concrete Works | | |
| 4. Heads 5. Shoes 6. Rock shoes | 1. Size of piles stated | | nr | | | | S.1 Where not at the discretion of the Contractor these items are fully described |
| 7. Handling, transporting and pitching the piles | | | m (nr stated) | 1. Raking piles measured separately and degree of rake stated | | | |
| 8. Pre-boring the pile holes | 1. Size of the cross-section of each pile stated | 1. Maximum depth stated 1. Depth of individual bores ≤ 10.00 m 2. Depth of individual bores > 10.00 m in stages of 5.00 m | | | M.2 Pre-boring is only measured where it is specifically required. M.3 Measured from point of entry | C.2 This work is deemed to include: (a) Movement of boring rigs into position and about the site, any necessary excavation or filling required to place the rigs, raising or lowering the rigs and any staging, barges or the like required to support the rigs C.3 Pre-boring is deemed to include: (b) Drilling to required depths (c) grouting up Filling voids between sides of piles and bores with approved materials | S.2 Materials for grouting filling |

V PILING AND CAISSONS

(e) Bored Piles

(See Section V (a) Piling General)

| CLASSIFICATION TABLE | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|--|--------------------------------------|---|------------------|---|--|---|--|
| 1. Providing and assembling the equipment on the Site and the subsequent dismantling and removal | | | Item | | | | |
| 2. Boring the pile holes | 1. Size of bore cross-section stated | 1. Total length of shaft \leq 10.00 m 2. Total length of shaft in further stages of 5.00 m 1. Depth of individual bores \leq 10.00 m 2. Depth of individual bores $>$ 10.00 m in stages of 5.00 m | m (nr stated) | 1. Raking piles measured separately and degree of rake stated | M.1 Measured from the point of entry into ground to bottom of bore | C1 This work is deemed to include: (a) Movement of piling frames into position and about the site, any necessary excavation or filling required to place the frames, raising or lowering the frames and any staging, barges or the like required to support the frames (b) Reboring or intermittent boring necessitated by the removal of obstructions under piles or other causes, including moving and repositioning the piling frame (c) Provision of temporary casings to shaft bores including sinking and withdrawal operations (d) Additional excavation required to accommodate temporary casings and permanent linings (if specified) and the consequent disposal of additional excavated material | S.1 Requirements regarding disposal of the spoil |

| | | | | | |
|----------------------|--|------------------|---|---|---------------------------|
| 3. Permanent linings | 1. Size, thickness and material stated | m | M.2 Measured from the designed level | C.2 This work is deemed to include: (a) Fabricating (b) Protective coating or surface treatment. (c) Handling, pitching and installing (d) Filling voids between linings and excavated faces | S.2 Backfilling materials |
| 4. Concrete filling | 1. Mix of concrete and size of bore cross section stated | m (nr stated) | M.3 Measured from the bottom of the bore to the cut-off level of the pile | C.3 Any filling required above cut-off level is deemed to be included C.3 This work is deemed to include: (a) Any extra concrete required to fill any voids left when temporary casings are withdrawn. (b) Any filling required above cut-off levels. | |

Page number and layout to be re-arranged later.

V PILING AND CAISSONS

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(e) Bored Piles (continued)

TESTING

| CLASSIFICATION TABLE | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|---|---|---|------------------|---|--|--|--|
| 10. Test loading of piles | 1. Type of pile and test load to be applied stated | | nr | 1. First test loading 2. Subsequent test loadings | | | C.7 Temporary pile caps and provision of all anchors, platforms, loading materials and the like are deemed to be included. |
| 11. Sonic test | 1. Sonic tube | 1. Size, thickness and material stated | m | | M.7 Measured from cut-off level to toe of pile | C.8 Sonic tubes and g Grouting up holes upon completion of test deemed to be included. | S.6 Grouting materials |
| | 2. Sonic test | | nr | | M.8 Measured once for each pile to be tested | | |
| 11a. Koden test | 1. Bell-outs | | nr | | M.8 applies. | | |
| 12. Concrete coring test | 1. Diameter of core and grouting requirements stated | | m (nr stated) | 1. Starting level of drilling below commencement level stated in stages of 15.00 m | M.8 Depths measured in stages of 15.00 m M.9 Measured the net length cored | C.8 applies. C.9 This work is deemed to include: (a) Movement of the equipment about the site (b) Extracting, labelling, boxing and transporting cores to a testing laboratory (c) Any laboratory tests and preparation of test report as specified (d) Grouting up holes upon completion of test | |
| 13. Vibration test | | | nr | | | | |
| 14. Pre-drilling | 1. Diameter of borehole stated | 1. Drilling depth measured in stages of 15.00 m | m (nr stated) | 1. Commencing level of drilling stated | M.10 Drilling depth measured from the commencing level to the specified length below the rock head | C.9 applies. | S.6 applies |
| 15. Post construction proof drilling | | | | 1. Commencing level of drilling below the specified coring tube stated | M.11 Drilling depth measured from the commencing level to the specified length below the concrete and rock interface | C.9 applies. C.10 This work is deemed to further include coring tubes. | S.7 Diameter, length and material of the coring tube |

V PILING AND CAISSONS

37

(f) Steel Piles (continued)

| CLASSIFICATION TABLE | | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|--|--|--|------------------|--|---|------------------|---|---|
| 5. Dolly piles below ground | 1. Size of piles stated | | m (nr stated) | 1. Raking piles measured separately and degree of rake stated | | | C.2 The rates are deemed to include for provision and use of dollies. | |
| 6. Filling hollow piles with concrete | 1. Mix of concrete and cross section of piles stated | 1. Plain 2. Reinforced, details stated | m | | | | | |
| 7. Excavation for and removal of surface and underground obstructions together with all work in connection therewith | | | Item | | M.2 Alternatively measured items may be given in respect of such work. | | | |
| 8. Cutting off heads of piles to required levels | 1. Size of the cross section of each pile and the weight, thickness, substance, section modulus or manufacturers' catalogue reference stated | | nr | | | | | S.1 Requirements in respect of ownership and disposal of offcuts shall be stated and provision made for credits |
| 9. Pre-boring the pile holes | 1. Size of piles stated | 1. Total length of shaft ≤ 40.00 m 2. Total length of shaft in further stages of 5.00 m 1. Depth of individual bores ≤ 10.00 m 2. Depth of individual bores > 10.00 m in stages of 5.00 m | m (nr stated) | 1. Raking piles measured separately and degree of rake stated. | M.3 Pre-boring is measured only where it is specifically required. M.4 Measured from point of entry. | | C.3 This work is deemed to include: (a) Movement of boring rigs into position and about the site, any necessary excavation or filling required to place the rigs, raising or lowering the rigs and any staging, barges or the like required to support the rigs C.3 Pre-boring is deemed to include: (b) Drilling to required depths (c) grouting up Filling voids between sides of piles and bores with approved materials | S.2 Materials for grouting filling |

(f) **Steel Piles (continued)**

TRIAL PILES

| | | | | | | | | |
|-----------------|--|--|--|--|---|--|---|---|
| 10. Trial piles | | | | | M.5 Trial piles are measured in accordance with the rules for production piles. | | C.5 Movement of piling frames into position and about the site, any necessary excavation or filling required to place the frames, raising or lowering the frames and any staging, barges or the like required to support the frames, are deemed to be included. | S.4 If retention on site of Trial Pile Equipment is required, this is stated. |
|-----------------|--|--|--|--|---|--|---|---|

TEST LOADING PILES

| CLASSIFICATION TABLE | | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|--|--|---|------------------|--|---|------------------|---|---------------------------------------|
| 11. Test loading of piles | 1. Type of pile and test load to be applied stated | | nr | 1. First test loading 2. Subsequent test loadings | | | C.6 Temporary pile caps and provision of all anchors, platforms, loading materials and the like are deemed to be included. | |
| 12. Pre-drilling 13. Post construction proof drilling | 1. Diameter of borehole stated | 1. Drilling depth measured in stages of 15.00 m | m (nr stated) | 1. Commencing level of drilling stated | M.6 Drilling depth measured from the commencing level to the specified length below the rock head | | C.7 This work is deemed to include: (a) Movement of the equipment about the site (b) Extracting, labelling, boxing and transporting cores to a testing laboratory (c) Any laboratory tests and preparation of test report as specified (d) Filling up holes upon completion of test | S.5 Materials for filling or grouting |

V PILING AND CAISSONS

(h) Diaphragm Walling

| INFORMATION PROVIDED | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|---|-----------------------------------|------------------------------|--------------------------|-------------------|--|--|---|
| 1. Generally The following general information, where available, shall be given: <ul style="list-style-type: none"> (a) Ground level in relation to high and low water tables and Ordinance Datum (b) Soil investigation reports, nature of strata and details of any bore holes (c) The various levels from which work is expected to begin (d) Irregular ground is so described (e) Conditions under which Contractors will be permitted to carry out their own soil investigations during the tender period (f) Details of special provisions in respect of noise suppression, noisy working and time limitations other than Statutory requirements (g) Any particular requirement regarding phasing or sequence of working | | | | | | | |
| CLASSIFICATION TABLE | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
| 2. Providing and assembling the equipment on the Site and the subsequent dismantling and removal | | | Item | | | C.1 Movement of equipment into position and about the site, any necessary excavation or filling required in placing, raising or lowering the equipment and any staging, barges or the like required to support the equipment is deemed to be included. | |
| | 3. Excavation and disposal | 1. Thickness of wall stated. | 1. Maximum depth stated. | m ³ | M.1 The volume of excavation and disposal is calculated using the nominal lengths and depths of the walls. The depths are taken from the commencing surface. | C.2 This work is deemed to include for: <ul style="list-style-type: none"> (a) excavating through any materials except bedrock (b) the use of support fluid to uphold sides of excavation (c) removal and disposal of all types of excavated materials and any contaminated slurry (d) any over excavation to be filled with material as specified | S.1 Details of support fluid. S.2 Limitations on method of disposal. |

(h) Diaphragm Walling (continued)

| CLASSIFICATION TABLE | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|---|---|--|------------------|---|------------------|--|---|
| 4. Items extra over excavation | 1. Breaking out bedrock | | m ³ | | | C.3 This work is deemed to include for any over excavation to be filled with material as specified. | |
| 5. Walls | 1. Concrete | 1. Thickness of wall stated. | m ³ | M.2 Measured from specified cut-off level to founding level | | C.3a This work is deemed to include: (a) Temporary stop ends to panel ends and joints (b) Extra concrete required to fill trenches excavated wider than designed widths | S.3 Materials and mix details. S.4 Tests |
| 6. Reinforcement | | | | M.3 Reinforcement is measured in accordance with the rules for reinforced concrete in Section VII Concrete Works. | | | |
| 7. Cutting off to specified level | 1. Thickness of wall stated | | m | | | C.4 Cutting off to specified level is deemed to include provision and filling of working space and disposal. | |
| 8. Trimming and cleaning face of diaphragm wall | 1. Details state | | m ² | | | | |
| 9. Waterproof joints | 1. Type and method stated | | m | M.4 Waterproof joints are only measured where they are specifically required. | | | |
| 10. Guide walls | 1. One side 2. Both sides | 1. Limitations on design and construction stated | m | M.5 The lengths measured for guide walls are those of the diaphragm walls. | | C.5 Excavation, disposal, support, concrete, reinforcement, formwork and the like are deemed included. C.6 Removal and disposal of guide walls and any consequent excavation, backfilling or removal are deemed to be included. | S.5 Limitations on methods of disposal |
| 11. Ancillary work in connection with diaphragm walling | 1. Preparing cast in pockets or chases at junctions, details stated | | nr ----- m | | | C.7 Preparing cast in pockets or chases is deemed to include removing formwork and preparing cast in reinforcement. | |
| 12. Tests | 1. Details stated | | nr | | | | S.6 Timing and details of tests. |

V PILING AND CAISSONS

44a

(i) Rock-Socketed Steel H-Piles

(See Section V (a) Piling General)

| CLASSIFICATION TABLE | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|--|--------------------------------------|--|---------------------------|---|--|---|--|
| 1. Providing and assembling the equipment on the Site and the subsequent dismantling and removal | | | Item | | | | |
| 2. Pre-boring the pile holes | 1. Size of bore cross-section stated | 1. Depth of individual bores ≤ 10.00 m 2. Depth of individual bores > 10.00 m in stages of 5.00 m | m (nr of piles stated) | 1. Raking piles measured separately and degree of rake stated | M.1 Measured from the point of entry into ground to the bottom of the bore | C.1 This work is deemed to include: (a) Movement of boring rigs into position and about the site, any necessary excavation or filling required to place the rigs, raising or lowering the rigs and any staging, barges or the like required to support the rigs (b) Drilling to required depths (c) Provision of temporary casings to shaft bores including sinking and withdrawal operations (d) Additional excavation required to accommodate temporary casings and permanent linings (if specified) and the consequent disposal of additional excavated material | S.1 Requirements regarding disposal of the spoil |

(i) Rock-Socketed Steel H-Piles (continued)

| CLASSIFICATION TABLE | | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|--|--|--|------|--|---|------------------|---|---|
| 3. Permanent linings | 1. Size, thickness and material stated | | | | M.2 Measured from the designed level | | C.2 This work is deemed to include: (a) Fabricating (b) Protective coating or surface treatment (c) Handling, pitching and installing (e) Filling voids between linings and excavated faces with approved materials | S.2 Backfilling materials |
| 4. Supplying, handling, transporting, pitching and installing steel piles | 1. Size of the cross section of each pile and the weight, thickness, substance, section modulus or manufacturers' catalogue reference stated | | | | M.3 Measured from the bottom of the bore to the cut-off level of the pile | | C.3 Any pile length required above the cut-off level is deemed to be included. | |
| 5. Grout filling | 1. Mix of grout and cross section of bores stated | | | | M.3 applies. | | C.4 Any grout filling required above the cut-off level is deemed to be included. | |
| 6. Excavation for and removal of surface and underground obstructions together with all work in connection therewith | | | Item | | M.4 Alternatively measured items may be given in respect of such work. | | | |
| 7. Cutting off heads of piles to required levels | 1. Size of the cross section of each pile stated | | nr | | | | C5 Cutting through steel piles and disposal of debris deemed to be included. | S.3 Requirements in respect of ownership and disposal of offcuts shall be stated and provision made for credits |

V PILING AND CAISSONS

44c

(i) Rock-Socketed Steel H-Piles

| CLASSIFICATION TABLE | | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|--|--|--|------------------|--|---|------------------|---|---|
| 8. Pre-drilling 9. Post construction proof drilling | 1. Diameter of borehole stated | 1. Drilling depth measured in stages of 15.00 m | m (nr stated) | 1. Commencing level of drilling stated | M.5 Drilling depth measured from the commencing level to the specified length below the rock head | | C.6 This work is deemed to include: (a) Movement of the equipment about the site (b) Extracting, labelling, boxing and transporting cores to a testing laboratory (c) Any laboratory tests and preparation of test report as specified (d) Filling up holes upon completion of test | S.4 Filling material |
| 10. Trial piles | | | | | M.6 Trial piles are measured in accordance with the rules for production piles. | | C.1 applies. | S.5 If retention on site of Trial Pile Equipment is required, this is stated. |
| 11. Test loading of piles | 1. Type of pile and test load to be applied stated | 1. First test loading 2. Subsequent test loadings | nr | | | | C.8 Temporary pile caps and provision of all anchors, platforms, loading materials and the like are deemed to be included. | |

(j) Mini-Piles*(See Section V (a) Piling General)*

| CLASSIFICATION TABLE | | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|---|---|--|------------------|---|---|------------------|---|--|
| 1. Providing and assembling the equipment on the Site and the subsequent dismantling and removal | | | Item | | | | | |
| 2. Boring the pile holes | 1. Size of bore cross-section stated | 1. Depth of individual bores ≤ 10.00 m 2. Depth of individual bores > 10.00 m in stages of 5.00 m | m (nr stated) | 1. Raking piles measured separately and degree of rake stated | M.1 Measured from the point of entry into ground to bottom of bore | | C1 This work is deemed to include: (a) Movement of bring rigs into position and about the site, any necessary excavation or filling required to place the rigs, raising or lowering the rigs and any staging, barges or the like required to support the rigs (b) Drilling to required depths (c) Additional excavation required to accommodate permanent casings and the consequent disposal of additional excavated material | S.1 Requirements regarding disposal of the spoil |
| | | | | | M.2 Measured from the designed level | | | |
| 3. Permanent casings | 1. Size, thickness and material stated | | | | M.3 Measured from the bottom of the bore to the cut-off level of the pile | | C.2 This work is deemed to include: (a) Fabricating (b) Protective coating or surface treatment (c) Handling, pitching and installing (e) Filling voids between casings and excavated faces with approved materials | S.2 Backfilling materials |
| 4. Grout filling | 1. Mix of grout and cross section of bores stated | | | | | | C.3 This work is deemed to include any filling required above cut-off levels. | |

