

STANDARD 2

Malaysian Standard Method of Measurement of Building Works Second Edition



The Institution of Surveyors, Malaysia

PREFACE TO THE SECOND EDITION

Ever since the first edition of the SMM made its appearance in 1960 the building industry has seen many changes and innovations in methods and modes of construction. This has resulted in demands for an efficacious communication and cost controlling tool for the benefit of better management and effective monitoring of the works. The need for a new SMM is premised on these requirements.

The first Sub-Committee under Mr. Cheah Kow Chye was set up under instruction of the Quantity Surveying Sectional Committee of The Institution of Surveyors, Malaysia in 1984 to look into this and thereafter Mr. Noel Lim took over the chair of the Sub-Committee in 1989 when the decision to adopt the British SMM6 as a basis for our proposed second edition was made and agreed upon. We have since obtained endorsement from the Royal Institution of Chartered Surveyors (RICS) to enable us to use the SMM6 for this purpose and would express our gratitude to them.

This Committee is glad that this second edition has come to fruition albeit after taking enough time to overcome the endless discussions and deliberations on matters technical, social and economics. We have been able to draw upon the knowledge and experiences of both members of the above Committees to provide inputs and comments relevant to this exercise. All suggestions, observations and comments received have been carefully considered and weighed in the context of current practices, and incorporated into this edition where appropriate.

This edition should reflect a reference which is true to tradition and yet flexible for modern use. Due to the ongoing changes in information technology one should reflect on the changes that have to come to accommodate on-line BQ production techniques; it would be pertinent to note that a future edition to accommodate this is inevitable. Perhaps this edition will provide the adequate milestones to move to the next stage synchronous with developments in new multi media technologies.

The Committee would wish to thank those who have spent time in giving points and ideas which have been adopted and those who are not Committee members but have given assistance to us viz. Cawangan Ukur Bahan & Kontrak Jabatan Kerja Raya, Kementerian Kerja Raya Malaysia, the Institution of Surveyors, Malaysia, the Department of Quantity Surveying of the Universiti Teknologi Malaysia (UTM) and Universiti Teknologi Mara (UiTM) and the Department of Building of the Tunku Abdul Rahman (TAR) College; we are grateful for your contributions.

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May, 2000

Preface to the First Edition 1959

Since the introduction of the use of the Bills of Quantities to the Building Trade in Singapore and Malaya, as from the early nineteen thirties, The STANDARD METHOD of MEASUREMENT of BUILDING WORKS, as published in England by The Royal Institution of Chartered Surveyors, has been adopted as a broad basis for measurement, with modifications to suit the individual requirements of Contracting Departments or the demands of local conditions and practice.

However, until now, these modifications have never been agreed or standardized among Quantity Surveyors. Consequently, Surveyors in Government and Service Departments and in private practice have been measuring, classifying and describing virtually the same items of construction in various ways, each Surveyor either trying to keep to an accepted style and practice set by his predecessor, or, very often, trying to introduce what he considers to be a better method or system.

The need for standardization is therefore very obvious and has been felt for a long time. In fact, an unsuccessful attempt was made to draw up a Revised Standard Method of Measurement for Singapore and Malaya before the Second World War and in 1956 the War Office issued Rules of Measurement to Standardize Bills of Quantities in respect of work for the War Department, Admiralty and Air Ministry, but they were intended only for Departmental use.

In September, 1957, a Sub-Committee of the then Malaya Branch of the Royal Institution of Chartered Surveyors, comprising members of long experience in the Federation of Malaya and Singapore was formed, with the authority of the Institution, to revise and alter the English SMM accordingly to suit our local needs and practice. This first Edition is the result.

Primarily, the English Standard Method of Measurement (4th Edition) remains the basis of this document. The Sub Committee did not attempt to re-write completely the English SMM but generally deleted non-applicable items and items of minor importance, especially those involving labour only and incorporated them into other major basic items and added new items to suit our local labour requirements and trade practices.

In effect the principles of measurement and description established herein amount to an amalgamation or compromise of the practices of Surveyors in the Government, War Department, Admiralty, Air Ministry and private firms.

Upon completion of the proposed revisions, draft copies were sent to all interested Surveyors in private practice, Government and Service Departments and to Contractors' Association of the Federation of Malaya and Singapore, with invitations for their comments and suggestions. Many were received and all opinions expressed were carefully weighed and considered by the Sub-Committee before adoption or rejection.

In submitting this First Edition of the Standard Method of Measurement of Building Works for Use in the Federation of Malaya, Singapore and Borneo, the Sub-Committee wishes to state that it is the expressed wish of the Branches of the Federation of Malaya and Singapore that it will be adopted by all Quantity Surveyors in the designated areas upon its official publication.

The members of the Sub Committee are M.H. Seah (Chairman), R.N.S. Rhodes, S.A. Duncan, D. Morris (succeeding S.A. Duncan) and K.A Suckling. Many other Surveyors generally assisted the Sub-Committee and acted as replacements during the temporary absence of certain members of the Sub-Committee.

Preface to 1st Edition (Metric) 1976

The Institution of Surveyors (Malaysia) in conjunction with Jabatan Kerja Raya has agreed to convert the present Standard Method of Measurement of Building Works to Metric Edition in early 1976 for the adoption and the use of Metric System in Malaysia

The Joint Committee is made up of the Chairman of the Quantity Surveying Sectional Committee of the Institution of Surveyors (Malaysia), two Members representing Jabatan Kerja Raya and two Members representing Institution of Surveyors (Malaysia).

The Joint Committee was instructed by the Institution to produce the Standard Method of Measurement of Building Works 1st Edition (Metric) in line with the existing Standard Method of Measurement and any improvement and revision will be done subsequently. This Edition is not a straight conversion from Imperial measurement to metric as the Joint Committee has deliberated at the several meetings to arrive at measurements for practical purposes and usage with regards to materials and labour in Malaysia.

After several sittings, the draft was duly completed and copies forwarded to the Institution of Surveyors (Malaysia) and Jabatan Kerja Raya for their comments before final printing.

In submitting this 1st Edition (Metric) of the Standard Method of Measurement of Building Works, for use in Malaysia, the Joint Committee hope that this publication will be a guide for the construction industry until such time the Standard Method of Measurement is revised.