V PILING AND CAISSONS

44e

(j) Mini-Piles (continued)

| CLASSIFICATION TABLE | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|--|--|--|------------------|---|---|---|--|
| 5. Reinforcement and Couplers | | | | M.4 Reinforcement and couplers are measured in accordance with the rules for reinforced concrete in Section VII Concrete Works. | | | |
| 6. Excavation for and removal of underground obstructions together with all work in connection therewith | | | Item | M.5 Alternatively measured items may be given in respect of such work. | | | |
| 7. Heads | 1. Dimensioned description of pile heads | | nr | | | | |
| 8. Cutting off heads of piles to required levels | 1. Size of piles stated. | 1. Length \leq 1.00 m. 2. Lengths > 1.00 m in further stages of 1.50 m. | nr | | | C.5 Cutting through reinforcement and disposal of debris are deemed to be included. | S.3 Requirements for preparation of cut surfaces, cleaning, straightening and bending projecting reinforcement and any necessary protection. |
| 9. Pre-drilling 10. Post construction proof drilling | 1. Diameter of borehole stated | 1. Drilling depth measured in stages of 15.00 m | m (nr stated) | 1. Commencing level of drilling stated | M.6 Drilling depth measured from the commencing level to the specified length below the rock head | C.6 This work is deemed to include: (a) Movement of the equipment about the site (b) Extracting, labelling, boxing and transporting cores to a testing laboratory (c) Any laboratory tests and preparation of test report as specified (d) Filling up holes upon completion of test | S.4 Filling material |

(j) Mini-Piles (continued)

| CLASSIFICATION TABLE | | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|---------------------------|--|--|----|--|---|------------------|--|--|
| 11. Trial piles | | | | | M.7 Trial piles are measured in accordance with the rules for production piles. | | C.1 applies. | S.5 If retention on site of Trial Pile Equipment is required this is stated. |
| 12. Test loading of piles | 1. Type of pile and test load to be applied stated | | nr | 1. First test loading 2. Subsequent test loadings | | | C.7 Temporary pile caps and provision of all anchors, platforms, loading materials and the like are deemed to be included. | |

V PILING AND CAISSONS

44g

(k) Pressure Grouting

(See Section V (a) Piling General)

| CLASSIFICATION TABLE | | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|--|--|--|------|--|---|------------------|---|---------------------------|
| 1. Providing and assembling the equipment on the Site and the subsequent dismantling and removal | | | Item | | M.1 Grouting work is measured only where it is specifically required. | | C.1 This work is deemed to include: (a) Providing sufficient numbers of drilling rigs, pumps, mixers and other equipment (b) Provision, maintenance and removal of all temporary works required as access and working platforms (c) Associated clearance and reinstatement (d) Diversion of watercourses (e) Setting up plant and other equipment, and moving between holes (f) Removing plant and other equipment off site | |

(k) Pressure Grouting (continued)

| CLASSIFICATION TABLE | | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|--------------------------------|---|---|--------------------------|--|---|------------------|--|---------------------------|
| 2. Drilling grout holes | <ol style="list-style-type: none">1. Vertically downwards2. Downwards at an angle 0° – 45° to the vertical3. Horizontally or downwards at an angle less than 45° to the horizontal4. Upwards at an angle 0° – 45° to the horizontal5. Upwards at an angle less than 45° to the vertical | <ol style="list-style-type: none">1. Drilling depth measured in stages of 15.00 m | <p>m (nr stated)</p> | <ol style="list-style-type: none">1. Commencing level of drilling stated | <p>M.2 Drilling depth measured from the commencing level to the specified depth</p> | | <p>C.2 This work is deemed to include:</p> <ul style="list-style-type: none">(a) Determining location of underground utilities and obstructions before drilling commences, and modifying drilling pattern to take into account locations of utilities and obstructions(b) Drilling in any materials including soft material and rock or artificial hard materials including the provision of water, compressed air and drilling fluids(c) Lining to grout holes(d) Redrilling holes and grouting tubes and flushing(e) Disposal of any excavated materials(f) Single or multiple water pressure tests as specified(g) Temporary protection of holes and subsequent removal(h) Reinstatement of surfaces | |

V PILING AND CAISSONS

44i

(k) Pressure Grouting (continued)

| CLASSIFICATION TABLE | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|-------------------------------------|---|--|----|--|------------------|---|---------------------------|
| 3. Grouting materials and injection | <ul style="list-style-type: none"> 1. Cement grout 2. Silicate based chemical grout 3. Other grout material stated | | kg | <p>M.3 Grouting material measured by the dry weight of the cement, chemical or other material in the grout solution. Alternatively, grouting materials and injection are measured as an item, stating the approximate grouting area in elevation (in m²).</p> | | <p>C.3 This work is deemed to include:</p> <ul style="list-style-type: none"> (a) Trial mixes and grouting trials (b) Mixing and injection of grout according to the specified methods (c) Water, sand, packers and other materials (d) Recording and monitoring equipment and checking accuracy of such equipment (e) All precautionary measures to avoid any disturbances or damages to existing adjoining structures and services (f) Preparation and submission of monitoring, testing and grouting records | |

(a) Excavation (continued)

| CLASSIFICATION TABLE | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|-------------------------------|--|---|----------------|--|--|--|---------------------------|
| 2. Site clearance (continued) | 7. Disposal of existing spoil heaps or rubbish dumps left by previous contractors. | 1. Removal from site to a specified dumping area provided by Employer. 2. Removed from site to a tip provided by Contractor. | Item | | | C.2 This work is deemed to include for: (a) Excavating from the spoil heaps. (b) All multi-handling to and from temporary spoil heaps as and if necessary. (c) Transport to specified dump area; or provision of, and transport to shoot, dump or tip. | |
| 3. Excavating | 1. Surface excavation ≤ 0.20 m in average depth. | 1. Average depth stated. | m ² | M.2 In measurement of excavation an additional allowance for working space is included as follows: (a) 0.25 m from the face of concrete requiring formwork where the formwork does not exceed 0.60 m in height. (b) 0.60 m from the face of concrete requiring formwork where the formwork exceeds 0.60 m in height and the bottom of the formwork exceeds 0.60 m below the starting level of the excavation. (c) 0.60 m from the finished face of work below ground level where externally applied damp-proof coverings or protection walls are required or where the method of construction requires workmen to operate from the outside. M.3 Disposal of excavated materials are measured separately. | D.1 The term planking and strutting shall mean everything requisite to uphold the face of excavation other than shoring as required to be measured under item (a) 5 hereof and covers the Contractor's responsibility for upholding and maintaining the sides of earthwork by whatever means are considered necessary. | C.3 (a) This work is deemed to include for: (a) Excavating in any position in level or sloping ground encountered including boulders and solid rock, (b) Taking necessary precautions to avoid damage to tops of foundations and other works constructed, (c) Excavating according to specified profiles and stages, (d) Grubbing up old roots and removing disused cables, drain pipes, gullies, manholes and the like and sealing connections, (e) Getting out excavated materials by any means necessary, (f) All levelling or grading and ramming bottoms, (g) Trimming sides, (To be Continued) | |
| | 2. Excavation to reduce levels over site > 0.20 m in average depth | | m ³ | | | | |
| | 3. Excavation to reduce levels into sides of banks | | | | | | |

VI EXCAVATION

46a

(a) Excavation (continued)

| CLASSIFICATION TABLE | | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|---------------------------|--|--|--|--|---|------------------|--|---------------------------|
| 3. Excavating (continued) | 3. Excavation to reduce levels into sides of banks (Continued) | | | | M.4 The quantities given are the bulk before excavating and no allowance is made for subsequent variations to bulk or for extra space beyond the allowances made below. | | <p>C.3 (a) (Continued):</p> <p>(h) Planking and strutting to uphold the sides of all excavation including and any extra excavation, backfill and/or disposal required therefor,</p> <p>(i) Temporarily supporting existing drain pipes, cables and the like during excavation and making good any damage caused to same, and</p> <p>(j) Filling with the specified material where excavations have been executed wider or deeper than specified.</p> <p>(b) See item (a).5 hereof for temporary shoring and supports for excavation into banks for retaining walls and similar constructions with a face height > 1.50 m.</p> <p>(c) Any additional excavation for working space, to that included in M.2, that the Contractor may consider necessary and for the subsequent backfilling.</p> | |

VI EXCAVATION

(a) Excavation (continued)

| CLASSIFICATION TABLE | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|---------------------------|---|------------------------------------|----------------|------------------------------|--|---|---------------------------|
| (This row to be deleted) | 2. Excavation to reduce levels over site > 0.20 m in average depth | | m ³ | | M.2 and M.3 apply. | D.1 applies | C.3 applies |
| (This row to be deleted) | 3. Excavation to reduce levels into sides of banks | | m ³ | | M.2, M.3 and M.4 apply. | | |
| 3. Excavating (continued) | 4. Basements and similar excavations | 1. In successive stages of 1.50 m. | m ³ | 1. Commencing levels stated. | M.2, M.3 and M.4 apply. M.5 Basements and similar excavations are measured to the outside of the foundations, subject to M.2 (working space clause) hereof; existing voids are deducted. | D.1 applies. | C.3 applies. |
| | 5. Surface trenches | | m ³ | | M.2, M.3 and M.4 apply. M.6 Where trenches exceed 1.00 m in depth a minimum width of 0.75 m is measured. | | |
| | 6. Trenches below basement level | | m ³ | | M.2, M.3, M.4 and M.5 apply. | | |
| | 7. Excavation for column or stanchion bases, isolated piers, manholes and the like, each given separately | | m ³ | | M.2, M.3 and M.4 apply. M.7 Where these excavations exceed 1.50 m in depth a minimum measurement on plan of 1.25 m x 1.25 m is taken for excavation. | | |
| | 8. Post holes ≤ 0.30 m ³ | | nr | | | | |
| | | | | | | C.3 applies. C.4 Backfilling and disposal of surplus excavated material are deemed to be included. | S.4 applies. |

VI EXCAVATION

(a) Excavation (continued)

| CLASSIFICATION TABLE | | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|--|--|--|----------------|---|-------------------|------------------|--|---------------------------|
| 5. Temporary shoring and supports | 1. For sides of excavation into banks for retaining walls or similar constructions, with face height exceeding 1.50 metres | 1. Minimum and maximum face heights above reduced level and approximate overall length stated. | Item | | | | C.6 This work is deemed to include for any extra excavation required therefor and for the subsequent backfilling. | S.2 applies |
| 6. Disposal | 1. Of excavated material. 2. Of existing spoil heaps or rubbish dumps left by previous contractors. | 1. Deposited on site. | m ³ | 1. Specified locations, details stated. | M.4 applies. | | C.7 The work is deemed to include for all multi-handling to and from temporary spoil heaps as and if necessary. | |
| | | 2. Removed from site to a specified dumping area provided by Employer. | m ³ | 1. Dumping area stated | | | C.8 This work is deemed to include for: (a) All multi-handling to and from temporary spoil heaps as and if necessary. (b) Transport to specified dumping area. | |
| | | 3. Removed from site to a tip dumping area provided by Contractor. | m ³ | | | | C.9 This work is deemed to include for: (a) All multi-handling to and from temporary spoil heaps as and if necessary. (b) Provision of, and transport to shoot , a dumping area or tip . (c) All charges in connection therewith . | |

(a) Excavation (continued)

| CLASSIFICATION TABLE | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|--|---|--|---|---|--|--|---|
| 7. Backfilling to excavation | 1. ≤ 0.30 m in depth, average depth stated. 2. > 0.30 m in depth (where part exceeds 0.30 m in depth, the whole is given cube). | 1. Arising from excavation. 2. Obtained from materials on site. 3. Obtained from specified off-site area. 4. To be provided by Contractor from his own sources. | m ² ----- m ³ | 1. Selected, details stated. 2. Special filling materials, details stated. 3. Top soil. 4. Fabricated, details stated. | M.86 Filling into excavations is measured as equal to the void to be filled. | C.7 applies. C.9a This work is deemed to include for: (a) Additional material required to allow for compaction. (b) Filling in layers, spreading, levelling, watering and compacting. (c) Temporary retaining boards to edges and slopes. (d) Any necessary handpacking at steppings, thickening under slabs, behind walls and similar positions. | S.5 Method of compaction. S.6 If deposited and compacted in layers this is stated, giving thickness of layers. |
| 8. Filling to make up levels or for forming embankments or terraces | | | m ² ----- m ³ | M.97 Filling to make up levels or for forming embankments or terraces is measured after compaction. | | | |
| 9. Filling into planters and the like, positions stated if not at ground level | | | m ³ | | | | |
| 10. Hardcore or granular filling | 1. ≤ 0.30 m in depth. 2. > 0.30 m in depth, (where part exceeds 0.30 m in depth, the whole is given cube). | 1. Beds 2. Handpacked vertical beds 3. Handpacked beds sloping ≥ 15° from the horizontal 4. Filling to make up levels | m ² ----- m ³ | M.97 applies. M.498 Thickness of beds and filling to make up levels etc. is measured after compaction. | S.5 and S.6 apply. S.7 Kind and quality of material. | | |
| 11. Handpacking slopes and vertical faces of hardcore or other filling materials | | | m ² | | | | |
| 12. Blinding to surfaces of hardcore or other filling materials | | | m ² | 1. Materials to be used stated. | | | |

VII CONCRETE WORKS

(See Section II - General Principles)

57

(a) Concrete

| INFORMATION PROVIDED | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|----------------------|--|------------------|---|--|
| <p>1. Generally</p> | <p>M.1 Labours to existing work are measured.</p> <p>M.2 All concrete work is measured cube except as hereinafter provided.</p> <p>M.3 Thickness of beds, slabs, walls and the like stated.</p> <p>M.4 Any treatment of the face of concrete, other than that required by formwork clause C.19, beyond ordinary depositing, spreading and levelling are measured separately and given super.</p> <p>M.5 Reinforced concrete and watertight reinforced concrete are each given separately.</p> <p>M.6 Concrete in casing to structural steelwork given separately.</p> <p>M.7 Plain concrete required to be vibrated is so described.</p> | | <p>C.1 Each item of concrete work is deemed to include for</p> <p>(a) Mixing, conveying, hoisting or lowering, placing in position, vibrating, curing, protection and complying with temperature control requirements</p> <p>(b) Forming grooves (other than in fair faced concrete to form ornamental features), chases mortices</p> <p>(c) Grouting in balusters, bolts, dowels and the like with cement mortar</p> <p>(d) Forming holes for pipes, cables and the like etc. ≤ 150 mm diameter, and openings ≤ 0.025 0.50 m² sectional area, and the required steel trimming bars to these holes and openings and making good and any other sundry items of a like nature</p> <p>(e) Forming all construction joints including the provision of approved waterstops or other similar material (except those joints designed by the engineer)</p> <p>(To be Continued)</p> | <p>S.1 Composition and mix (or strength requirement) of the concrete</p> <p>S.2 Particulars of any tests required, both of materials and the finished work</p> <p>S.3 Requirements for compaction</p> <p>S.4 Requirements for placing in position by a particular method, or pouring at stated speeds. Work to which these requirements apply given separately</p> |

(a) Concrete (continued)

| INFORMATION PROVIDED | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|---------------------------------|---|------------------|---|---------------------------|
| <p>1. Generally (continued)</p> | <p>M.8 Generally concrete slabs, walls, columns, beams, stairs and the like are given separately.</p> <p>M.9 Concrete, formwork and reinforcement are each given separately except as hereinafter and herein before provided.</p> <p>M.10 No deductions are made for:</p> <p>(a) voids ≤ 0.05 0.10 m^3 in work given cube where the thickness is not stated in the description.</p> <p>(b) the volume of reinforcement or the structural steel sections embedded in the concrete or cast-in accessories</p> <p>(c) openings in walls, floors, roof slabs, roadways and the like ≤ 0.40 0.50 m^2 in work where the thickness is stated and is < 500 mm (if over 500 mm thick and the void exceeds 0.05 m^3 it is to be deducted)</p> | | <p>C.1 (Continued)</p> <p>(f) Casting kickers monolithically with base slab where these are required at base of walls and columns</p> <p>(g) Forming angles, ends, intersections and similar labours to curbs, copings, channels and other items measured in linear</p> <p>(h) Provision and submission of concrete test cubes for testing and provision of test certificates.</p> <p>C.2 Reinforced concrete is deemed to include for vibration.</p> | |

VII CONCRETE WORKS

59

(a) Concrete (continued)

| CLASSIFICATION TABLE | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|---|---|---|----------------|--|--|---|---------------------------|
| 2. Small bases for fencing posts etc | 1. Sizes stated | | Nr | | | | |
| 3. Concrete beds | 1. Thickness stated | | m ³ | | NOTE - For Structural movement joints see Item (a) 28 hereof. | C.3 Laying in bays and the necessary formwork and reinforcement to the joints between bays deemed to be included (except those designed by the engineer) C.4 Laying or finishing to falls, currents or cambers deemed to be included | |
| 4. Thickening to concrete beds, under walls, partitions and the like and under channels | 1. Width and thickness stated | | m | | | C.5 Extra excavation, disposal, hardcore and formwork deemed to be include C.6 Any extra costs in curved work deemed to be included | |
| 5. Surface water channels | 1. Shape, width, thicknesses of sides and base and average depth stated. Expansion joints and spacing described | 1. Excavation, disposal, formwork and rendering described | m | 1. Straight channels 2. Curved channels | M.11 Channels in level ground and sloping channels are measured together | C.7 Angles, ends, outlets and intersections deemed to be included C.8 Rebates for channel covers deemed to be included | |
| 6. Stepped channels to slopes | 1. Shape, width, thicknesses of sides and base and average depth stated. Height of steps and gradient of channel between steps stated and any weep holes in steps described | 1. Excavation, disposal, formwork and rendering described 2. Any weep holes in steps described | m | | | | |
| 7. Channels formed in concrete beds | 1. Shape, width and average depth stated | 1. Formwork described | m | | | | |
| 8. Foundations 9. Isolated stanchion or column bases 10. Pile caps | | | m ³ | 1. Foundations include attached stanchion or column bases. | | | |

(a) Concrete (continued)

| CLASSIFICATION TABLE | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|--|--|-------------------|------------------|----------------|---------------------------|
| 11. Blinding under foundations and beams | 1. Thickness stated | | | | |
| 12. Cement grouting under steel column bases or under steel grillages | 1. Mix and thickness stated | | | | |
| 13. Curbs 14. Copings 15. Projecting cills 16. Strings 17. Similar items | | | | | |

VII CONCRETE WORKS

(a) Concrete (continued)

| CLASSIFICATION TABLE | | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|--|--|--|----------------|---|--|---|--|---------------------------|
| 18. Suspended slabs 19. Coffered and troughed slabs | | | m ³ | 1. Horizontal 2. Sloping ≤ 15° 3. Sloping > 15° | M.12 The measurement of suspended slabs is taken across columns and beams, except where the columns or beams are of a different mix. M.13 Where a shoulder of richer mix is required at these junctions, or at junctions of columns and beams, the items are so described. M.14 The measurement of beams below slabs and of upstand beams is taken between columns. M.15 The stated thickness of coffered and troughed slabs is the thickness measured overall. | D.1 Coffered and troughed slabs include margins whose width is ≤ 500 mm. Wider margins are included with ordinary slabs. D.2 The descriptions of slabs and beams of horizontal, sloping ≤ 15° and sloping > 15° relate to the top surface. | C.4 applies. C.9 Shoulders of different richer (or stronger) mix are deemed to include in this work including for any additional formwork or permanent mesh separation barriers required to form the shoulders. | |
| 20. Beams 21. Ground beams | 1. Attached beams 2. Isolated and tie beams | | m ³ | | | D.2 applies. | C.9 applies. | |

VII CONCRETE WORKS

(c) Reinforcement

| CLASSIFICATION TABLE | | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION | |
|---|---|---|----------------|---|---|------------------|--|---|---|
| 1. Generally | | | | | M.1 Each type of steel is given separately, e.g. Mild Steel, High Yield Steel, etc. | | C.1a Provision and submission of reinforcement for testing and provision of test certificates. | S.1 Quality of steel stated S.2 Particulars given of any tests required S.3 Any special restrictions in regard to hot or cold bending | |
| 2. Bar reinforcement | 1. Nominal size stated | 1. General Reinforcement. 2. General reinforcement >12 m in length, given in stages of 3 m 3. Links, stirrups and binders 4. Spacers and chairs designed by the Engineer 5. Helical reinforcement 6. Reinforcement bent to curve | kg | 1. Round bars 2. Indented bars 3. Square bars | | | C.1 Variations in weight due to rolling margin are deemed to be included. C.2 Cutting to lengths, and bending, hoisting, and fixing and supporting in position deemed to be included. C.3 Annealed iron tying wire, precast concrete or proprietary spacer blocks and chairs and supports (other than spacers, chairs and supports designed by the Engineer) and ordinary spacer rods deemed to be included. | | |
| 3. Threading ends of bars for couplers by others | 1. Sizes of bars stated | | nr | | | | | | |
| 4. Couplers | | 1. Fully described | nr | | | | M.2. Only couplers included in the Engineer's design are measured. | | C.4 Couplers, other than those included in the design deemed to be included. C.5 Threading ends of bars, where required, is deemed to be included. |
| 5. Fabric reinforcement | 1. Descriptions include the extra material in laps which are also described | 1. Weight stated | m ² | 1. Flat fabric 2. Fabric specially bent to curve | | | M.3. Fabric reinforcement is measured the nett area covered M.4. No deduction is made for openings ≤ 1.00 m ² | | C.6 Bending fabric reinforcement and notching around obstructions and allowance for extra material in laps bending deemed to be included. |
| 6. Proprietary anti-burglar reinforcement | 1. Described in detail including manufacturer's reference | | m | | | | | | |
| | | | | | | | | | |

(d) Formwork

| INFORMATION PROVIDED | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|----------------------|---|---|--|---|
| <p>1. Generally</p> | <p>M.1 Except where otherwise stated, formwork is measured to concrete surfaces of the finished structure work which require support during casting.</p> <p>M.2 Formwork is measured super except as hereinafter provided.</p> <p>M.3 No deductions made for openings ≤ 1.00 m².</p> <p>M.4 Formwork left in and permanent formwork are each measured separately, except where more detail is required in items (d) 5 and 6 hereof.</p> <p>M.5 Formwork to produce a formed finish is measured separately and the finish described.</p> | <p>D.1 Formwork left-in is that which is not designed to remain in position but is nonetheless impossible to remove.</p> <p>D.2 Permanent formwork is that which is designed to remain in position.</p> | <p>C.1 All formwork is deemed to include all necessary materials and work for falsework and facing panel erection, supporting, easing, striking and removal, and for re-propping as required.</p> <p>C.2 Coating surfaces in contact with concrete with approved release agents is deemed to be included in the rates for formwork.</p> <p>C.3 'Formwork to produce a formed finish' is deemed in-addition to further include for all necessary sheet lining materials, forms or linings and treating the face of the concrete to produce the required formed finish.</p> | <p>S.1 Kind and quality of materials and propping requirements for permanent formwork.</p> <p>S.2 Construction and/or lining of formwork which is not at the discretion of the Contractor.</p> <p>S.3 Kind and quality of the formed finishes required.</p> <p>S.4 'Formwork to produce formed finishes' being formwork required to produce certain standards of finishes.</p> <p>S.5 'Specified Formwork' being formwork which is not at the discretion of the Contractor, i.e. the Engineer/Architect may specify the construction and/or lining materials.</p> |

VII CONCRETE WORKS

66a

(d) Formwork

| INFORMATION PROVIDED | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|---------------------------------|-------------------|------------------|--|---------------------------|
| <p>1. Generally (Continued)</p> | | | <p>C.4 Formwork is deemed to include for:</p> <p>(a) Making allowance for all cambers and pre-cambers required on beams and slabs, etc.</p> <p>(b) Splayed edges, notchings, allowance for overlaps and passings at angles, battens, fillets for chases, groove (other than to form ornamental features), recesses, rebates, chamfered edges, and the like and splayed angles and the like.</p> <p>(c) Forming holes for pipes, cables and the like and boxings for openings $\leq 0.50 \text{ m}^2$ sectional area.</p> | |

VII CONCRETE WORKS

67

(d) Formwork (continued)

| CLASSIFICATION TABLE | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|---|---|---|----------------|--|--|--|---------------------------|
| 2. Soffits of slabs 3. Soffits of landings | 1. Slab thickness ≤ 200 mm 2. Slab thickness > 200 mm - thickness stated in further stages of 100 mm | 1. Horizontal 2. Sloping 3. Curved 4. Curved in more than one direction | m ² | 1. Height to soffit ≤ 3.50 m 2. Thereafter in 1.50 m stages | M.6 The height of soffit are measured from the structural concrete level, or from the existing ground, or formation level immediately below the soffit. | D.3 Formwork to soffits of slabs includes formwork to landings occurring at floor levels | |
| 4. Soffits of coffered or troughed slabs | 1. Size of mould and profile, centres of moulds, and slab thickness stated | | m ² | | | | |
| 5. Wall faces and the like | | 1. Vertical 2. Sloping 3. Curved (For work curved in more than one direction see Item 17, 'Complex Shapes' below) | m ² | 1. To one face only, wall thickness and background to other face stated 2. Left in 3. Permanent to both faces 4. Permanent to one face only, wall thickness and background to other face stated | M.7 Formwork is measured to each face of walls requiring support. | | |
| 6. Sides of piers, columns and stanchions | | 1. Vertical 2. Sloping 3. Curved, radii stated (For work curved in more than one direction see Item 17, 'Complex Shapes' below) | m ² | | | | |

(d) Formwork (continued)

| CLASSIFICATION TABLE | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|---|---|-------------------------------------|----------------|---|---|----------------|---------------------------|
| 7. Sides and soffits of beams | 1. Depth of beams ≤ 0.75 1.00 m (below soffit of slab) 2. Depth of beams > 0.75 1.00 m (below soffit of slab) | 1. Horizontal beams | m ² | 1. Height to soffit ≤ 3.50 m 2. Thereafter in 1.50 m stages | M.8. Formwork to secondary beams is measured up to the sides of main beams, but no deduction is made from the formwork of main beams where secondary beams intersect them. M.9. Formwork to beams which intersect with stanchion casings, columns, caisson or pile caps, tie beams, walls and the like is measured up to them on all sides - no deduction is made from formwork to stanchion casings, columns, caisson or pile caps, tie beams, walls and the like at these intersections. | | |
| | | 2. Sloping beams 3. Curved beams | | | | | |
| 8. Top formwork 9. Edges and breaks in slabs and walls, including soffits of openings in walls and sides of curbs 10. Risers and open strings of stairs | 1. Straight 2. Curved | 1. Width > 300 mm | m ² | | M.10. Top formwork is measured for surfaces sloping $> 15^\circ$ whether it is provided or not, or where otherwise specifically required. | | |
| 2. Width ≤ 300 mm 3. Width > 100 mm and ≤ 200 mm 4. Width > 200 mm and ≤ 300 mm 1. Width ≤ 100 mm 2. Thereafter in stages of 400 mm | | m | m | | | | |

VII CONCRETE WORKS

(d) Formwork (continued)

| CLASSIFICATION TABLE | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION | | |
|--|--------------------------|--|--------------------|---|------------------|----------------|---------------------------|--------------------------------------|--|
| 11. Edges and soffits of copings, cills, strings, cornices, eaves overhangs, and the like ≤ 0.50 m wide, grouped together | 1. Straight 2. Curved | 1. Girth stated in stages of 100 mm | m | M.11 Where these features occur as projections on walls, beams and similar surfaces the formwork to them is measured as extra over the formwork to the principal surface from which they project. | | | | | |
| 12. Rounded or moulded edges of concrete | | | m | | | | | C.5 Stops are deemed to be included. | |
| 13. Fillets planted on formwork to form grooves | | 1. Described and size stated | m | | | | | | |
| 14. Small surfaces such as cantilever ends, brackets, ends of steps, caps and bases to pilasters and columns and the like | | 1. These small items to be covered by the general description and all added together | nr | | | | | | |
| 15. Forming holes for pipes, cables and the like, > 150 mm diameter | | 1. Thickness of concrete and size of pipe or cable etc. stated | Nr item | | | | | | |
| 16. Boxings for openings > 0.025 0.50 m ² and ≤ 1.00 m ² sectional area | | 1. Thickness of concrete and size in stages of 0.10 m ² | nr | | | | | | |
| 17. Formwork in complex shapes | | 1. Dimensioned description 2. Dimensioned diagram | nr | | | | | | |

(e) Precast Concrete Work

| INFORMATION PROVIDED | | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|---|--|---|----|---|--|------------------|--|--|
| 1. Generally | | | | | M.1 Reinforcement described and included with the item. M.2 All units > 2.00 m long are given separately and the number stated. | | C.1 All reinforcement and moulds with specified finished surfaces are deemed to be included in the item. C.2 Precast concrete items are deemed to include for any additional reinforcement not detailed but deemed necessary by the Contractor for handling purposes. | S.1 Bedding and fixing S.2 Surface finishes |
| CLASSIFICATION TABLE | | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
| 2. Bench slabs, seat slabs, partition slabs, bollards, posts, planters etc. | 1. Dimensioned description | | nr | 1. Reinforcement details stated 2 1. Cast-in accessories, details stated | M.3 Cills and lintols to have the number of units stated | | | |
| 3. Cills, cornices, lintols, caps, etc. | | 1. Straight 2. Curved | m | | | | | |
| 4. Angle stones, kneelers, bonders and the like to cills, cornices, lintols, caps, etc. | | | nr | | | | | |
| 5. Steps and landings | | | m | | | | | |
| 6. Spandrel steps, circular steps, winders and landings | 1. Dimensioned description, extreme sizes stated | | nr | | | | C.3 Ends deemed to be included | |
| 7. Channel covers, path edgings and road kerbs | 1. Dimensioned description | 1. Straight units 2. Straight units laid to curve 3. Curved units | m | | | | | |
| 8. Dropper kerbs | | | nr | | | | | |
| 9. Protective cover slabs to building services pipes, cables etc. | | 1. Dimensioned description, with any markings required stated | | m | | | | |

(f) Prestressed Concrete Work (continued)

| CLASSIFICATION TABLE | | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|-----------------------|---|--|----|--|---|------------------|--|---------------------------|
| 3. Ducts and grouting | 1. Number and size of ducts stated, number and diameter of tendons to be enclosed stated | 1. Sheathing or other material used in the formation of the ducts described and details of grouting given | m | 1. Straight ducts 2. Curved ducts | M.5 Ducts over 6.00 12.00 m long are so described stating the length in further stages of 3.00 m | | C.1 Provision of supports to the material used in the formation of ducts, and the forming and grouting of air holes are deemed to be included | |
| | 2. Fixing tendons, length, size and type stated and type of sheathing (if any) stated | | kg | | M.6 Measured net lengths between outer faces of anchorages M.7 Each size given separately | | C.1a Extra lengths required at ends for tensioning are deemed to be included | |
| | 3. Tensioning each tendon, size, length and jacking force stated | | nr | 1. Tensioned from one end 2. Tensioned from both ends | | | C.2 Degreasing, straightening or laying to required profile, cutting to lengths and assembling tendons are deemed to be included C.3 Cutting off ends are deemed to be included | |
| 4. Tendons | 1. Supplying tendons, ultimate strength and size of tendon stated | | | | | | | |
| 5. Anchorages | 1. Anchorages are described as a complete assembly, description includes anchor plate, cones, wedges and the like | 1. Number, size and type of tendons to be anchored stated, description include for fixing in position, formwork to form recess and filling in the recess | nr | 1. Live anchorages 2. Dead anchorages | | | | |

BRICKWORK AND BLOCKWORK

(See Section II - General Principles)