The members of the Joint Committee are Tuan Haji Mohd Isahak Mohd Yusuf (Chairman), Encik Cheah Kow Chye (Honorary Secretary), Encik Hashim Sikan, KMN, Encik Abdul Rahman Abdullah and Encik Loh Siow King.

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SECTION A

GENERAL RULES

A.1 Introduction

This Standard Method of Measurement provides a uniform basis for measuring building works and embodies the essentials of good practice but more detailed information than is required by this document shall be given where necessary (e.g. in descriptions or preambles, certain specification information including limits on tolerance imposed by the designer) in order to define the precise nature and extent of the required work. This Standard Method of Measurement shall apply equally to both proposed and executed works.

A.2 Bills of Quantities

1. Bills of quantities shall fully describe and accurately represent the quantity and quality of the works to be carried out. Work which cannot be measured shall be given as a provisional sum. Work the extent of which is not known shall be described as provisional or given in a bill of approximate quantities.
2. Rules of measurement adopted for work not covered by these rules shall be stated and such rules shall as far as possible conform with those given in this document for similar work.

A.3 Measurement

1. Unless the term metre used in this document is preceded by the words square or cubic it shall be deemed to be linear.
2. Unless otherwise stated, works shall be measured net as fixed in position and each measurement shall be taken to the nearest 10mm (i.e. 5mm and over shall be regarded as 10mm and less than 5mm shall be disregarded). This rule shall not apply to any dimensions stated in descriptions.
3. Unless otherwise stated, where minimum deductions of voids are dealt with in this document they shall refer only to openings or wants which are within the boundaries of measured areas. Openings or wants which are at the boundaries of measured areas shall always be the subject of deduction irrespective of size.
4. The use of hyphen between two dimensions in this document or in a bill of quantities shall mean a range of dimensions exceeding the first dimension stated but not exceeding the second.

A.4 Description

1. The order of stating dimensions in descriptions shall be consistent and generally in the sequence of length, width and height. Where that sequence is not appropriate or where ambiguity could arise, the dimensions shall be specifically identified.
2. Unless otherwise stated in the bill or herein, the following shall be deemed to be included with all items:
 - a. Labour and all costs in connection therewith.

A.4 Description (cont'd)

- b. Materials, goods and all costs in connection therewith such as conveyance, delivery, unloading, storing, returning packings, handling, hoisting, lowering, etc.
 - c. Assembling, fitting and fixing materials and goods in position.
 - d. Plant and all costs in connection therewith.
 - e. Waste of materials.
 - f. All cuttings.
 - g. Establishment charges, overhead charges and profit.
- 3. Junctions between straight and curved work shall in all cases be deemed to be included with the work in which they occur.
 - 4. Notwithstanding the provisions in this document for labours to be given as linear items, such labour may be given in the description of any linear items of work on which they occur.
 - 5. Notwithstanding the provisions in this document for labours to be enumerated, such labours may be given in the description of any enumerated items of work on which they occur.

A.5 Drawn information

- 1. Drawn information can either be drawings or extracts from drawings used for measurements or specially prepared to supplement a description, and shall show all the information necessary for the manufacture and assembly in the case of components.
- 2. The requirements of this document for detailed descriptions shall be deemed to have been complied with if drawn information is provided or referred to in the description and such information indicates fully the items required to be described.

A.6 Standard products

The requirements of this document shall be deemed to have been complied with if the item concerned is a product details of which have been published and to which reference has been made in the description.

A.7 Quantities

- 1. Where the unit of billing is the metre, square metre, cubic metre or kilogramme, quantities shall be billed to the nearest whole unit. Fractions of a unit less than half shall be disregarded and all other fractions shall be regarded as a whole unit.
- 2. Where the unit of billing is the tonne, quantities shall be billed to the nearest two places of decimals.
- 3. Where the application of clauses A.7.1 and 2 would cause an entire item to be eliminated, such item shall be enumerated stating the size or weight as appropriate.

A.8 Provisional or prime cost sums

1. Where this document requires provisional or prime cost sums to be given in accordance with this clause, the choice of terms shall be made in conformity with the following definitions unless otherwise provided in the conditions of contract:
 - a. The term 'provisional sum' is defined as a sum provided for work or for costs which cannot entirely be foreseen, defined or detailed at the time the tender documents are issued.
 - b. The term 'prime cost sum' is defined as a sum provided for work or services to be executed by a nominated sub-contractor, a government or a statutory authority or for materials or goods to be obtained from a nominated supplier. Such sum shall be deemed to be exclusive of any profit required and/or attendance to be provided by the main contractor and provision shall be made for the addition thereof where applicable.

A.9 Work in special conditions

1. Alterations and work in existing buildings shall be so described. Handling materials and getting them in or out of such buildings shall be deemed to be included with the items. Labours on existing work shall be so described.
2. Work carried out in or under water shall be so described stating whether canal, river or sea water and (where applicable) the levels of high and low water.
3. Work carried out in compressed air shall be so described stating the pressure and the method of entry and exit.
4. Work outside the curtilage of the site shall be so described.

SECTION B

PRELIMINARIES

Preliminaries particulars

B.1 Project, parties and consultants

1. The name, nature and location of the project shall be stated.
2. A general description of the works shall be given.
3. The names and addresses of the Employer and consultants to be named in the contract shall be given.
4. The names and addresses of any other consultants shall be given.

B.2 Description of site

1. Information to indicate the boundaries of the site, the means of access and the position of the works shall be given.
2. Attention shall be drawn to any drainage, water, gas and other mains or power services known to exist on or over the site.
3. Attention shall be drawn to any adjacent or abutting buildings.
4. Information to facilitate visiting the site shall be given.

B.3 Drawings and other documents

1. A list shall be given of the drawings from which the bills of quantities have been prepared.
2. Addresses where drawings and other documents may be inspected by appointment or otherwise shall be given.

Contract

B.4 Form, type and conditions of contract

1. Where the conditions of contract are standard and published for general use, particulars of the edition to be used and a schedule of the clause headings shall be given. Where the standard conditions provide for alternative or optional clauses, the clauses which are to apply shall be stated. Amendments to standard conditions shall be given in full.
2. Where the conditions of contract are not standard and published for general use, the conditions shall be set out in full in the bills of quantities or a schedule of clause headings shall be given where a full set of conditions is supplied with the bills of quantities. In either case where the conditions provide for alternative or optional clauses, the clauses which are to apply shall be stated.

B.4 Form, type and conditions of contract (cont'd)

3. Where there is an appendix to the conditions of contract requiring insertion to be made, a schedule of the insertions shall be set out in the bills of quantities.

B.5 Contractor's liability

1. The following shall be given unless already covered by the schedules given in accordance with clause B.4.
 - a. Contractor's liability for risk or injury to persons and property and of damage to the works.
 - b. Where the Employer requires the Contractor to effect insurance in respect of the Contractor's liability for any such risk, the relevant particulars shall be given.
 - c. Where the Employer intends to relieve the Contractor of liability of any such risk, the relevant particulars shall be given.

B.6 Employer's liability

Where the cost of insuring any liability of the Employer is required to be included in the contract sum, such cost shall be given as a provisional sum.

B.7 Obligations and restrictions imposed by the Employer

1. Particulars shall be given to any obligations or restrictions to be imposed by the Employer in respect of the following, unless they are covered by the schedules given in accordance with clause B.4
 - a. Access to and possession or use of the site.
 - b. Limitations of working space.
 - c. Limitations of working hours.
 - d. The use or disposal of any material found on site.
 - e. Hoardings, fences, screens, temporary roofs, temporary name/sign boards and advertising rights.
 - f. The maintenance of existing live drainage, water, gas and other mains or power services on or over the site.
 - g. The execution or completion of the work in any specific order or in sections or phases.
 - h. Maintenance of specific temperature and humidity levels. Alternatively, a provisional or prime cost sum shall be given.
 - j. Temporary accommodation and facilities for the use of the Employer including air conditioning, lighting, furnishing and attendance.
 - k. The installation of telephones for the Use of the Employer and the cost of his telephone calls shall be given as a provisional sum.
2. Any other obligation or restriction such as restriction Upon the employment of labour, restriction on the Use of radios by employees, restriction on the felling of trees, car parking arrangements for the employees, etc.

Works, goods and materials by others

B.8 Works by nominated sub-contractors

1. Works which are required to be carried out by a nominated sub-contractor shall be given as a prime cost sum. The name of the firm to be nominated shall be given (if known) together with a description of the sub-contract work.
2. An item shall be given in each case for general attendance which shall be deemed to include the use of the Contractor's temporary roads, pavings and paths, standing scaffolding, standing power operated hoisting plant, the provision of temporary lighting and water supplies, clearing away rubbish, provision of space for the sub-contractor's own offices and for the storage of his plant and materials and the use of messrooms, sanitary accommodation and welfare facilities, which shall all be without charge to the sub-contractor.
3. Other attendance on nominated sub-contractors where required shall be described and given as an item in each case for:
 - a. Special scaffolding or scaffolding additional to the Contractor's standing scaffolding.
 - b. The provision of temporary access roads and hardstandings in connection with structural steelwork, precast concrete components, piling, heavy items of plant and the like.
 - c. Unloading, distributing, hoisting, placing in position giving in the case of significant items the weight and/or size.
 - d. The provision of covered storage and accommodation including lighting and power thereto
 - e. Maintenance of specific temperature or humidity levels.
 - f. Any other attendance not included in this clause or in clause B.8.2.
4. Builder's work in connection with works by nominated sub-contractors shall be given in accordance with the appropriate clauses of this document.

B.9 Goods and materials from nominated suppliers

1. Goods and materials which are required to be obtained from a nominated supplier shall be given as a prime cost sum. The name of the supplier to be nominated shall be given if known.
2. Fixing goods and materials shall be given in accordance with the appropriate clauses in this document. Unloading, storing, hoisting the goods and materials and returning packing materials to the nominated supplier carriage paid and obtaining credits therefor shall be deemed to be included with the items for fixing. Particulars shall be given where the Contractor is required to pay the costs of conveying goods and materials to the site and/or of any special packing or similar requirements.

B.10 Works by government or statutory authorities

1. Works which are to be carried out by a government or statutory authority shall each be given separately as a provisional or prime cost sum.
2. Works which are to be carried out by a government or statutory authority in accordance with statutory obligations shall be described, stipulating the scope and timing of the work and its effect on the Contractor's operations.

B.11 Works or goods and materials by the Employer

- 1 A description shall be given of works by others directly engaged by the Employer. Any attendance required shall be given in accordance with clauses B.8.2 and 3.
- 2 A description shall be given of goods and materials provided by or on behalf of the Employer. Fixing goods and materials shall be given in accordance with B.9.2.

General facilities and obligations

B.12 Pricing

- 1 For convenience in pricing, items for the following if applicable shall be given. Maintaining temporary works, adapting, clearing away and making good including any notices and fees to government or statutory authorities related to the following items shall be deemed to be included with the items.
 - a. Plant, tools and vehicles. Piling plant shall be given in accordance with Section E.
 - b. Scaffolding.
 - c. Site administration and security.
 - d. Transport for workpeople.
 - e. Protection of work in all sections.
 - f. Water for the works. Particulars shall be given if water will be supplied by the Employer.
 - g. Lighting and power for the works. Particulars shall be given if current will be supplied by the Employer.
 - h. Temporary roads, hardstandings, crossings and similar items.
 - j. Temporary accommodation for the use of the Contractor.
 - k. Temporary telephones for the use of the Contractor.
 - l. Traffic regulations.
 - m. Safety, health and welfare for the workpeople.
 - n. Disbursements arising from the employment of workpeople.
 - p. Maintenance of public and private roads.
 - q. Removing rubbish, protecting casings and coverings and cleaning the works on completion.
 - r. Drying the works.
 - s. Temporary fencing, hoardings, screens, fans, planked footways, guardrails, gantries and similar items.
 - t. Control of noise, pollution and all other statutory obligations.
 - u. Surety or performance bond.
 - v. Shop drawings, co-ordination and record drawings.
 - w. Schedules, charts and the like showing the progress, organisation of trades and similar items.
 - x. Progress photographs.
 - y. Adjacent, surrounding, concurrent works, adjoining owners, liaison, etc.
 - z. Any other items or requirements.

Contingencies

B.13 Generally

Any provision or contingencies shall be given as a provisional sum.