(a) Brickwork and Blockwork

| INFORMATION PROVIDED | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|----------------------|---|------------------|---|---------------------------|
| <p>1. Generally</p> | <p>M.1 Labours to existing work are each measure separately.</p> <p>M.2 Deductions are measured the nett sizes of the openings and recesses; no deductions are made for openings ≤ 0.40 0.50 m².</p> <p>M.3 No Ddeductions are made for string courses, cills, lintols, and the like only to the extent of full brick courses in the height.</p> <p>M.4 Brickwork and block walling circular on plan are measured the mean length.</p> | | <p>C.1 Each item of Brickwork and Block Walling is deemed to include:</p> <p>(a) All rough and fair cuttings</p> <p>(b) Wedging and pinning.</p> <p>(c) Raking out joints to form key</p> <p>(d) Raking out joints for and pointing flashings</p> <p>(e) Labour eaves filling</p> <p>(f) Plumbing angles and forming square and rebated reveals</p> <p>(g) Notches, Forming or leaving or cutting chases, grooves, notches, holes, mortices and similar including cutting and any pinning, grouting and making good</p> <p>(h) Cut squints, birdmouths, splays, chamfers and similar labour items</p> <p>(i) Centering</p> <p>(j) Bedding and pointing frames, bedding plates and similar items</p> <p>(k) Leaving pockets in the work to receive built-in items including subsequently blocking up</p> <p>(l) And any other sundry items of a like nature</p> | |

(a) Brickwork and Blockwork (continued)

| CLASSIFICATION TABLE | | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|---|--|---|----------------|---|---|------------------|--|--|
| 17. Cutting and bonding walls of different construction | 1. Both walls described | | m | | | | C.5 Work is deemed to include for additional materials and all cuttings. | |
| 18. Labours to existing brickwork or blockwork | 1. Labour and material in cutting, toothing and bonding new walls to existing 2. Preparation of existing walls for raising | 1. Thickness and nature of walls stated | m | | M.7 Labours to existing brickwork or blockwork are given separately. | | | |
| 19. Reinforcement in brickwork or blockwork | 1. Material and width stated | | m | | | | | |
| 20. Damp-proof courses (except asphalt) | 1. Material and thickness stated | 1. Courses > 225 mm wide | m ² | 1. Horizontal 2. Vertical 3. On curved walls (description includes all extra cutting) | | | | |
| | | 2. Courses ≤ 225 mm wide, width stated | m | | | | | |
| 21. Flues | 1. Flue linings, described | 1. Description includes for all bends and easings formed by cutting | m | | M.8 No deduction is made for flues, lined flues or flue blocks where the brick flue is ≤ 0.25 m ² in sectional area. | | | |
| 22. Firebrick linings to flues etc. | 1. Thickness stated | 1. Description includes and describes bonding to backing if required | m ² | | | | | |
| 23. Sundry items built in or attached to brickwork or blockwork, type or name stated | 1. Building in sundry items, described. 2. Plugging and screwing sundry items to brickwork or blockwork, described. 3. Shot firing sundry items to brickwork or blockwork, described. | 1. Thickness of wall stated, description includes formation of opening and lintel. | nr | 1. Dimensioned description. | | | | S.19 Kind and quality of materials and sizes or manufacturer's reference. |

IX DRAINAGE (including Underground Pipe Ducts)

(See Section II --- General Principles)

| INFORMATION PROVIDED | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|--|--|---|---|--|--|--|---|
| 1. Generally (a) Where practicable the nature of the soil is described, attention is drawn to any existing trial holes. | | | | | | | S.1 Kind and quality of materials S.2 Methods of jointing and fixing S.3 Gauge, thickness or substance of materials S.4 Tests with which materials must comply |
| CLASSIFICATION TABLE | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
| 2. Excavating trenches for drain pipes 1. Pipes ≤ 200 mm diameter 2. Pipes > 200 mm diameter, size stated. 3. More than one pipe, sizes stated | 1. Pipes ≤ 200 mm diameter 2. Pipes > 200 mm diameter, size stated. 3. More than one pipe, sizes stated | 1. Total depth stated in stages of 1.50 m, (i.e. < 1.50 m total depth, > 1.50 m and < 3.00 m total depth, etc.) aAverage trench depth stated in multiples of 0.25 m, and commencing level stated | m | 1. Trench for pipes without beds 2. Trench for pipes on beds 3. Trench for pipes on beds and surrounds | | C.1 Grading bottoms, trimming sides , filling in and ramming with suitable excavated material, spreading and leveling , disposal of surplus excavated material, and any planking and strutting required are deemed to be included. | S.2 Description of any special backfilling material required |
| 3. Excavating trenches for pipe ducts 1. Pipes ≤ 200 mm diameter 2. Pipes > 200 mm diameter, sizes stated 3. Multiple pipes or clusters of pipes described | 1. Pipes ≤ 200 mm diameter 2. Pipes > 200 mm diameter, sizes stated 3. Multiple pipes or clusters of pipes described | 1. Details and spacing of any movement joints stated | m | | | | |
| 4. Concrete beds beddings 5. Concrete benchings haunches 6. Concrete coverings surrounds | 1. Diameter of pipe and dimensions of concrete stated 2. If more than one pipe the dimensions of each pipe stated 3. Multiple pipes or clusters of pipes described | 1. Details and spacing of any movement joints stated | m | | | C.2 Beddings, haunchings haunches and coverings surrounds are deemed to include for formwork, reinforcement and movement joints . | |
| 7. Drain pipes 1. In trenches 2. In ducts below ground or below floors | 1. In trenches 2. In ducts below ground or below floors | 1. Nominal size given | m | 1. Description given of any wrapping required | M.1 Pipes are measured net length as laid, over all bends, junctions and similar fittings. | C.3 Work is deemed to include for short lengths and jointing, provision of loose collars and similar items, for jointing materials and pipe supports. | S.3 Method of jointing and supports for pipes and ducts |
| 8. Pipe service ducts | | | m | | | C.3 applies. C.4 Pipe service ducts are deemed to include for slow bends and for draw wires. | |

| CLASSIFICATION TABLE | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION | |
|---|---|--|----|--|--|--|--|---|
| 9. Items extra over the pipes in which they occur | 1. Bends 2. Junctions 3. Diminishing pipes 4. Connectors 5. Adapters 6. Mechanical ball joints 7. Puddle flanges 8. Other fittings | 1. Dimensioned description any wrapping described | nr | | | C.5 Pipe fittings are deemed to include extra joints and cutting on pipes. | S.7 Method of jointing fittings to pipes | |
| 10. Pipe accessories | 1. Gullies 2. Traps 3. Others | 1. Dimensioned description given | nr | | | D.1 Accessories include gullies, traps, grease interceptors , inspection shoes, fresh air inlets, non-return flaps and the like. | C.6 Accessories are deemed to include connections to drains and bedding in concrete. | S.8 Method of jointing accessories to pipes |
| 11. Brick or concrete piers 12. Concrete thrust blocks | | 1. Dimensioned description given | nr | | | | | |
| 13. Manholes | | 1. Dimensioned description given for each type of design | nr | 1. Total depth between the cover level and invert level ≤ 1.00 m deep 2. Thereafter in stages of 0.50 m deep | M.2 Where of a standard design These items enumerated and fully described, description includes excavation, concrete, formwork, reinforcement, steel joists, brickwork, benchings, rendered coatings, painting, covers, step irons, and intercepting traps and other works. M.3 Alternatively, where not of standard design they are measured in the same way as items 17 to 22 hereof in detail in accordance with the rules in the appropriate Sections. | C.7 Items are deemed to include: (a) Excavation, backfilling and disposal of surplus excavated material off site (b) Blinding layer, concrete, precast concrete, brickwork, blockwork, formwork and moulds, reinforcement and structural steel joists (c) Backdrops, step irons, intercepting traps, chains, stoppers, covers, frames, gratings, handles, lifting keys and other accessories (d) Connections of drains, and cutting (e) Bedding and haunching manhole cover frames and setting the covers (f) Bedding and surrounding intercepting traps with concrete and setting stoppers in lime cement | | |
| 14. Inspection chambers 15. Soakaways 16. Others Back inlet gully trap | | | | | | | | |

IX DRAINAGE (including Underground Pipe Ducts)

| CLASSIFICATION TABLE | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|---|---|--|--------------------------|---|------------------|---|---------------------------|
| 17. Cesspools 18. Septic Tanks 19. Others Grease trap 20. Petrol interceptor 21. Others | 1. Excavation 2. Concrete 3. Formwork 4. Reinforcement 5. Brickwork 6. Rendered coatings 7. Painting | 1. Dimensioned description given for each type of design | | M.4 Cesspools, septic tanks, and the like are each measured in detail under headings and given separately stating the number. M.5 Excavation, concrete, formwork, reinforcement, brickwork, rendered coatings, painting and other works are measured in accordance with the rules in the appropriate Section. M.2 and M.3 apply. | | C.7 applies. | |
| | 8. Benching, including channels | 1. Average thickness stated | m² | | | | |
| 20. Step irons 21. Covers | | | | | | | |
| 22. Intercepting traps | 1. Diameter stated | | nr | | | C.8 Items are deemed to include surrounding with concrete and setting stoppers. | |
| 23. Works to existing manholes | 1. Joints of pipes to existing walls | 1. Size of pipe and wall thickness stated | nr | | | C.9 All cuttings and making good are deemed to be included. | |
| | 2. Alterations to concrete channels and benchings | 1. Alterations described | nr | | | | |

| CLASSIFICATION TABLE | | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|--|---|------------------------------------|----------------|--|-------------------|------------------|--|---------------------------|
| 24. Items extra over any type of excavation | 1. Breaking up and removing pavings, surface concrete and the like | 1. The thickness, if known, stated | m ² | 1. Extra over any excavation irrespective of depth | | | C.10 This work is deemed to include for additional cost of disposal. | |
| | 2. Breaking up and removing brickwork or blockwork and the like met with in excavation | | m ³ | | | | | |
| | 3. Breaking up and removal of stone masonry walls or slab foundations and the like met with in excavations | | m ³ | | | | | |
| | 4. Breaking up unreinforced concrete and the like met with in excavations | | m ³ | | | | | |
| | 5. Breaking up reinforced concrete met with in excavations | | m ³ | | | | | |
| 25. Connections with public sewers | 1. Where relevant details are available, these works are given separately in accordance with the appropriate measurement rules. | | | | | | | |
| | 2. Where no detail is available, a provisional sum is given | | Prov'l Sum | | | | | |
| 26. Testing drains | | | Item | | | | | S.9 Details stated |

XI STONE WORKS

(See Section II - General Principles)

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(a) Stone Construction

| INFORMATION PROVIDED | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|----------------------|--|------------------|---|---|
| <p>1. Generally</p> | <p>M.1 Labours to existing work are measured.</p> <p>M.2 Curved work is measured the mean length.</p> <p>M.3 Granite, marble or slate tiling is measured in accordance with Section XVI (e).</p> | | <p>C.1 Stone works are deemed to include for:</p> <p>(a) All labours, mitres, stops, returns, fair ends, sunk joints and joggle joints as required</p> <p>(b) Hoisting, setting, fixing, bedding, jointing and pointing the work in any position</p> <p>(c) All rough or fair cuttings and bonding at angles, intersections and the like</p> <p>(d) Oversailing and receding courses, and rough relieving and discharging arches</p> <p>(e) C.2 Uncoursed work is deemed to include Levelling the top of uncoursed work</p> <p>(f) C.3 Work is deemed to include Bedding and pointing frames, plates and the like</p> <p>(g) Raking out joints to form keys or for flashings</p> <p>(h) Plumbing angles, forming returns, reveals and similar labours</p> <p>(i) Leaving pockets in the work to receive built-in items including subsequently blocking up</p> | <p>S.1 Kind and quality of materials, and for rubble walling whether random or squared stones, built with or without mortar. If built dry, without mortar, whether the inter-stices are filled with stone chippings or spalls</p> <p>S.2 The nature of the face finish</p> <p>S.3 Composition and mix of mortar</p> <p>S.4 Thickness of joints and type of pointing</p> |

XI STONE WORKS

(a) Stone Construction (Continued)

| CLASSIFICATION TABLE | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION | |
|--|-------------------------------------|--|----------------------|--|--|----------------|---|--|
| <p>2. Walling</p> | <p>1. Wall thickness stated</p> | <p>1. Walls faced one side 2. Walls faced both sides 3. Curved walls 4. Built against other work</p> | <p>m²</p> | <p>1. Random rubble 2. Random rubble brought up to courses (average height of courses stated) 3. Squared and coursed rubble walling, (height of courses stated, if in regularly diminishing courses the maximum and minimum height of courses stated 4. Dressed walling, described</p> | <p>M.4 Building against other work is measured where the other work is existing or consists of a differing material. M.5 Deductions are measured the nett sizes of openings and recesses. No deductions is made for openings ≤ 0.40 0.50 m². No Deductions are made for string courses, cills, lintols and the like > 100 mm high.</p> | | <p>C.4 Walls built against other work are deemed to include for all necessary cutting. C.5 The finish on exposed edges of walls is deemed to be included.</p> | |
| <p>3. Items measured extra over walling</p> | <p>1. Attached columns or piers</p> | <p>1. Width and depth of projection stated</p> | <p>m</p> | | | | | |

(b) Stone Facings to Structural Backgrounds (including Cast Stone, Marble and Granite)

| INFORMATION PROVIDED | | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|------------------------------|---|------------------|----------------|------------------------------|---|---|--|--|
| 1. Generally | | | | | <p>M.1 Work is measured, unless otherwise stated, the nett unplastered area covered.</p> <p>M.2 No deductions are made for voids ≤ 0.50 m².</p> <p>M.3 Work to ceilings and beams over 3.50 m above floor (measured to ceiling level in both cases) is so described, stating the height in further 1.50 m stages.</p> <p>M.4 Curved work is so described.</p> | <p>D.1 Internal and external work are each measured separately.</p> <p>D.2 The thickness stated is the thickness exclusive of keys, grooves and the like.</p> | <p>C.1 The work is deemed to include:</p> <p>(a) Fair joints</p> <p>(b) Working over and around obstructions</p> <p>(c) Additional labour for overhand work</p> <p>(d) All cutting including cutting for narrow widths, equal margins and angles</p> <p>(e) Forming drainage holes</p> <p>(f) Preparatory work, bedding mortars, adhesives, bonding agents and additives</p> <p>(g) Fixing devices</p> <p>(h) Hoisting, setting, fixing, bedding, jointing and pointing</p> <p>(i) Coating backs and cleaning, sealing and polishing faces and exposed edges</p> | <p>S.1 Kind and quality of materials</p> <p>S.2 Size, shape and thickness of units</p> <p>S.3 Nature of base.</p> <p>S.4 Preparatory work, bonding agents and coating backs</p> <p>S.5 Nature of finished surface, including any sealing and/or polishing</p> <p>S.6 Treatment of joints</p> <p>S.7 Layout of joints</p> <p>S.8 Mechanical fixing devices with spacing stated</p> <p>S.9 Adhesives</p> |
| CLASSIFICATION TABLE | | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
| 2. Walls and columns. | | | m ² | 1. Patterned, details stated | | | | |
| 3. Ceilings and beams | | | m ² | | | | | |
| 4. Floors | 1. Level, to falls, to falls and crossfalls and to slopes $\leq 15^\circ$ from horizontal. 2. To slopes $> 15^\circ$ from horizontal | | | | | | | |
| 5. Treads | | 1. Width stated | m | 1. Straight 2. Curved | | | | |
| 6. Sills | | | | | | | | |
| 7. Risers | 1. Plain 2. Undercut | 1. Height stated | m | | | | | |
| | | | | | | | <p>C.2 Work to floors is deemed to include intersections in sloping work and in falls and crossfalls.</p> <p>C.3 Work to treads, cills and risers is deemed to include fair edges, rounded and bullnosed edges, internal and external angles.</p> <p>C.4 Curved treads, risers, strings and aprons are deemed to include curved and radiused cutting for special edge tiles.</p> | |

XIII WOOD WORKS

(See Section II - General Principles)

(a) Structural Timber

| INFORMATION PROVIDED | | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|--|---|----------------------------|----|---|--|---|---|--|
| 1. Generally | | | | | <p>M.1 All sizes are nominal sizes unless stated to be finished sizes.</p> <p>M.2 Wrought timbers are given separately.</p> <p>M.3 Unless otherwise stated all work is measured nett as fixed in place and no allowance is made in measurement for laps or joints.</p> | <p>D.1 Metal fasteners, included in C.1, is defined as toothed connectors, split ring connectors or shear plate connectors.</p> | <p>C.1 Work is deemed to include all labours and jointing, nailing, screwing and bolting in position, including dowels, bolts, nuts, washers, and plate washers and metal fasteners such as toothed connectors, split ring connectors, shear plate connectors and other patent connectors.</p> | <p>S.1 Kind and quality of materials</p> <p>S.2 Method of fixing where not at discretion of Contractor</p> <p>S.3 Methods of jointing and forms of construction where not at the discretion of the Contractor</p> <p>S.4 Preservative treatments applied as part of production processes</p> |
| CLASSIFICATION TABLE | | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
| <p>2. Floor, roof or ceiling joists</p> <p>3. Floor, roof or ceiling beams</p> <p>4. Plates</p> <p>5. Purlins</p> <p>6. Rafters</p> <p>7. Hip or Valley rafters</p> <p>8. Ridge boards</p> <p>9. Posts</p> <p>10. Struts</p> <p>11. Others</p> | 1. Dimensioned description | | m | 1. Length > 5 m in one continuous length, length stated | | | | |
| 12. Carpentry metal work | <p>1. Joist hangers, built in to brickwork or blockwork</p> <p>2. Joist hangers bolted to concrete</p> <p>3. Others, details stated</p> | 1. Dimensioned description | nr | | | | | |

(b) General Clauses Applicable to the Following Sections (c) through (m)

| INFORMATION PROVIDED | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|----------------------|---|------------------|---|---|
| <p>1. Generally</p> | <p>M.1 All sizes stated are finished sizes.</p> <p>M.2 No deduction is made in items measured superficially for voids \leq 0.50 m².</p> <p>M.3 Curved work is so described.</p> <p>M.4 Sawn and wrought timbers are each given separately.</p> <p>M.5 Unless otherwise stated, all work is measured nett as fixed in place and no allowance is made in measurement for laps and joints.</p> | | <p>C.1 All wood works are deemed to include for galvanised steel or brass screws, bolts, dowels, holdfasts, ragbolts, patent connectors, cleats, brackets, plates and similar fixings including drilling and mortices in structure and grouting the same.</p> | <p>S.1 Thickness, kind and quality of materials</p> <p>S.2 Preservative treatments applied as part of the production processes</p> <p>S.3 Matching grains</p> <p>S.4 Work to be selected and/or kept clean for staining and polishing</p> |

(d) Raised Access Floors

| CLASSIFICATION TABLE | | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|---|--|----------------------------|----------------|------------------------------|--|------------------|--|--|
| 1. Floors | 1. Type, modular size and surface finish. Thickness of panels stated | 1. Height of cavity stated | m ² | 1. Patterned, details stated | | | C.1 Raised access floors are deemed to include: (a) Floor panels, supporting structures, adhesives, bearing pads, gaskets, sealants, seals, edge mouldings and the like (b) Cutting and notching and extra supports (c) Forming openings for building service penetrations, electrical floor boxes, air diffusers and similar outlets | S.1 Supporting systems S.2 Frames to panels S.3 Method of fixing |
| 2. Ramps | 1. Thickness, length and width stated | | nr | | M.2 The height stated for ramps is the height at each end. | | | |
| 3. Items measured extra over the floors in which they occur | 1. Electrical and data panels, air grilles, diffusers and perforated panels and other special panels | | nr | | | | | |
| 4. Skirtings 5. Perimeter edge trims | 1. Dimensioned description | | m | | M.3 Skirtings and perimeter edge trims not executed as part of the access floors are measured in items (e) 13 and 19 hereof. | | C.2 Skirtings and perimeter edge trims are deemed to include joints in running lengths, mitres, ends and angles. | |

(e) Sheet Linings/Claddings, Timber Suspended Ceilings, Unframed Trims, Insulation, Proofing Works and Fire Stops

| INFORMATION PROVIDED | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|----------------------|---|--|---|---------------------------|
| <p>1. Generally</p> | <p>M.1 Where grounds and/or backings are included in the item this is stated</p> <p>M.2 Work fixed with plugs and screws or with screws and cups is so described.</p> <p>M.3 Where work is fixed with screws other than ordinary steel, or if pelling is required it is so stated.</p> <p>M.4 Work to ceilings and beams over 3.50 m above floor (measured to ceiling level in both cases) except to staircase areas, it is so described stating the height in further 1.50 m stages.</p> | <p>D.1 Insulation/Proofing work/Fire stops include:</p> <p>Flexible sheets, insulating boards and other materials, where not specified as part of another section, laid, hung, or fixed horizontally, sloping or vertically as waterproofing, vapour barriers, fire stops, fire barriers, isolating membranes, sound insulation or thermal insulation.</p> | <p>C.1 All work is deemed to include:</p> <p>(a) Nailing, adhesives, plugging, screwing, cutting, splayed or rounded edges, notching, holes, housing ends, ship-lap joints, mitres, ends, and shaped ends, angles, junctions, heading joints, short lengths and the like</p> <p>(b) Sinking screw and bolt heads and covering heads with approved matching filler or pellet</p> <p>(c) Provision of adhesives, mastics and other sundry jointing and fixing materials</p> | |

(e) Sheet Linings/Claddings, Timber Suspended Ceilings, Unframed Trims, Insulation, Proofing Works and Fire Stops (continued)

| CLASSIFICATION TABLE | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|---|---|--|----------------|---|--|--|---------------------------|
| <p>2. Sheet linings</p> <p>3. Sheet claddings</p> | <p>1. To walls</p> <p>2. To ceilings and sides and soffits of beams</p> <p>3. To roofs</p> <p>4. To fittings</p> <p>5. Others</p> | | m ² | <p>M.5 No deduction is made for voids ≤ 0.50 m².</p> <p>M.6 Sides and soffits of beams are included in the item of ceilings and sides and soffits of beams.</p> <p>M.7 Where work is to be in panels to design it is measured separately and described.</p> <p>M.8 Where work requires tongued angles, chamfers, rebates, grooves and the like this is stated.</p> | D.2 Internal and external work are each measured separately. | <p>C.1a This work is deemed to include for:</p> <p>(a) Setting out panels and lining up joints</p> <p>(b) Tongued angles, chamfers, rebates, grooves and the like</p> <p>(c) All cutting for narrow widths, around pipes, conduits, power points, sleeves, sprinkler and detector heads, and forming openings for grilles, light fittings, diffusers, speakers, access panels and the like, including extra trimmers and supports</p> | |
| <p>4. Laminated plastic sheeting</p> | <p>1. Backing and adhesive stated</p> | | m ² | | | <p>C.1b This work is deemed to include for fixing with adhesive.</p> | |

(e) Sheet Linings/Claddings, Timber Suspended Ceilings, Unframed Trims, Insulation, Proofing Works and Fire Stops (continued)

| CLASSIFICATION TABLE | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|---|---|--|----------------|---|---|---|--|
| 5. Fabric linings | 1. Fabric lining and any foam or other backing and adhesive or other method of fixing stated | | m ² | | | C.2 Work is deemed to include for extra material in laps and edge fixings. | |
| 6. Supports for suspended ceilings | 1. Skeleton grounds, described 2. Framework, described 3. Framework for shaped ceiling, described | 1. Fixed to soffit, background and method of fixing described 2. Suspended from soffit, hangers and spacing described with depth of suspension ≤ 150 mm 1.50 m 3. Ditto with depth of suspension 150 mm – 500 mm 4. Ditto with depth of suspension stated thereafter in 1.50 m stages | m ² | | | C.3 Work is deemed to include trimming and extra supports and framing around light fittings, diffusers, speakers and the like. and, where suspended, for working around obstructions and services etc. | |
| 7. Supports for upstands in suspended ceilings | | | m ² | | | | |
| 8. Ceiling tiles or panels fixed to wood framing | 1. Described. | | m ² | | | | S.1 Required fire ratings, decibel reduction ratings, etc. are stated. |
| 9. Acoustic linings 10. Insulation linings 11. Proofing linings 12. Fire Stops | 1. Described | 1. Sheets 2. Quilts 3. Boards 4. Loose fill | m ² | 1. Plain areas. 2. Across members, centres of members stated 3. Between members, centres of members stated 4. Horizontal 5. Vertical 6. To soffits 7. To structural steel framing | M.6, M.7 and M.8 apply. M.9 Insulation linings, proofing works and fire stops are only measured independently in this Section where not specified as part of another work section. | D.2 applies. D.3 Horizontal includes the upper surface of any sloping structure ≤ 45° from the horizontal. D.4 Vertical includes the upper surface of any sloping structure > 45° from the horizontal. D.5 To soffits includes the underside of any horizontal or sloping structure. | S.2 Extent of laps where not at the discretion of the Contractor |

(g) Fixed Partitions and Demountable Partitions

| INFORMATION PROVIDED | | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|---|---|--|----------|--|---|---|--|--|
| <p>1. Generally The following information shall be provided: (a) Scope and location of the work (b) The services to be located within the partitions</p> | | | | | <p>M.1 Work is measured mean lengths as fixed. M.2 Curved work is so described. M.3 Work obstructed by integral services is so described. M.4 Factory applied finishes and site applied finishes are only measured where not at the Contractor's discretion.</p> | <p>D.1 Work is deemed internal unless otherwise described.</p> | <p>C.1 All integral components complete with finishes and holes, etc. performed at factory but excluding trims fixed on site. C.2 Cutting and fitting around obstructions etc. and cutting holes for services including additional bridging members, blockings and flanges etc. for services. C.3 Partitions are deemed to include: (a) Head and cill fixings (b) All angles, intersections, ends and abutments etc. (c) Bedding and pointing frames as required (d) Glazing and glazing beads and compounds (e) Extra framing members, trimmers, stiffeners, linings around blank openings</p> | <p>S.1 Kind ad quality of materials S.2 Method of construction S.3 Required fire ratings, decibel reduction ratings, etc. S.4 Layout of joints S.5 Method of bedding, jointing and pointing S.6 Details of ironmongery, glass, linings or the like to be included S.7 Proprietary partitions have catalogue numbers stated</p> |
| CLASSIFICATION TABLE | | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
| <p>1. Fixed partitions 2. Demountable partitions</p> | <p>1. Height and thickness stated 2. For fully glazed or semi-glazed partitions, height and thickness stated, semi-glazed partitions have height and position of glazing described</p> | <p>1. Factory applied finish 2. Site applied finish</p> | <p>m</p> | <p>1. Partitions with sloping cills and/or heads are so described 2. Open framing or unfinished framing above ceilings is described in the item</p> | <p>M.5 Insulation, sealants, vapour barriers, isolating membranes, moisture resistant treatment and the like are included in the item. M.6 No deduction is made for voids in partitions measured linearly other than those voids which extend the full height, full girth or full width.</p> | | | <p>S.8 Insulation to limit sound transmission S.9 Moisture resistant treatment and the like</p> |
| <p>3. Trim</p> | <p>1. Dimensioned description</p> | | <p>M</p> | | | <p>D.2 Trims are separate items fixed on site as cover pieces to edges or panel joints.</p> | | |

(i) Doors, Hatches, Ventilators and the like and Frames and Linings

| CLASSIFICATION TABLE | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|---|---|--|--------------------|---|---|---|---|
| 1. Flush doors and frames | 1. Dimensioned description of doors, frames or linings, stating the door size, thickness, and construction stated and, facings and applied mouldings etc. described and size, number and type of glass panels and louvres | 1. Single leaf doors 2. Folding doors 3. Swinging doors 4. Sliding doors 5. Sliding and folding doors | # ----- Sets | 1. Rebated stiles, rounded stiles, meeting stiles, beads and mouldings stated | M.1 Class and glazing beads to be measured separately. M.21 Folding doors are measured separately, the extreme width of each leaf is stated in the description. M.32 Doors with shaped heads are so described and measured the extreme size as square and given separately. M.43 Fire rated and non-fire rated doors are measured complete with frames or linings, sub-frames and/or ground, louvers ironmongery and glazing, dowels, holdfasts and anchor bolts, etc. Ironmongeries are measured separately. | C.1 All doors are deemed to include: (a) fitting and hanging (b) frames or linings, sub-frames and/or grounds (c) bedding and pointing door frames or linings, door sub-frames, grounds and backings in mortar against concrete, brickwork or blockwork (d) forming openings for door having glazing panels including glazing and glazing beads and compounds (e) forming openings for doors having louvres including louvres and frames C.2 Folding doors include labours to meeting stiles. C.3 Swinging doors include rounded edges to stiles. C.4 All items are deemed to include bedding and pointing frames as required. Fire rated doors and frames are deemed to include for all necessary testing, test certification and obtaining approval from relevant authorities. | S.1 Surface treatment applied as part of the production process S.2 Bedding, jointing and pointing compounds |
| 2. Items measured extra over flush doors | 1. Openings for glass 2. Louvered openings | 1. Size and edge treatment stated | # ----- Sets | 1. Louvres have dimensioned description. | | | |
| 3. Framed and panelled doors and frames | 1. Dimensioned description of doors, frames or linings, stating the sectional sizes of stiles, rails, transoms, muntins, panels and the like given and size and number of panels and glazed or louvered panels stated | 1. Single leaf doors 2. Folding doors 3. Swinging doors 4. Sliding doors 5. Sliding and folding doors | # ----- Sets | 1. Rebated stiles, rounded stiles, meeting stiles, beads and mouldings are described 2. Doors with diminished stiles so described. 3. Doors with panels of unusual shaped or arrangement are so described | | | |
| 4. Fire rated doors and frames | 1. Dimensioned description of doors, frames and/or linings | 1. Ironmongery described. | Sets | 1. Fire rating stated | | | |

(i) **Doors, Hatches, Ventilators and the like and Frames and Linings (continued)**

| CLASSIFICATION TABLE | | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|--|--|---|---------------|---|--|------------------|--------------------|---------------------------|
| 5. Louvres and frames | 1. Size, thickness and construction stated. | 1. Louvres have dimensioned description. | nr | 1. Sectional sizes of frames stated. | M.4 Individual louvres and frames, where not forming part of doors, are measured here. | | C.1 and C.4 apply. | S.1 and S.2 apply. |
| 6. Service hatches and frames | | | nr | | | | | |
| 7. Duct access doors, panels and trapdoors and frames | | | nr | | | | | |
| 8. Door frames 9. Door linings | 1. Overall sizes of doors or door sets given, and cross-section of members stated | 1. Solid and built-up frames or linings are given separately, grounds or backings are described and included in the item | nr | 1. Frames incorporating fanlights or side lights given separately and the fanlight or sidelight described 2. Rebated heads and jambs or hollowed jambs described | | | | |
| 10. Trims and architraves | | | | | M.5 Trims and architraves are measured in accordance with Sub-section (e) hereof. | | | |

(j) Stairs, Handrails and Balustrades

| CLASSIFICATION TABLE | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|---|--|-------------------|------------------|--|---------------------------|
| 1. Stairs | 1. Dimensioned description with the number of treads, winders and risers stated | nr | | | |
| 2. Wood facings to stairs of construction other than timber | | nr | | | |
| 3. Handrails | 1. Dimensioned description with method of jointing handrail stated. If hollowed for and screwed to metal core this is stated | m | | C.1 Handrails are deemed to include plain ends, ramps, wreaths, bends and ornamental ends. | |
| 4. Items measured extra over handrails | 1. Ramps 2. Wreaths 3. Bends 4. Ornamental ends | nr | | C.1 Plain ends deemed to be included. | |
| 5. Balustrades | 1. Dimensioned description with spacing of balusters, opening portions and method of jointing stated | m | | C.2 Balustrades are deemed to include plain ends, ramps, wreaths, bends and ornamental ends. | |
| 6. Items measured extra over balustrades | 1. Ramps 2. Wreaths 3. Bends 4. Ornamental ends 5. Opening portions, details stated 6. Method of jointing handrail stated | nr | | C.4 applies | |

(k) Furniture, Fittings, Shelving, Racks, Playground Equipment etc.