SECTION C

DEMOLITION

Generally

C.1 Information

A general description of the work in this section shall be given. Work required to be carried out by specific methods shall be described stating any limitations.

C.2 Demolition

1. The location of demolitions shall be given in the description of the items.
2. Old material arising from demolitions shall become the property of the Contractor unless otherwise stated. Clearing away such old materials shall be deemed to be included with the items. Provision shall be made in the bill of quantities for credits.
3. Old materials required to remain the property of the Employer shall so be described. Setting aside and storing such old materials on site shall be given in the description of the items.
4. Old materials permitted to be re-used in work measured as new shall be so described. No adjustment shall be made to the measured quantities of new work in which such old materials are re-used.
5. Any restrictions to be imposed by the Employer on the method of disposal of old materials arising from demolitions shall be given in the description of the items.
6. Handling and disposal of toxic or other dangerous materials shall be described stating each type of material.

C.3 Measurement

1. Demolishing individual structures (or parts thereof shall be given as items stating the dimensions, except that clearing a site of all structures may be given as a single item. The level or levels to which structures (or parts thereof are to be demolished shall be stated. Any remaining structures and finishings required to be made good shall be so described. Leaving parts of old walls temporarily in position to act as buttresses shall be given in the description of the items.
2. Cutting openings or recesses in existing structures shall be given as items stating the size of the opening or recess required, the type and thickness of the existing structure and the treatment (e.g. insertion of trimmers, lintels, arches and sills) around the opening or recess. Making good all parts of the structure disturbed shall be deemed to be included with the items. Extending finishings and making good finishings disturbed shall be included in the description.
3. Cutting back projections of existing structures and cutting to reduce thickness of existing structures shall be given as items stating the dimensions and the nature of the existing structure.

C.3 Measurement (cont'd)

4. Fitting and fixtures (e.g. doors, windows, sanitary fittings, counters and cupboards) required to be removed prior to demolition shall be given as items stating the size. Those required to be set aside for re-fixing shall be so described. Existing structures or finishings required to be made good shall be so described.
5. Removing engineering and plumbing installations shall be given as items stating the nature of the installation. Existing structures or finishings required to be made good shall be so described.
6. Removing finishings or coverings to existing structures shall be given as items stating the nature of the finishings or coverings and indicating the quantity.
7. Temporary screens and temporary roofs shall each be given separately in square metres or enumerated as may be appropriate. Weather proof screens and dust proof screens shall be so described. Temporary arrangements for dealing with rainwater, temporary doors, temporary windows and the like in screens shall be given in the description. Clearing temporary work shall be deemed to be included with the items.

C.4 Shoring

1. Shoring and scaffolding incidental to demolition of individual structures (or parts thereof), individual openings and/or recesses in existing structures and making good all work disturbed by such shoring and scaffolding shall be deemed to be included with the items.
2. Shoring (other than that incidental to demolitions) shall be described and given as an item stating the position and type of shoring and the nature of the structure to be shored. Cutting holes in the structure and making good all work disturbed shall be given in the description. Providing all necessary nails, wedges and bolts shall be deemed to be included with the items.
3. Separate items shall be given for the following:
 - a. Providing and erecting the shoring.
 - b. Maintaining the shoring.
 - c. Clearing away the shoring.

SECTION D

EXCAVATION AND EARTHWORK

Note: Excavation in underpinning and drainage shall be given in accordance with Sections H and V.

Generally

D.1 Soil description

1. Particulars of the following shall be given:
 - a. Ground water level and the date when it was established, hereinafter described as the pre-contract water level. The ground water level shall be re-established at the time the various excavation works are carried out and is described hereinafter as the post contract water level. Where ground water levels are subject to periodic changes due to tidal or similar effects they shall be so described and the average of the mean high and low levels given.
 - b. Trial pits or bore holes stating their location.
 - c. Over or underground services.
2. If the above information is not available a description of the ground and strata which is to be assumed shall be stated.

Site preparation

D.2 Removing hedges

Cutting down hedges and grubbing up their roots, which shall be deemed to include their disposal, shall be given in metres stating the nature and height of each hedge or its location.

D.3 Clearing undergrowth

Clearing site of undergrowth, bushes, scrub and the like and grubbing up their roots, which shall be deemed to include their disposal, shall be given in square metres.

D.4 Removing trees

Cutting down trees and grubbing up their roots, which shall be deemed to include their disposal, shall be enumerated and classified in stages of 300mm girth (measured at height of 1.00m above ground). Filling in voids, if required, after removal of tree roots shall be given in the description.

D.5 Tree stumps

Removing existing tree stumps and grubbing up their roots which shall be deemed to include their disposal, shall be enumerated and classified in stages of 300mm girth (measured at height of 1.00m above ground or at their tops if lower in height). Filling in voids, if required, after removal of tree roots shall be given in the description.

D.6 Lifting turf

Lifting turf which is required to be preserved shall be given in square metres stating the method of preservation and disposal.

D.7 Topsoil

Excavating topsoil which is required to be preserved shall be given in square metres stating the average depth. Handling and disposal of topsoil shall be given in accordance with clauses D.17-22.

D.8 Alternative method of measurement

Cutting down trees and removing tree stumps (irrespective of girth) and grubbing up their roots, which shall be deemed to include their disposal, may be given as an item stating the area. Clearing of undergrowth within such areas and grubbing up their roots shall be given in the description.

Excavation

D.9 Volume to be measured

The quantities given for excavating and subsequent disposal shall be the bulk before excavating and no allowance shall be made for any subsequent variations to bulk or for any extra space required to accommodate earthwork support, formwork for concrete and working space.

D.10 Depth classification

Depth of excavation shall unless otherwise required by this document be classified as follows:

Maximum depth not exceeding	0.25m
" " " "	1.00m
" " " "	2.00m
" " " "	4.00m

and thereafter in 2.00m stages

D.11 Starting level

The starting level shall be the "ground level", "reduced level", "formation level" or other such levels from which excavation shall commence and the appropriate level shall be so stated and described.