| CLASSIFICATION TABLE | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|--|---|---|-----------|--|--|---|--|
| <p>1. Furniture</p> <p>2. Fittings</p> <p>3. Shelving</p> <p>4. Racks</p> <p>5. External furniture and equipment</p> <p>6. Sign boards and signage</p> <p>7. Playground equipment</p> <p>8. Others</p> | <p>1. Drawing reference and/or dimensioned description as appropriate with background for fixing stated</p> | <p>1. Description includes ironmongery and/or metal fittings, glass panels etc. which are to be included in the item.</p> | <p>nr</p> | <p>1. Where these items are to be provided by the Employer for the Contractor to fix, the method of fixing is stated.</p> <p>2. For items provided by the Employer the provision by the Contractor of any additional components, etc. is stated.</p> | <p>M.1 Alternatively these items may be measured in detail in accordance with the appropriate rules.</p> | <p>C.1 For items provided by the Employer, accepting delivery on site, storing and handling are deemed to be included.</p> <p>C.2 These works are deemed to include for all components required to complete the fittings including</p> <p>(a) All metalwork and joinery work, carcassing, ironmongery, splashbacks, cupboard doors including glazed doors, mirrors forming part of the fittings, drawers, glass shelving, veneer or laminated facings as specified</p> <p>(b) All fixings, brackets, etc. as required to secure fittings in positions</p> <p>(c) Site measurement, assembly, scribing to walls, pointing and sealant</p> <p>(d) All finishes or surface treatments applied off site and on site</p> | <p>S.1 Such information as is appropriate to the procurement, design, execution, supply and/or manufacture of the item and its incorporation in the works</p> <p>S.2 Finishes and surface treatments applied in manufacture or off site</p> <p>S.3 Finishes and surface treatments applied on site</p> |

XIV IRONMONGERY

(See Section II - General Principles)

| INFORMATION PROVIDED | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|----------------------|---|------------------|--|--|
| <p>1. Generally</p> | <p>M.1 Ironmongery supplied separately and included in a Prime Costs sum is measured separately under a heading.</p> <p>M.2 Ironmongery is only measured independently in this Section where it is not specified as part of another works section.</p> <p>M.3 Ironmongery fixed to metal work, or plugged and screwed, is so described.</p> | | <p>C.1 Ironmongery and fixing only of ironmongery supplied under a separate Prime Cost Item are deemed to include:</p> <p>(a) Fixing to any type of timber or building board unless some other surface is stated</p> <p>(a)(b) Fitting, cutting, housing, sinking, boring, and morticing, drilling and similar labours to the material to which the article is being fixed</p> <p>(b)(c) Supplying and screwing with Provision of all necessary screws to match the ironmongery, and any bolts, nuts, washers, nails, pains, lungs or similar items required</p> <p>(c)(d) All Drilling for and provision of plugging of concrete, brick, stone or other materials where required</p> <p>(e) Oiling, easing and adjusting ironmongery and leaving in working order</p> <p>C.2 Locksets are deemed to include</p> <p>(a) pProvision of keys and identification tags to keys</p> <p>(b) Fixing staples or striking plates, and escutcheons when required</p> | <p>S.1 Kind and quality of materials and fixings</p> <p>S.2 Surface finish</p> <p>S.3 Requirements for identification tags on keys</p> |

| CLASSIFICATION TABLE | | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|---|--|---|---------------|--|---|------------------|--|---------------------------|
| 2. Type of item, unit or set stated | 1. Locks which are included in a master-keying suite are so described | | nr | | M.4 Handrail brackets, where not included with handrails are included here. | | | |
| 3. Sliding door gear | 1. All components described in detail, catalogue references given where appropriate. | | Sets | | | | | |
| 4. Door seals | 1. Method of fixing stated. | | m | | | | | |
| 5. Water bars | 1. Size stated | | m | | | | | |
| | | | nr | | | | | |
| 6. Metal trims | 1. Strips 2. Angles 3. Channels | 1. Size, thickness and method of fixing stated. | m | 1. If recessed into timber this is stated. | | | C.3 Work is deemed to include bedding materials. | S.4 Bedding material |
| 7. Dowels | 1. Size and length stated | | nr | | M.5 Individual dowels, where not forming part of doors, are measured here. | | C.4 Dowels are deemed to include mortice in concrete and bedding | S.5 Bedding material |
| 8. Holdfasts | 1. Dimensioned description | | nr | | | | | |
| 9. Anchor bolts and rag bolts | 1. Size stated | | nr | | | | | |
| 10. Curtain tracks and rails | | | nr | | | | C.5 Work is deemed to include: (a) Supports, brackets, fixing accessories etc. (b) Runners and slides. | |
| 11. Toilet paper holders, paper towel holders, etc. | | | nr | | M.5 These items are measured in Ironmongery where not included in Section XVII (c). | | | |

XV STEEL AND METAL WORKS

(See Section II - General Principles)

119

(a) Structural Steel

| INFORMATION PROVIDED | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|--|-------------------|------------------|----------------|---|
| <p>1. Generally The following information shall be shown either on location drawings or on other drawings accompanying the Bills of Quantities.</p> <ul style="list-style-type: none">(a) The position of the work in relation to other parts of the work and of the proposed buildings(b) The types and sizes of structural members and their positions in relation to each other(c) Details of connections or of the reactions, moments and axial loads at connection points | | | | <ul style="list-style-type: none">S.1 Types and grades of materialsS.2 Methods of fabricationS.3 Details of welding tests and X-raysS.4 Details of performance tests |

(a) Structural Steel (continued)

| CLASSIFICATION TABLE | | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|--|--|---|----|--|---|--|--|---------------------------|
| <p>2. Columns</p> <p>3. Beams</p> <p>4. Bracings</p> <p>5. Purlins and cladding rails</p> <p>6. Grillages</p> <p>7. Built-up columns, trestles and towers</p> <p>8. Built-up trusses and girders</p> | <p>1. Framing, fabrication and erection</p> | <p>1. Joists</p> <p>2. Channels</p> <p>3. Angles</p> <p>4. Tees</p> <p>5. Tubular sections</p> <p>6. Plates</p> <p>7. Wires</p> <p>8. Cables</p> <p>9. Rods</p> <p>10. Bars</p> <p>11. Others</p> | kg | <p>1. Castellated</p> <p>2. Tapered</p> <p>3. Curved</p> <p>4. Cambered</p> <p>5. Weights of sections stated</p> | <p>M.1 The items listed in the 1st column are headings under which the various sections in the 3rd column are measured.</p> <p>M.2 The mass of framing members is measured from their overall lengths with no deductions for splay cuts or mitred ends or of the mass of metal removed to form notches and holes.</p> <p>M.3 No allowance is made for the mass of weld fillets, black bolts, nuts, washers, rivets, protective coatings and rolling margins.</p> <p>M.4 Where structural steel is not a major part of the structure it shall be grouped according to bearing levels for hoisting and fixing which shall be stated in stages of 3.00 m above ground level.</p> <p>M.5 Cleats, brackets, plates and packings etc. are not separately described and are added together to arrive at the mass for this item.</p> | <p>D.1 Wires, cables, rods and bars include sag rods, ties and the like.</p> | <p>C.1 Items for fabrication and erection are deemed to include for:</p> <p>(a) Cutting, notching and drilling</p> <p>(b) Shop and site rivets and</p> <p>(c) Bolts including black bolts and high strength friction grip bolts complete with nuts and washers</p> <p>(b)(d) Welding; materials and welding tests and including X rays and other non-destructive tests as specified</p> <p>(e) Galvanising to structural steelwork if specified</p> <p>(e)(f) Performance tests</p> <p>(f)(g) Packings where required for connections, caps and bases</p> <p>(g)(h) Wedging and grouting under bases</p> | |
| <p>9. Overhead crane rails</p> | <p>1. Framing, fabrication and erection</p> <p>2. Details of fixing clips and resilient pads and fittings stated</p> | <p>1. Joists</p> <p>2. Channels</p> <p>3. Angles</p> <p>4. Tees</p> <p>5. Tubular sections</p> <p>6. Plates</p> <p>7. Others</p> | kg | <p>1. Curved</p> <p>2. Weight of sections stated</p> | | | | |
| <p>10. Connections</p> | | | kg | | | | | |

XV STEEL AND METAL WORKS

(a) Structural Steel (continued)

| CLASSIFICATION TABLE | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION | |
|---|--|--|----------------|------------------------------|---|--|--|--|
| 11. Fittings | 1. Fabrication and erection | 1. Joists 2. Channels 3. Angles 4. Tees 5. Tubular sections 6. Plates 7. Wires 8. Cables 9. Rods 10. Bars 11. Others | kg | 1. Weight of sections stated | M.1, M.2, M.3, M.4 and M.5 apply. M.6 Fittings are only measured separately from the structural units where they are of a different type and/or grade of material. | D.1 applies. | C.1 applies. | |
| 12. Proprietary sections | 1. Type and method of fixing stated | | m | | | | | |
| 13. Filling hollow sections | 1. Size, materials and methods stated | | nr. | | | | | |
| 14. Holding down bolts or assemblies | 1. Details stated | | nr | | | | | |
| 15. Special bolts or fasteners | | | nr | | | D.2 Special bolts and fasteners are those other than black bolts and high strength friction grip bolts and holding down bolts or assemblies. | | |
| 16. Space frames and geodetic structures | 1. Dimensions stated. 2. Details of design criteria and restrictions stated | | nr | | | | | |
| 17. Surface preparation | 1. Described | | m ² | | | | | |
| 18. Surface treatment | 1. Sprayed metal coating 2. Protective painting 3. Other treatment type stated | 1. Surface preparation described 2. Number of coats stated 3. Thickness of coat(s) stated 4. Fire rating stated 5. Finish stated | m ² | | | | C.2 The areas given are deemed to include for works to additional surface areas of cleats and brackets etc. in connections. C.3 All surface preparation is deemed included. | |

XV STEEL AND METAL WORKS

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(e) Framed Work, Stairs, Handrails and Balustrades

| INFORMATION PROVIDED | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|--|---|--|----|---|------------------|--|---|
| 1. Generally | | | | M.1 Bars, flats, rods, angles, tees, channels and the like are each given separately and the size stated. M.2 Curved work is so described. | | C.1 Each item is deemed to include for cutting to correct lengths, splay cut ends and all drilling and countersinking and filling off burrs around holes. | S.1 Kind and quality of materials S.2 Grade and external diameter of tubular members S.3 Surface treatment applied as part of the production process S.4 Method of jointing or form of construction S.5 Method of fixing where not at discretion of the Contractor S.6 Strippable protective coverings or coatings |
| CLASSIFICATION TABLE | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
| 2. Framed work | 1. Gratings 2. Grilles 3. Ladders 4. Balustrades 5. Railings 6. Others | | m | M.3 Work is measured in detail under headings. M.4 In measurement of balusters, standards and ladder rungs the number is stated. M.5 Glazed metal balustrades are measured in accordance with Item (e) 11 hereof. | | C.2 Items are deemed to include: (a) Welding, brazing, screws, bolts, nuts and washers (b) Pointed, forged or fanged ends and the like (c) Bends, forged bends and the like and jointing (d) Fixing to structure (e) Portions of framed work made to open are deemed to include ironmongery (f) Core-rails and handrails are deemed to include, angles, ramps, wreathes, and the like | S.7 Ironmongery for opening portions which is not at the discretion of the Contractor. |
| 3. Brackets to framed work | 1. Dimensioned description | | nr | | | | |
| 4. Items measured extra over framed work | 1. Portions made to open, dimensioned description given | | nr | | | | |
| 5. Mat frames | 1. Fully described | | nr | | | | |
| 6. Core rails and hand rails | 1. Dimensioned description | | m | | | C.2a Core-rails and handrails are deemed to include for joints in the running lengths, bends, angles, ramps, wreathes, junctions, capped ends, flange plates and the like. | |
| 7. Brackets to core rails and hand rails | | | nr | | | | |

(e) Framed Work, Stairs, Handrails and Balustrades (continued)

| CLASSIFICATION TABLE | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|--|--|--|----------------|---|------------------|--|---------------------------|
| 8. Tubular handrails | | | m | M.4 applies. | | C.2 applies. C.2b Tubular handrails are deemed to include for joints in the running lengths, angles, ramps, wreathes, bends, junctions, capped ends, flange plates and the like | |
| 9. Items measured extra over tubular handrails and balustrades | 1. Ramps 2. Wreathes 3. Bends 4. Junctions, described 5. Capped ends 6. Flange plates | | nr | | | | |
| 10. Brackets to tubular handrails | 1. Dimensioned description. | | nr | | | | |
| 11. Glazed metal balustrades | 1. Dimensioned description, sizes of each member stated and glass panels described | | m | M.6 Balustrades in different locations shall each be measured separately. | | C.2 applies. C.3 Work is deemed to include: (a) metal handrails, glazing panels, supporting fixings, sealant joints, and other necessary component parts (b) all ends, angles, ramps and ramped angles and the like | |
| 12. Gratings to floor channels and the like | 1. Dimensioned description 2. General length of sections stated | | m | | | | |
| 13. Frames to gratings to floor channels and the like | 1. Dimensioned description | | m | | | C.4 Frames to floor channels are deemed to include fixing lugs and grouting. | |
| 14. Gratings to openings, ventilators and the like | 1. Dimensioned description, including frames | | nr | | | | |
| 15. Wire work | 1. Diameter of wire and size of mesh stated | | m ² | M.7 Work not rectangular in form is measured square and described as in irregular shapes measured square. | | | |

XV STEEL AND METAL WORKS

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(h) Sundries

| INFORMATION PROVIDED | | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|--|---|--|---------------|---|-------------------|------------------|---|--|
| 1. Generally | | | | | | | | S.1 Kind and quality of materials S.2 Method of Construction S.3 Surface finishes and treatments applied as part of the production process |
| CLASSIFICATION TABLE | | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
| 2. Gratings to floor channels, surface water channels and the like | 1. Width, thickness and general length of sections stated | | m | | | | C.1 Items are deemed to include: (a) angles, ends and the like (b) fixing lugs, bedding mortar and any specified hardware | |
| 3. Angle frames to gratings for floor or surface water channels | 1. Dimensioned description | 1. Method of fixing | m | | | | | |
| 4. Gratings or grilles to openings, ventilators and the like | 1. Dimensioned description | 1. Dimensioned description of frame if included | nr | | | | | |
| 5. Manhole covers and frames | 1. Dimensioned description, and approximate weight, opening size stated, if to comply with BS 497 or other Standard this is stated | 1. Rectangular cover and frame 2. Circular cover and frame 3. Double triangular cover and frame | nr | 1. Light duty 2. Medium duty 3. Heavy duty 4. Single seal 5. Double seal 6. Recessed pattern | | | C.2 Items are deemed to include bedding and haunching frames and setting covers in fine sand and grease. | S.4 Setting and sealing compounds |
| 6. Hinged covers to water tanks and the like | 1. Dimensioned description, opening size stated | 1. Lock plate and padlock described. | nr | | | | C.3 Items are deemed to include bedding and haunching frames and setting covers in grease. | |
| 7. Step irons | 1. Dimensioned description and method of fixing | | nr | | | | | |

(h) Sundries (continued)

| CLASSIFICATION TABLE | | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|---|--|---|--|--|-------------------|------------------|---|---|
| 8. Pressed, folded or extruded metal skirtings | 1. Dimensioned description | 1. Background for fixing stated | m | 1. For duct skirtings or rails the number of compartments stated | | | C.4 Joints in the running lengths, Mitres, ends and the like are deemed to be included. | S.5 Proprietary items have catalogue numbers stated |
| 9. Pressed, folded or extruded metal rails | | | | | | | | |
| 10. Pressed or folded metal window and door surrounds | 1. Dimensioned description | nr | | | | | | C.5 Stripping protective coverings or coatings |
| 11. Tactile studs 12. Tactile strips | 1. Warning/stop tactiles 2. Direction/go tactiles 3. Turning/positional tactiles | 1. Dimensioned description, method of fixing and background for fixing stated | m ² ----- m (width stated) | | | | | |

XV STEEL AND METAL WORKS

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(i) Raised Access Floors

| INFORMATION PROVIDED | | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|---|--|----------------------------|----------------|------------------------------|--|------------------|--|---|
| 1. Generally | | | | | M.1 No deduction is made for voids $\leq 0.50 \text{ m}^2$ | | C.1 Raised access floors are deemed to include: (a) Panels, supporting structures, adhesives, bearing pads, gaskets, sealants, seals, edge mouldings and the like (b) Cutting and notching and extra supports (c) Forming opening for building service penetrations, electrical floor boxes, air diffusers and similar outlets. | S.1 Kind and quality of materials S.2 Supporting systems S.3 Frames to panels S.4 Method of fixing |
| CLASSIFICATION TABLE | | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
| 2. Floors | 1. Type, modular size and surface finish. Thickness of panels state | 1. Height of cavity stated | m ² | 1. Patterned, details stated | | | | |
| 3. Ramps | 1. Thickness, length and width stated | | nr | | M.2 The height stated for ramps is the height at each end | | | |
| 4. Items measured extra over the floors in which they occur | 1. Electrical and data panels, air grilles, diffusers and perforated panels and other special panels | 1. Dimensioned description | nr | | | | | |
| 5. Skirtings 6. Perimeter edge trims | 1. Dimensioned description | | m | | M.3 Skirtings and perimeter edge trims not executed as part of the access floors are measured in Section XIII (e) 13 and 19. | | C.2 Skirtings and perimeter edge trims are deemed to include ends and angles. | |

(j) Metal Profiled Sheet Roof Coverings and Wall Claddings.

| INFORMATION PROVIDED | | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|---|--|--|--|--|-------------------|------------------|----------------|---|
| 1. Generally The following information is shown either on location drawings or on drawing accompanying the Bills of Quantities. (a) The extent of the work (b) The height of the work above ground | | | | | | | | S.1 Kind, quality and size of materials S.2 Type and spacing of fixing |

XV STEEL AND METAL WORKS

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(k) Fixed Partitions and Demountable Partitions

| INFORMATION PROVIDED | | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|---|--|---|---|--|--|--|--|---|
| 1. Generally The following information shall be provided: (a) Scope and location of the work (b) The services to be located within the partitions | | | | | M.1 Work is measured mean lengths as fixed. M.2 Curved work is so described. M.3 Work obstructed by integral services is so described. M.4 Factory applied finishes and site applied finishes are only measured where not at the Contractor's discretion. | D.1 Work is deemed internal unless described as external. | C.1 Partitions are deemed to include all integral components, holes, etc. preformed at factory but exclude trims fixed on site . C.2 Work is deemed to include cutting and fitting around obstructions etc. and holes for services including additional bridging members, blockings and flanges etc. C.3 Partitions are deemed to include: (a) Head and cill fixings (b) All angles, intersections, ends and abutments etc (c) Bedding and pointing frames as required (d) Glazing and glazing beads and compounds (e) Extra framing members, trimmers, stiffeners, linings around blank openings | S.1 Kind and quality of materials S.2 Method of construction S.3 Required fire ratings, decibel reduction ratings, etc. are stated S.4 Layout of joints S.5 Method of bedding, jointing and pointing S.6 Details of ironmongery, glass, linings or the like to be included S.7 Proprietary partitions have catalogue numbers stated |
| CLASSIFICATION TABLE | | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
| 2. Fixed partitions | 1. Height and thickness stated | 1. Factory applied finish 2. Site applied finish | m | 1. Partitioning with sloping cills and/or heads is so described 2. Open framing or unfinished partitioning above ceilings described in the item | M.5 Insulation, sealants, vapour barriers, isolating membranes, moisture resistant treatment and the like are included in the item. M.6 No deduction is made for voids in partitions measured linearly other than those voids which extend the full height, full girth or full width. | | | S.8 Insulation to limit sound transmission S.9 Moisture resistant treatment and the like |
| | 2. For fully glazed or semi-glazed partitions, height and thickness stated. Semi-glazed partitions have height and position of glazing described | | | | | | | |
| 3. Demountable partitions | | | m | | M.6 applies. | | | |
| 4. Trims | 1. Dimensioned description | | m | | | D.2 Trims are separate items fixed on site as cover pieces to edges or panel joints. | | |

(m) Suspended Ceilings

| INFORMATION PROVIDED | | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|---|--|----------------------------|----------------|---|--|--|---|--|
| 1. Generally The following information shall be provided: (a) Scope and location of the work (b) The services to be located within the ceiling void | | | | | M.1 Soffit linings fixed to soffits or on wooden support framework and hangers are measured in Section XIII Wood Works. M.2 Suspended ceilings of plasterboard or of plastered metal lathing are measured in Section XVI Plastering and Paving. M.3 Work over 3.50 m above floor (measured to ceiling soffit level) is so described stating the height in further stages of 1.50 m stages. | D.1 All work is deemed internal unless described as external. | C.1 Ceilings are deemed to include: (a) Rails, hangers, spacers and the like (b) Ceiling tiles or panels or metal strips and the like (c) Working over and around obstructions (d) Supports and accessories for fittings (e) Bridgings to support fittings or where trunking in ceiling space obstructs the standard grids (f) Edge and angle trims (g) Forming openings and holes C.2 Work incorporating integral fittings is deemed to include additional hangers, framing etc. | S.1 Kind and quality of materials S.2 Method of construction and fixing to structure S.3 Proprietary ceiling systems have catalogue numbers stated S.4 Integral diffuser and ventilation, lighting, speaker and other fittings S.5 Vapour barriers S.6 Insulation materials |
| CLASSIFICATION TABLE | | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
| 2. Tiled or panelled ceilings 3. Metal strip ceilings | 1. Depth of suspension ≤ 150 mm 1.50 m 2. Depth of suspension 150 – 500 mm 3. Thereafter in 500 mm 1.5 m stages | | m ² | 1. Patterned, details stated 2. Sloping, details stated 3. Curved | M.4 The area measured is that on the exposed face and no deduction is made for voids ≤ 0.50 m ² . M.5 The depth of suspension is measured from structural soffit to face of ceiling. M.6 Insulation and vapour barriers are measured in this section where they are an integral part of the ceiling and fixed in the ceiling. | D.2 Integral fittings occur where they are designed and incorporated into the ceiling. | | |
| 4. Items extra over the ceiling in which they occur | 1. Access panels | 1. Dimensioned description | nr | | | D.3 Access panels are deemed to include edge trims and fixings. | | S.7 Composition of panels and method of fixing. |

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(m) Suspended Ceilings (continued)

| CLASSIFICATION TABLE | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|--|--|--|----|--|---|---|---|
| 5. Upstands and bulkheads | 1. Height ≤ 300 600 mm 2. Thereafter in 300 mm stages | | m | | | C.2a This work is deemed to include for strengthening the ceiling suspension system as necessary. | S.8 Method of support and depth of suspension |
| 6. Cavity fire barriers, total thickness stated | 1. Plain 2. Obstructed by services | 1. Height ≤ 300 mm 2. Thereafter in 300 mm stages | m | | | C.3 Cavity fire barriers are deemed to include all scribing, angles, ends, and support work. | |
| 7. Edge trims | 1. Plain 2. Floating | 1. Dimensioned description | m | M.7 Trims at regular intervals within the area of the suspended ceiling are included with the item description of same in item (m) 2 hereof. | D.4 Plain edge trims are those that are fixed to the structure. D.5 Floating edge trims are fixed to the ceiling system. | C.4 Trims are deemed to include mitred, regular and irregular angles. | S.9 Centres of fixing |
| 8. Angle trims | | | m | M.8 Trims are measured to openings formed by fittings. | | | |
| 9. Collars to barriers passing through fire barriers | 1. Pipes 2. Trunking | 1. Length of sleeve each side of barrier stated | nr | M.9 Collars are measured where they are integral with fire barriers. | | | S.10 Types |
| 10. Fittings | | 1. Dimensioned description | nr | | | | |

(n) Windows and Glazed Doors

| INFORMATION PROVIDED | | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|---|---|--|----|---|-------------------|------------------|---|---|
| 1. Generally The following information shall be provided: (a) Scope and location of the work | | | | | | | | |
| CLASSIFICATION TABLE | | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
| 2. Windows 3. Glazed doors | 1. Dimensioned description, overall size and drawing reference stated | 1. Number of fixed lights and number and type of opening lights stated | nr | 1. Glazing beads described 2. Ironmongery described | | | C.1 Windows and doors are deemed to include : (a) Fixing including all screws and bolts, shot fired fixings and lugs (b) Morticing ends of transoms and mullions and /or strengtheners to same (c) Ironmongery and fittings (d) Glazing and glazing beads and compounds (e) Easing all opening sashes and oiling fittings (f) Sealing all joints and bedding and pointing frames (g) Sealant or separator to surfaces of aluminum windows in contact with concrete, plaster or brickwork (h) Water bars where required (i) Stripping protective coverings or coatings C.2 Composite aluminum units are deemed to include for galvanised steel strengtheners inside mullions and transoms. | S.1 Kind and quality of materials S.2 Size or standard of sections S.3 Surface treatment applied as part of the production process S.4 Strippable protective coverings or coatings S.5 Joint sealing, bedding and pointing materials S.6 Requirements for water bars |
| 4. Composite metal windows 5. Composite metal windows and doors | 1. Dimensioned description, overall size and drawing reference stated | 1. Number of units and number and size of coupling mullions and transoms stated, and number of fixed lights and number and type of opening lights stated | nr | 1. Glazing beads described 2. Ironmongery described | | | | |
| 6. Remote control gears | 1. Dimensioned description, stating number of lights to be opened | | nr | | | | | |

XV STEEL AND METAL WORKS

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(p) Curtain Walling

| INFORMATION PROVIDED | | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|--|--|----------------------------|------------------------------|---|---|---|--|---|
| 1. Generally The following information shall be provided: (a) Scope and location of the work. | | | | | M.1 No deduction is made for voids ≤ 1.00 m ² . | D.1 Curtain walling comprises non-loadbearing walls of metal framing, fixed as an integrated assembly, complete with windows and opening lights, glazing and infill panels. | C.1 Curtain walling is deemed to include all (a) framing and fixing at perimeters including heads, sills and abutments, (b) internal and external angles and (c) closers for fire stops and intersections etc. C.2 Curtain walling is deemed to include all cleats, brackets, bolts and fixings. | S.1 Kind and quality and thickness of materials S.2 Surface treatments applied as part of the production process S.3 Strippable protective coverings or coatings. S.4 Method of jointing or form of construction |
| CLASSIFICATION TABLE | | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
| 2. Curtain walling | 1. Dimensioned description | | m ² | 1. Flat 2. Sloping 3. Curved, radius stated | | | C.3 Items include: (a) doors, where supplied with the unit (a) Finishes as specified (b) Architraves, trims and the like where part of the component (c) Ironmongery where supplied with the component associated with windows and doors (d) Glazing and infill panels (e) Mechanical operation and automatic operating equipment where supplied with the component (f) Sealing all joints, and bedding and pointing frames (g) Sealant or separation materials to surface of aluminum in contact with concrete, plaster or brickwork (h) Fixings and fastenings (i) Strippable protective coverings or coatings | S.5 Method of fixing where not at the discretion of the Contractor. S.6 Joint sealing, bedding and pointing materials. S.7 Separation materials where aluminum surfaces are in contact with concrete, plaster or brickwork. |
| | 3. Items extra over curtain walling in which they occur. | 1. Infill panels | 1. Type and thickness stated | | m ² | M.2 Infill panels are measured over all framing. | | |
| | 2. Opening lights 3. Doors | 1. Dimensioned description | nr | | | D.2 Opening lights include opening gear as appropriate. | | |

XVI PLASTERING AND PAVING

(See Section II - General Principles)

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(a) Spatterdash

| CLASSIFICATION TABLE | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|----------------------|--------------------|--|----------------|---|------------------|---|---------------------------|
| 1. Spatterdash | 1. To all surfaces | | m ² | M.1. All surfaces are measured together | | C.1 This work is deemed to include applying in any position and at any level. | |

(b) Lathing and Plasterboard

| CLASSIFICATION TABLE | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|-----------------------------------|---|--|----------------|--|------------------|--|---|
| 1. Metal lathing | 1. Mesh stated 2. Laps stated | 1. To walls and columns 2. To ceilings and sides and soffits of beams 3. To sloping ceilings including sides and soffits of beams 4. To fascias and upstands | m ² | M.1 Work to ceilings is measured to the area between structural walls, deductions for columns and the like will be measured the structural size M.2 Curved work is so described M.3 No deduction is made for voids ≤ 0.50 m ² , nor for voids ≤ 300 mm wide M.4 Work to ceilings and beams, where the ceiling is > 3.50 m from the floor is given separately and so described, the height being stated in stages of 1.50 m | | C.1. All work is deemed to include: (a) Narrow widths and small quantities (b) All holes, notchings and any other sundry items of a like nature C.2 Plasterboard nailed to wood framing is deemed to include provision of timber framing to support board ends as required. C.2 The work is deemed to include the provision of approved timber or steel framing to support plasterboard or fire rated board as required. | S.1 Kind and quality and finish of materials S.2 Background and method of fixing S.3 Jointing and skim coat on plasterboard described |
| 2. Plasterboard | 1. Thickness stated | 5. To sloping soffits of stairs 6. To flewing soffits of stairs 7. On and including support system suspended from concrete ceiling, support system described and depth below ceiling given | m ² | | | | |
| 3. Fire rated enclosure | 1. Material, thickness and fire resisting period stated | 8. To top, sides and soffits for enclosing individual pipe and duct, or group of pipes and ducts and the like | | | | | |
| 34. Stop beads 45. Angle beads | 1. Described or manufacturer's reference stated | | m | | | | |

(c) General Clauses Applicable to the Following Sub-sections (d), (e) and (f)

| INFORMATION PROVIDED | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|----------------------|--|--|--|---|
| <p>1. Generally</p> | <p>M.1 Preparation of surfaces is included in the appropriate Section. Preparation of old surfaces is given separately in Section XVI Plastering and Pavings.</p> <p>M.2 Work to floors and ceilings is measured to the area between structural walls, deductions for columns and the like are measured the structural size.</p> <p>M.3 Work to walls and the like is measured to the area of the base.</p> <p>M.4 Curved work is so described.</p> <p>M.5 No deduction is made for voids $\leq 0.50 \text{ m}^2$, nor for voids $\leq 300 \text{ mm}$ wide.</p> <p>M.6 Work to ceilings and beams where the ceiling is $> 3.50 \text{ m}$ from the floor is given separately and so described, the height being stated in stages of 1.50 m.</p> <p>M.7 Work in confined spaces is so described.</p> <p>M.8 Work in repairs is measured separately.</p> | <p>D.1 All work is deemed internal unless described as external.</p> <p>D.2 Base, in M.2, refers to the structural background, metal lathing or plaster-board.</p> | <p>C.1 Work is deemed to include:</p> <p>(a) Preparation of backgrounds as specified</p> <p>(a) (b) Narrow widths and small quantities</p> <p>(b)-(c) Laying or executing work in bays or between strips</p> <p>(e) (d) Temporary formwork and rules</p> <p>(e) (e) Joints between different types of work and between new and old work</p> <p>(e) (f) Intersections of curved surfaces</p> <p>(e) (g) All making good</p> <p>C.2 Work to floors and pavings is deemed to include for laying or finishing to slopes, falls and currents and intersections in slopes and falls.</p> | <p>S.1 Kind, quality, composition and mix of materials, including bonding agents, waterproofing agents and other admixtures (except where at the Contractor's discretion)</p> <p>S.2 Nature of surface treatment, including wax polishing or sealing coats and the like</p> |