D.12 Types of excavation

1. Excavation around piles shall be so described.
2. Excavation in rock shall be so described. Rock is defined as any material met with in excavation which is of such size or position that it can be removed only by means of wedges, levers, special plant (power operated hammers, drills and chisels, special attachment to mechanical plant such as rock buckets, rippers, hammers, chisels) explosives or chemicals. Alternatively rock may be given as extra over each of the various types of excavation.
3. Curved excavation shall be so described irrespective of radius.
4. Excavating to reduce level shall be given in cubic metres.

D.12 Types of excavation (cont'd)

5. Excavating basements and the like (measured to the outside of the foundations) shall be given in cubic metres stating the starting level as clause D.11. Existing voids shall be deducted.
6. Excavating pits to receive bases of stanchions, columns, isolated piers and the like (grouped together) shall be given in cubic metres stating the number and the starting level as clause D.11. Excavating pits having both plan dimensions less than 1.25m shall be given separately.
7. Excavating trenches to receive foundations shall be given in cubic metres, stating the starting level as clause D.11.
8. Excavating for pile caps and trenches for ground beams between piles shall be given in cubic metres stating the starting level, as clause D.11.
9. Excavating trenches to receive service pipes, cables and the like shall be given separately in metres stating the starting level, as clause D.11 and the average depth to the nearest 0.25m. Details of type and size of service pipes, cables, earthwork support, grading bottoms if required, filling in, compaction and disposal of surplus soil shall be given in description of such trenches. If the trench is next to roadway, or next to existing buildings or made in unstable ground (e.g. running silt, running sand and the like) these shall be stated in the description.
10. Excavating around services crossing an excavation shall be enumerated and given as extra over the various descriptions of excavations; details of type, size, depth of service and length exposed shall be given. Any temporary support to services shall be deemed to be included with the item.
11. Excavating alongside services or groups of services shall be given in metres as extra over the various descriptions of excavation; details of type, size, depth of service shall be given. Any temporary support to services shall be deemed to be included with the item. Details of the type of service would include gas, water, electricity, telecommunication, sewer, etc. If this information is available on a services drawing, then this should be made available.
12. Breaking up concrete, reinforced concrete, brick paving, tarmacadam and the like on the surface of the ground shall each be given separately in square metres as extra over the various description of excavation stating the thickness. In the case of service trenches measured in accordance with clause D.12.9, this work shall be given in metres stating the thickness.
13. Breaking up concrete, reinforced concrete and the like met with in excavation shall each be given separately in cubic metres irrespective of depth as extra over the various types of excavation. In the case of service trenches measured in accordance with clause D.12.9, this work shall be given in metres stating the thickness.
14. Excavating below ground water level as defined in clause D.1.1.a shall be given in cubic metres as extra over all types of excavation irrespective of depth. If the post contract water level differs from the pre -contract water level the measurements shall be revised in accordance with the post contract water level.

Earthwork support

D.13 Generally

Sheet piling, contiguous piling, secant piling, ground anchors, diaphragm wall, soldier piling, close timber piling and guniting shall each be given separately in accordance with the various Sections.

D.14 Definitions

Earthwork support shall be deemed to mean providing everything requisite to uphold the side of excavation by whatever means necessary (other than interlocking driven sheet steel piling) and shall be deemed to be included with the various items of excavation. (Earthwork support includes the use of timber planking and strutting, plywood trench sheeting, light steel trench sheeting and strutting). Interlocking driven sheet steel piling is not covered by the terms "Earthwork support" and where this is required by the design or specification not at the Contractor's choice, it should be measured in accordance with Section E.

Disposal of water

D.15 Surface water

An item shall be given for keeping the surface of the site and the excavations free of surface water.

D.16 Water in the ground

Where excavation is measured below the water level in accordance with clause D.12.14, an item shall be given for keeping the excavations free of ground water.

Disposal of excavated material

D.17 Multiple handling

Multiple handling of excavated materials and transporting about the site shall be deemed to be included with the items of final disposal. Multiple handling which is specifically required shall be given in the description of disposal items.

D.18 Disposal on site

Excavated materials to be deposited on site in permanent spoil heaps or spread on site shall each be given in cubic metres stating any requirements for the location of such deposits or the average distance from the excavation in metres or kilometres.

D.19 Disposal off site

Excavated materials to be removed from the site shall be given in cubic metres and so described and the provision of a shoot, dump or tip including payment for royalties, fees, levies and other charges shall be deemed to be included with the items unless otherwise stated.

D.20 Topsoil spread on site

Preserved and imported topsoil spread on site shall be so described and given in accordance with clause D.26.

D.21 Topsoil for re-use

Preserved topsoil deposited in temporary spoil heap for re-use shall be given in cubic meters and so described stating any requirements for the location of such deposits or the average distance from the excavation in meters or kilometres.

D.22 Topsoil removed from site

Preserved topsoil to be removed from site shall be so described and given separately in accordance with clause D.19

Filling

D.23. Classification for filling materials

- 1 Filling materials shall be classified as follows:
 - a. Material arising from the excavations.
 - b. Material arising from excavations which is specified to be selected or treated. Details of selection or treatment shall be given.
 - c. Material to be obtained off site. Details of type and source of supply, if a particular source is required to be used, shall be given.

D.24 Measurement

Filling shall be measured as equal to the void to be filled. Any thickness stated shall be deemed to be the thickness after compacting. Compacting and treating surfaces of filling including forming slopes and finishing to falls and cambers shall be deemed to be included with the various items of filling except for hand packing hardcore which shall be measured in accordance with clauses D.28 and D.29.

D.25 Filling to excavations

Filling to excavations other than to service trenches (D. 12.9) shall be given in cubic metres.

D.26 Filling to make up levels

Filling to make up levels over 250mm thick shall be given in cubic metres. Such filling not exceeding 250mm thick shall be given in square metres stating the average thickness.

D.27 Filling deposited and compacted in layers

Filling required to be deposited and compacted in layers shall be so described stating the maximum thickness of the layers.

D.28 Hand packing hardcore and the like to faces

Hand-packing hardcore and the like to form vertical or battering faces over 0.25m high shall be grouped together and given in square metres. Such work not exceeding 0.25m high shall be given in metres stating the height.

D.29 Hand packing hardcore and the like to sinkings

Hand-packing hardcore and the like to form sinkings shall be given in metres or enumerated as appropriate stating the size. No deduction of hardcore shall be made.