(d) In-situ Surface Finishes and Screeds or Backings

| CLASSIFICATION TABLE | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION | |
|--|---|--|----------------------|---|---|--|--|------------------------------------|
| <p>1. Walls and columns</p> <p>2. Ceilings and sides and soffits of beams</p> <p>3. Sloping ceilings and sides and soffits of beams</p> <p>4. Sloping soffits of stairs</p> <p>5. Flewing soffits of stairs</p> <p>6. Floors</p> <p>7. Roofs</p> <p>8. To treads and risers</p> <p>9. Others</p> | <p>1. Thickness and number of coats stated</p> <p>2. On plasterboard, thickness and number of coats stated</p> <p>3. On metal lathing, thickness and number of coats stated</p> | <p>1. Patterned or grooved work, details stated, coloured work, colour or colour group stated. For screeds, the material to be received is stated.</p> | <p>m²</p> | <p>1. Work in repairs stating the approximate thickness of dubbing required.</p> <p>2. Work carried out in one operation with concrete is so described.</p> | <p>M.1 Work measured in this section includes rendering, plastering, screeding, granolithic terrazzo, bitumen emulsion and asphaltic concrete or macadam and the like. Each type of work is grouped under a separate heading.</p> | <p>D.1 The thickness stated is the nominal thickness excluding keys, grooves or open joints in brickwork or lathing.</p> | <p>C.1 Work is deemed to include:</p> <p>(a) Cleaning off and wetting surfaces of concrete slabs, and washing with cement grout if the concrete has hardened</p> <p>(↔) (b) Internal angles, arrises, throats, drips and the like</p> <p>(↔) (c) Coves, grooves and rounded external angles ≤ 25 mm radius</p> | <p>S.1 Method of application</p> |
| <p>10. Roads and pavings</p> | <p>1. Thickness stated</p> | | <p>m²</p> | | <p>M.2 Bitumen emulsion, asphaltic concrete, macadam base courses, wearing courses and tack coats, are each measured separately.</p> | <p>D.2 The thickness stated is that after consolidation.</p> | <p>(↔) (d) Angles, stops, intersections, fair ends, junctions, wreathed corners and the like on coves, skirtings, channels, strings, curbs and the like</p> | <p>S.2 Method of consolidation</p> |

(d) In-situ Surface Finishes and Screeds or Backings (continued)

| CLASSIFICATION TABLE | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|---|---|---|------------------|--|------------------|----------------|---------------------------|
| 11. Items measured extra over the foregoing items 1 to 10 | 1. Coloured margins 2. Coloured bands 3. Fillings to pipe trench covers 4. Shallow channels within the thickness of the screed, flooring or paving 5. Finish to channels formed in floor or roof finish of a similar type | 1. Width and depth stated | m | 1. In coloured work, colour or colour group stated | | | |
| | 6. Filling to recessed manhole covers, and the like size stated 7. Filling to shaped insets, described 8. Filling to mat sinkings, size stated | | nr | | | | |
| 12. Speed bumps | 1. Dimensions stated | | m (nr stated) | | | | |
| 13. Rounded angles > 25 mm radius 14. Coves > 25 mm radius | | | m | | | | |
| 15. Skirtings | 1. Fully described, height above finished floor stated | 1. Level 2. Sloping 3. Sloping with stepped base 4. Stepped following profile of treads and risers | m | | | | |
| 16. Wall strings 17. Open strings | 1. Thickness and average height or width stated | | m | | | | |
| 18. Curbs 19. Curb strings | 1. Thickness and girth stated | | m | | | | |
| 20. Channels, not of similar finish to floor | 1. Width and depth stated | | m | | | | |
| 20a. Angle fillets | 1. Width and depth stated | | m | | | | |

(e) Tile and Slab Finishes

| INFORMATION PROVIDED | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|-----------------------|--|--|----------------|--|------------------|--|--|
| 1. Generally | | | | <p>M.1 Work measured under this Sub-section includes ceramic, synthetic rubber, granite, marble or slate tiling, mosaic tiling, precast items, and the like. Each type of work is grouped under a separate heading.</p> <p>M.2 Granite, marble, slate etc. slabs are measured in accordance with Section XI Stone Works Sub-section (b).</p> | | <p>C.1 Each item of work in this section is deemed to include, except where special tiles or fittings are required:</p> <p>(a) Internal angles and arises</p> <p>(b) Cutting and fitting up to frames and metalwork and around pipes and bracket ends and the like</p> <p>(c) Mitres, stops, intersections, fair ends, junctions, wreathed corners and the like on mouldings, coves, skirtings, gutters, channels, strings, curbs and similar</p> <p>C.2 All work is deemed to include:</p> <p>(a) Bedding material or and adhesive and laying in the specified method</p> <p>(b) Treatment of joints</p> | <p>S.1 Kind and quality of materials</p> <p>S.2 Size, shape and thickness of units</p> <p>S.3 Nature of base</p> <p>S.4 Preparatory work</p> <p>S.5 Method of fixing and width of and treatment of joints</p> |
| CLASSIFICATION TABLE | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
| 2. Floors and pavings | | | m ² | <p>1. Patterned, details stated</p> <p>2. Inserts, size or section stated</p> <p>3. Underlays</p> <p>4. In coloured work, the colour or colour group is stated</p> | | | |
| 3. Treads | | | | | | | |
| 4. Risers | | | | | | | |

(e) Tile and Slab Finishes (continued)

| CLASSIFICATION TABLE | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|--|---|---|--|---|--|---|---------------------------|
| 16. Items extra over items in which they occur | 1. Rounded edge tiles 2. Nosing bead tiles 3. Internal corner tiles 4. External corner tiles 5. Sunk bands in contrasting colour, width stated 6. Raised bands in contrasting colour, width stated 7. Margins in contrasting colour, width stated | | m | | | | |
| | 8. Special tiles | 1. Dimensioned description or manufacturer's reference | m ----- nr | | | | |
| 17. Movement joints | 1. Dimensioned description | | m | 1. Where jointing is required to line with adjoining work it is so stated | D.1 Movement joints include expansion joints | | S.6 Method of fixing |
| 18. Cover strips | | | | | | | |
| 19. Division strips | | | | | | | |
| 20. Non-slip inserts | 1. Described | | m | | | | |
| 21. Filling in to trench covers | 1. Width and thickness stated | | m | | | | |
| 22. Filling in to insets, manhole covers and mat sinkings | 1. Sizes stated | nr | | | | | |
| 23. Accessories | 1. Nosings 2. Cover strips 3. Dividing strips | 1. Dimensioned description | m | | | C.5 Nosings are deemed to include working finishes thereto. C.6 Mitred regular and irregular angles are deemed to be included. | |
| 24. Tactile tiles | 1. Warning/stop tactiles 2. Direction/go tactiles 3. Turning/positional tactiles | 1. Dimensioned description, method of fixing and background for fixing stated | m ² ----- m (width stated) | | | | |

XVI PLASTERING AND PAVING

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(f) Rubber and Plastic Sheet or Carpet sheet/Tile Finishes and the like

| INFORMATION PROVIDED | | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|-----------------------|-----------------------------------|--------------------------------------|----------------|--|--|---|---|---|
| 1. Generally | | | | | M.1 Work measured under this section includes synthetic rubber, linoleum, cork, rubber, vinyl sheeting, fibreglass membrane ball court finishes, acoustic sheetings, carpet and carpet tiles, artificial turfing, and the like. Each type of work is grouped under a separate heading. | D.1 Rounded internal and external angles > 100 mm radius are classified as curved work. | C.1 Work is deemed to include: (a) Rounded internal and external angles ≤ 100 mm radius (b) Seams and fair joints (c) Fixing at perimeter (d) Cutting and fitting up to frames and metalwork and around pipes and bracket ends and the like | S.1 Kind and quality and size of materials S.2 Nature and number of underlays S.3 Nature of base S.4 Method of fixing and treatment of joints S.5 Extent of laps S.6 Types of seams S.7 Pattern, width and laying direction of materials S.8 Surface treatment |
| CLASSIFICATION TABLE | | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
| 2. Floors and pavings | | | m ² | 1. Patterned, details stated 2. Inserts, size or section stated 3. Underlays | | | C.2 Work is deemed to include for working finishes, without necessity for cutting, into shallow channels. C.3 Work to treads and risers is deemed to include all fair edges, internal and external angles. C.4 Work to strings and aprons is deemed to include ends, angles, ramped and wreathed corners. | |
| 3. Treads | | | | | | | | |
| 4. Risers | | | | | | | | |
| 5. Strings | | | | | | | | |
| 6. Aprons | | | | | | | | |
| 7. Walls and columns | | | | | | | | |
| 8. Skirtings | 1. Height stated ----- | 1. Flush 2. Raking 3. Vertical | m | 1. Patterned, details stated 2. Inserts, size or section stated | | | C.5 Work to skirtings and kerbs is deemed to include fair, rounded, beaded and moulded edges, coved junctions, ends, angles and ramps. | |
| 9. Kerbs | 2. Height and width Girths stated | | | | | | | |

(f) Rubber and Plastic Sheet or Carpet sheet/Tile Finishes and the like (continued)

| CLASSIFICATION TABLE | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|--|--|---|--|--|---|----------------|--|
| 10. Movement joints 11. Cover strips 12. Division strips | 1. Dimensioned description | | m | | D.2 Movement joints include expansion joints. | | S.9 Method of fixing |
| 13. Non-slip inserts | 1. Described | | m | | | | |
| 14. Filling in to pipe trench covers | 1. Width stated | 1. Where jointing is required to line with adjoining work it is so stated | m | | | | |
| 15. Filling in to insets, manhole covers and mat sinkings | 1. Sizes stated | | nr | | | | |
| 16. Line marking on sports pavings | | | m | M.2 Where paint type to be measured in accordance with the rules for Section XXI Painting. | | | S.10 Method of application if not at Contractor's discretion |
| 17. Letters or figures on sports pavings | | | nr | | | | |
| 18. Accessories | 1. Nosings | 1. Dimensioned description | m | | C.6 Nosings are deemed to include: (a) Working finishes thereto (b) Mitred regular and irregular angles | | |
| | 2. Cover strips 3. Dividing strips | | m | | | | |
| | 4. Stair rods and similar fixings | | nr | | | | |
| 19. Tactile tiles | 1. Warning/stop tactiles 2. Direction/go tactiles 3. Turning/positional tactiles | 1. Dimensioned description, method of fixing and background for fixing stated | m ² ----- m (width stated) | | | | |

XX GLAZING

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(a) General Glazing (including Acrylic and Polycarbonate Sheets)

| INFORMATION PROVIDED | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|--------------------------------|---|--|---------------|---|---|---|---|
| 1. Generally | | | | <p>M.1 Glass measured in this section is for general glazing to windows, doors etc.</p> <p>M.2 Glass in the following positions are measured in the appropriate Sub-sections of Section XIII Wood Works and XV Steel and Metal Works:</p> <p>(a) Fixed and demountable partitions.</p> <p>(b) Office partitions</p> <p>(c) Shop fronts</p> <p>(d) Curtain walling</p> <p>(e) Furniture and fittings etc.</p> <p>(f) Windows and glazed doors</p> | | <p>C.1 Work is deemed to include:</p> <p>(a) Painting metal or wood rebates with specified primer before glazing</p> <p>(b) Painting cut edges of wired glass with specified paint</p> <p>(c) (c) Putty or glazing compounds</p> <p>(d) (d) Springs or glazing clips</p> <p>(e) (e) Bedding in glazing tape, wash leather, rubber, neoprene, butyl or other plastic and the like where so described</p> <p>(f) (f) Where bedded in wood frames with wooden beads the taking off and replacing the beads</p> <p>(g) (g) Drilling or forming all holes for fixing or for ironmongery and the like</p> | <p>S.1 Kind, quality and thickness of glass</p> <p>S.2 Kind and quality of glazing compounds and sealants</p> <p>S.3 Method of glazing</p> <p>S.4 Method of securing including details of gaskets, glazing strips and channels</p> <p>S.5 Nature of frame or surround</p> <p>S.6 Fire rated panes have fire rating stated</p> |
| CLASSIFICATION TABLE | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION. |
| 2. Glazing | 1. Panes area $\leq 0.15 \text{ m}^2$ | | m^2 | 1. In irregular shapes (measured square) | | | |
| 3. Sealed double glazing units | 2. Panes, area > 0.15 and $\leq 4.00 \text{ m}^2$ | | | 2. In flat panes set to curve | M.3 Panes of irregular shape are measured the smallest rectangle from which the pane can be obtained. | C.2 Glazing is deemed to include raking and curved cutting. | |
| | 3. Panes $> 4.00 \text{ m}^2$ | | | | M.4 Glass which is brilliant cut or bent or in which holes are cut or formed, is enumerated. | | |
| 4. Louvres | 1. Dimensioned description | 1. Labours to edges are given in the description | m (nr stated) | | | | |

(b) Glass Wall Linings, Floors, Balustrades and Parapets

| INFORMATION PROVIDED | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|---|---|--|----------------|---|------------------|--|--|
| <p>1. Generally The following information shall be provided: (a) Scope and location of the work</p> | | | | | | | <p>S.1 Kind, quality and thickness of materials, except where at the discretion of the Contractor</p> <p>S.2 Method of jointing or method of construction, except where at the discretion of the Contractor</p> |
| CLASSIFICATION TABLE | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION. |
| 2. Squash court armoured glass walls and doors | 1. Dimensioned description, or reference to drawing for the complete system | | Item | | | <p>C.1 Work is deemed to include all necessary mullions, fixings, framing, neoprene strips, sealant pointing, cement and sand packing etc. and ironmongery to doors.</p> | |
| 3. Mirror wall linings | 1. Dimensioned description | | m ² | | | | S.3 Details of silvering and protective backing |
| 4. Glass balustrades and parapets | 1. Dimensioned description | | m | M.1 Balustrades in different locations shall each be measured separately. | | | <p>C.2 Work is deemed to include:</p> <p>(a) Top rails, posts, glazing panels, glass connectors, Fixing rough clamps at bottom, all supporting metalwork, structural sealant joints and finish to exposed edges</p> <p>(b) All ends, angles, ramps and ramped angles and the like</p> |

XXI PAINTING

(See Section II - General Principles)

(a) **General Clauses Applicable to the following Sub-sections (b) through (e)**

| INFORMATION PROVIDED | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION |
|----------------------------|--|---|---|--|
| <p>1. Generally</p> | <p>M.1 Work on concrete, brick, plaster, stone, metal, wood or other surface is in each case given separately.</p> <p>M.2 The area or girth measured is the area or girth covered including allowances for the extra girth of edges, mouldings, panels, sinkings, corrugations, flutings, carvings, enrichments and the like unless otherwise provided for herein.</p> <p>M.3 Work on existing surfaces is given separately and preparatory treatment of existing decoration such as washing down, burning off, stripping and the like is stated in the description.</p> | <p>D.1 Work is deemed to be internal unless otherwise described.</p> <p>D.2 Multi-coloured work is defined as the application of more than one colour on an individual surface. On walls and piers and on ceilings it is defined as the application, in one room, of more than one colour on walls and piers, or on ceilings and beams.</p> | <p>C.1 All work shall be deemed to include:</p> <p>(a) Multicoloured work and cutting to line</p> <p>(b) Preliminary preparatory work before application</p> <p>(c) Rubbing down between coats</p> <p>(d) Painting on beads, hinges and other fittings, brackets, bolts, lugs and the like, and attached pipework and conduits painted at the same time and in the same material and colour as the surface to which they are attached</p> <p>(e) Removing all ironmongeries and similar hardware before painting and reinstalling the same after painting, or protecting like items by approved means</p> | <p>S.1 Kind and quality of materials</p> <p>S.2. Material required to be applied and/or finished by a particular method stated</p> <p>S3 Preliminary preparation work before application</p> |

(f) Green Planting Systems

| CLASSIFICATION TABLE | | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION. |
|--|--|--|-----------------------------|--|--|------------------|--|---|
| 1. Vertical green wall systems 2. Horizontal green roof systems | 1. For proprietary systems, catalogue references, components of the system and background for fixing stated | | m ² <hr/> set | | M.1 Plants are measured separately. M.2 Measured the area covered by the green planting system. | | C.1 For proprietary systems, the work is deemed to include: (a) submission of shop drawings, method statement and structural loading calculation (b) construction of mock-up on site if specified (c) support system, irrigation system, drainage system, planting media, any additional components, fittings, accessories and the like required in compliance with the design intent | S.1 Design intent if not expressly described or shown in the drawing or specification |
| | 2. For other systems, each component of the system is measured in accordance with the measurement rule in the appropriate Section. | | | | M.1 applies. | | | |

(g) Statues, Sculptures and Stone Features

| CLASSIFICATION TABLE | | | | | MEASUREMENT RULES | DEFINITION RULES | COVERAGE RULES | SUPPLEMENTARY INFORMATION. |
|---|---|--|-----------------|--|-------------------|------------------|---|----------------------------|
| 1. Statues 2. Sculptures 3. Stone features 4. Others | 1. Catalogue references or dimensioned description and method of fixing | | nr <hr/> set | | | | C.1 The work is deemed to include the provision of any additional framing support required for securely fixing into position. | |