D.30 Surface treatment

1. All levelling, grading and compacting bottoms and trimming of sides of excavation and formation of slope shall be deemed to be included with the various items of excavation.
2. Applying herbicides, pesticides, etc. shall be given separately in square metres describing the kind, quality of materials and the rate of application (e.g. anti-termite treatment).

D.31 Trimming rock surface

Trimming sides of excavation in rock to produce fair exposed faces shall be given in square metres. Curved work shall be so described.

D.32 Blinding

Blinding with sand or similar fine material shall be described and given in square metres. Concrete blinding shall be given in accordance with Section F.

D.33 Puddle lining

Puddle lining to ponds, lakes, etc. over 300mm thick shall be given in cubic metres stating the method of application and any preparatory work. Such work not exceeding 300mm shall be given in square metres stating the thickness.

D.34 Geotextiles

Geotextiles shall be given in square metres measured the area in contact with the base stating the type or grade of material, laps and method of jointing. Horizontal, raking, vertical and curved work shall be so described.

SECTION E

PILING AND DIAPHRAGM WALLING

Piling

E.1 Information

1. Drawings shall be supplied with the bill of quantities which show:
 - a. The general piling layout.
 - b. The positioning of different types of pile.
 - c. The positions of the work within the site and of existing services.

E.2 Soil description

1. The nature of the ground shall be given in accordance with clause D.1.1.
2. Where work is to be carried out near canals, rivers, etc. or tidal waters the levels of the ground in relation to the normal levels of the canal or river etc. or to the mean levels of high and low tidal waters shall be stated. Flood levels shall be stated where applicable.

E.3 Starting levels

1. The levels from which the work is expected to begin and from which measurements have been taken shall be stated. Irregular ground shall be so described.

E.4 Plant

1. The following items shall be given separately for each type of pile identified in accordance with clause E.5.1:
 - a. An item shall be given for bringing to site and removing from site all plant required for this section of work.
 - b. An item shall be given for maintaining on site all plant required for this section of the work

E.5 Piling description and measurement

1. The following types of piling operation shall each be given under a separate heading together with all ancillary work:
 - a. Bored cast-in-place concrete piles.
 - b. Driven shell cast-in-place concrete piles.
 - c. Pre-formed concrete piles.
 - d. Pre-formed prestressed concrete piles.
 - e. Pre-formed concrete sheet piles.
 - f. Timber piles.
 - g. Isolated steel piles.
 - h. Interlocking steel piles.
 - j. Other piles.

E.5 Piling description and measurement (cont'd)

Within the classifications the following shall each be given separately:

- (i) Preliminary piles.
- (ii) Test piles.
- (iii) Contiguous bored piles
- (iv) Raking piles according to angle of rake in increments of 10°. The inclination corresponding to the rake angle increments, stated as the ratio of horizontal displacement to vertical distance are as follows:

Inclination angle	Ratio
10°	1 in 5.6715
20°	1 in 2.7475
30°	1 in 1.7320
40°	1 in 1.1917

- (v) Piles to be extracted shall be identified and given separately.
2. Within the classifications provided in accordance with clause E.5.1, items shall be given in accordance with clauses E.5.3-5 grouped under sub-headings which state the following:
- a. nominal cross sectional size.
 - b. the materials of which the piles are composed and in the case of steel piles, the nominal weight per metre (*the materials of which piles are composed should not be taken to mean only some of the materials in a pile. For example: if a timber pile is to be ringed, this together with the details of the requirements should be stated. Similarly, precise definitions of grades of steel and of concrete mixes are required.*)
3. For piles other than cast-in-place concrete and interlocking steel piles, items shall be given for:
- a. The total number of piles stating the specified length. The size and weight of heads and shoes shall be stated in the description.
 - b. The total driven depth given in metres.
4. In the case of cast-in-place concrete piles, items shall be given for:
- a. The total number of piles.
 - b. The total concreted length of the piles given in metres.
 - c. The total driven or bored depth given in metres stating the maximum depth.
5. In the case of interlocking steel piles, items shall be given for:
- a. The total area of piles given in square metres classified into the following ranges of piles length:

Not exceeding	12.00m
	12.00m - 24.00m
exceeding	24.00m
 - b. The total driven area of the piles given in square metres.
 - c. Corner, junction, closure and taper piles, where specifically required, shall each be given in metres as extra over.

E.5 Piling description and measurement (cont'd)

6. The following items shall be given in metres as extra over the items for piling:
 - a. Boring through rock stating the anticipated strata.
 - b. Permanent casing stating the thickness and type.
 - c. Placing concrete by tremie pipe which shall be deemed to include for any adjustment to concrete mix proportions required.
7. In the case of pile extensions, items shall be given for:
 - a. The total number of pile extensions.
 - b. The total length of pile extensions given in metres classified into the following ranges of pile length:

Not exceeding 3.00m
exceeding 3.00m
8. The following shall be given in metres:
 - a. Pre-boring where specifically required.
 - b. Backfilling empty bores stating the type of backfilling material.
 - c. Jetting where specifically required.
 - d. Filling hollow piles with concrete, stating the specification of the concrete and whether reinforced.
 - e. The horizontal length of cutting interlocking piles to remove tops.
9. The following shall be enumerated:
 - a. Cutting off tops of isolated piles to required levels which shall be deemed to include provision and backfilling of any working space required.
 - b. Preparing concrete pile heads and reinforcement for capping.
 - c. Forming enlarged bases stating their maximum diameter.
 - d. Cutting interlocking steel piles to form holes.

E.6 Reinforcement

Steel reinforcement in piles shall be given in accordance with Section F.

E.7 Tests

Items shall be given for tests of piles stating the details. Provision and maintenance of all necessary equipment, instruments and record keeping shall be deemed to be included.

E.8 Quantities

The quantities for piling work shall be calculated as follows:

- a. The specified length for pre-formed concrete, timber and steel piles shall be those which the Contractor is instructed to provide. Handling, transporting and pitching each length of pile shall be deemed to be included with the piling items.

E.8 Quantities (cont'd)

- b. The driven or bored depth of each pile shall be measured from the level stated in accordance with clause E.3 to the bottom of the toe, to the bottom of the driven casing or to the bottom of the bored shaft, The measurement for the total driven depth includes for driving extended piles.
- c. The concreted length measured for cast-in-place piles shall be from cut-off level specifically required to toe level specifically required and shall include enlarged bases
- d. The areas measured for interlocking steel piling shall be based on the mean length measured on the centre line of the piling, over all corner, junction, taper and closure piles.
- e. The measurement of pile extensions shall not include lengths formed of material arising from cutting off surplus lengths of other piles. It shall deem to include the work necessary to attach the extension to the pile.
- f. Disposal of surplus excavated material including surplus piles arising from piling operations shall be deemed to be included with the piling items.

Diaphragm walls

E.9 Information

1. Drawings shall be supplied with the bills of quantities which show:
 - a. The arrangement of diaphragm walls and their relationship to surrounding buildings.
 - b. The depths, lengths and thickness of diaphragm walls.

E.10 Soil description

The nature of the ground shall be given in accordance with clause D.1.1.

E.11 Plant

1. An item shall be given for bringing to site and removing from site all plant required for this section of the work.
2. An item shall be given for maintaining on site all plant required for this section of the work.

E.12 Diaphragm wall description

1. Items for work in diaphragm walls shall be grouped together under an appropriate heading.
2. Excavation for diaphragm walls shall be given in cubic metres stating the thickness of the wall and maximum depth. Details of support fluid shall be given in the description.
3. The volume of excavation shall be calculated from the nominal lengths and depths of the walls. The depths shall be taken from the level at which the work of excavation is expected to begin and in accordance with clause E.3. Additional excavation to accommodate guide walls or to provide working space and disposal of material so excavated shall be deemed to be included.
4. Excavation in rock and excavation in artificial hard material shall each be given separately in cubic metres stating the nature of the anticipated strata and of the material. Alternatively such work shall be given as extra over the excavation.

E.12 Diaphragm wall description (cont'd)

5. Disposal of excavated materials shall be given in cubic metres in accordance with clauses D.18 and D.19.
6. Concrete in diaphragm walls shall be given in cubic metres stating the wall thickness and the specification of the concrete mix. The depth use in calculation of volume shall be measured from the levels specifically required. The volume of concrete measured shall include that occupied by reinforcement, other metal sections, cast-in components each less than 0.10m³ in volume, rebates, fillets and internal splays each less than 0.005m³ in cross-sectional area and pockets and holes not exceeding 0.50m² in cross-sectional area.
7. Trimming and cleaning the faces of diaphragm walls shall be given in square metres stating the finish required.
8. Reinforcement for diaphragm walls shall be given in accordance with Section F. The weight of reinforcement measured shall include the additional weight of stiffening, lifting and supporting steel cast in.
9. Waterproof joints in diaphragm walls if specifically required shall be fully described and given as an item.
10. Guide walls for diaphragm walls shall be given in metres measured as the length of diaphragm wall constructed and stating any limitations on the design and construction of the guide walls.
11. Preparing the tops of walls and reinforcement to receive cappings shall be given in metres stating the thickness.
12. Ancillary work in connection with diaphragm walling shall be given as follows:
 - a. Preparing cast in pockets or chases at junction shall be given in metres or alternatively as an item stating the details required. Removal of formwork and preparing cast in reinforcement shall be deemed to be included with the item.
 - b. Removal of guide walls shall be given in metres stating the limitation on method of disposal. Removal of guide walls is deemed to include disposal.

SECTION F

CONCRETE WORK

In-situ concrete

F.1 Generally

1. Particulars of the following shall be given:
 - a. Kind and quality of materials for concrete.
 - b. Tests required of the materials.
 - c. Tests required of the finished work.
 - d. Mix or strength requirements of the concrete.
2. Reinforced work shall be so described.
3. Concrete designed to be waterproof shall be described stating the measures to be adopted.
4. Any requirements or restrictions as to the nature of the pour shall be given in the descriptions of the work concerned.
5. Concrete required to be placed by a particular method, poured at a stated speed, compacted or cured in a particular way shall each be so described.
6. Concrete other than beds, poured against faces of excavation and beds laid on earth or hardcore shall each be so described.
7. Beds, slabs or other members to receive a further finish to be applied while the base is in an unset condition, laid to slopes not exceeding 15° from horizontal or laid to slope over 15° from the horizontal shall each be so described.
8. Concrete shall be measured as carried out but no deduction shall be made for the following:
 - a. Volume of any steel embedded in the concrete.
 - b. Voids due to boxed or tubular steelwork not exceeding 0.05m² sectional area.
 - c. Voids not exceeding 0.05m³ other than voids in soffits of troughed or coffered slabs.
9. Work required to be designed by the contractor shall be given in accordance with clauses F.41 - 45.
10. Work of composite in-situ and precast construction shall be given in accordance with clause F26.
11. Prestressed in-situ concrete shall be given in accordance with clauses F.34 - 40.

F.2 Classification of size

1. Where the thickness is required to be stated in accordance with this clause, the classification shall be in one of the following categories:

Not exceeding	100mm
	100mm-150mm
	150mm-300mm
exceeding	300mm
2. The stated thickness of walls, beds and slabs shall exclude projections or recesses of any kind. For coffered or troughed slabs see clause F.3.10.

F.3 Concrete categories

1. All members, unless otherwise stated, shall be given in cubic metres and described in the categories set out in clause F.3.2-21.
2. Foundations in trenches, which shall be deemed to include column or pier bases which are not isolated.
3. Isolated foundation bases to columns and piers, stating the number.
4. Casings to steel grillages, stating the number.
5. Ground beams.
6. Casings to steel ground beams.
7. Pile caps, stating the number.
8. Beds, which shall be deemed to include thickening but to exclude upstands, stating the thickness as clause F.2.1. Beds forming roads, footpaths and pavings shall each be so described.
9. Suspended slabs, which shall be deemed to include thickenings but to exclude upstands, stating the thickness as clause F.2.1.
10. Coffered or troughed slabs shall be given separately and so described, stating the overall thickness as clause F.2.1. The volume of troughs or coffered shall be deducted. Solid concrete not exceeding 500mm wide to ribs or margins of troughed or coffered slabs shall be deemed to be included with the items but similar work over 500mm wide shall be given separately in accordance with clause F.3.9.
11. Upstands, kerbs, copings, sills and the like (excluding wall and column kickers).
12. Walls which are deemed to include kickers, attached columns and pilasters, stating the thickness as clause F.2.1. Retaining walls shall be so described and given separately.
13. Fascias, fins and the like, stating the thickness as clause F.2.1.
14. Beams, casings to steel beams, isolated beams and casings to isolated steel beams shall each be given separately.

F.3 Concrete categories (cont'd)

15. Isolated columns and isolated casings to steel columns which shall be deemed to include kickers, shall be each given separately. Isolated columns shall be so defined when their length on plan does not exceed four times their thickness
16. Steps and staircases which shall be deemed to include strings and associated landings.
17. Tops and cheeks of dormers, stating the thickness as clause F.2.1.
18. Filling to hollow walls, stating the thickness as clause F.2.1.
19. Machine bases, plinths and the like, stating the number.
20. Filling to pockets of a volume exceeding 0.10m³ stating the number.
21. Filling to pockets of a volume not exceeding 0.10m³ shall be enumerated irrespective of size.

F.4 Joints

1. Day joints shall be deemed to be included in the work.
2. Designed joints including those required to be of special profile or which incorporate water stops, expansion or compression jointing material or which are required in the formation of bays shall be given in metres or where of complex shape may be enumerated. Designed joints occurring at the boundaries of the work shall be so described. Particulars of the following shall be given in the description:
 - a. Formwork.
 - b. Treatment of reinforcement crossing the joint.
 - c. Water-stop, expansion or compression jointing and pointing material.
3. Welded or purpose-made angles or intersections of water-stops or expansion or compression jointing material shall be described and enumerated. All other angles intersections and ends shall be deemed to be included.

F.5 Finishes cast on to concrete

Granolithic, cast stone, terrazzo, mosaic, etc. finishes (measured on the exposed face) which are cast on to concrete by lining formwork shall be so described, distinguishing between sides, soffits and upper surfaces and given in square metres as extra over the concrete stating the mix and the thickness of the finish.

F.6 Labours on concrete

1. Labours on concrete shall be grouped with the work concerned, stating, where specifically required, whether on set or unset concrete.
2. Curved labours on concrete irrespective of radius shall be deemed to be included.
3. Treating the surface of unset concrete beyond the ordinary depositing, spreading and levelling shall be described and given separately in square metres for each type of treatment.

F.3 Labours on concrete (cont'd)

4. Working concrete around pipes or cables of panel-heating systems shall be measured the area of the system and given in square metres as extra-over the concrete work concerned.
5. Hacking faces of concrete shall be given in square metres stating the purpose for which the key is required.
6. Grinding, sand-blasting and similar treatments to the face of concrete shall each be given separately in square metres. Such work required with margins of a different finish shall be so described, giving in addition the total length of such area abutting margins. Such work to soffits shall be so described and where over 3.50m high shall be kept separate stating the height in further stages of 1.50m.
7. For the formation of channels, chases, pockets and holes in unset concrete, see Formwork section.
8. Channels and chases in concrete which are required to be cut shall be given in metres.
9. Mortices, pockets and holes in concrete which are required to be cut shall be enumerated and described. Any subsequent grouting shall be included in the description stating the mix of grout unless measured elsewhere.
10. Making good in connection with channels, chases, mortices, pockets and holes where required shall be given in the respective description.

F.7 Sundries

1. Grouting under steel stanchion bases and under steel grillages shall be given separately in square metres stating the mix of the grout and the number of bases or grillages.
2. Anchor bolts and other fixing devices shall be enumerated and described, stating where cast into concrete. Temporary boxings or wedges to form holes or mortices shall be enumerated. Any cutting of concrete and making good for the devices shall be given in accordance with clauses F.6.9-10. The separate parts of any two part connecting devices shall be given with the structural works to which they relate.
3. Guniting shall be given in square metres stating the thickness. The kind and quality of materials, preparatory work and method of application and finish shall be so described.

Reinforcement

F.8 Bar reinforcement

1. Particulars of the following shall be given:
 - a. Kind and quality of steel.
 - b. Section of bars if other than plain circular.
 - c. Tests of bars.
 - d. Restrictions of bending.
2. Bar reinforcement shall be given in kilogrammes or tonnes stating the diameters. Each diameter shall be given separately.

F.8 Bar reinforcement (cont'd)

3. Cutting to lengths, bends, hooks, tying wire, distance blocks, ordinary spacers and chairs shall be deemed to be included. No allowance in calculating the weight of reinforcement shall be made for tying wire, ordinary spacers or rolling margin.
4. Classification of bar reinforcement shall be as follows:
 - a. In foundations, which shall be deemed to include column and pier bases, ground beams, pile caps and the like.
 - b. In ground slabs, which shall be deemed to include beds, roads, footpaths and pavings.
 - c. In suspended slabs which shall be deemed to include attached beams, upstand, kerbs and lintels.
 - d. In walls, which shall be deemed to include columns.
 - e. In casings to steel columns and beams (grouped together).
 - f. In steps, staircases and strings and associated landings (grouped together).
 - g. In tops and cheeks of dormers.
 - h. In machine bases.
 - j. In isolated columns, beams and lintels (grouped together).
5. Within each of the above categories the following shall be shown separately:
 - a. Straight and bend bars, which shall be deemed to include hooked bars (grouped together).
 - b. Curved bars irrespective of radius.
 - c. Links, stirrups, binders and the like (grouped together).
 - d. Spacers and chairs not at the Contractor's choice (grouped together).
6. Horizontal bars and bars sloping not more than 30° from the horizontal (grouped together) over 12.00m long shall be so described stating the length in further stages of 3.00m.
7. Vertical bars and bars sloping more than 30° from the horizontal (grouped together) over 6.00m long shall be so described stating the length in further stages of 3.00m.

F.9 Fabric reinforcement

1. Particulars of the following shall be given:
 - a. Kind and quality of steel.
 - b. Section of bars making up the fabric if other than plain circular.
 - c. Tests of fabric.
 - d. Restrictions on bending.
2. Fabric reinforcement shall be measured as the area covered. No allowance shall be made for laps and no deductions shall be made for voids not exceeding 1.00m². Tying wire and distance blocks shall be deemed to be included.
3. Fabric reinforcement shall be given in square metres stating the mesh, the weight per square metres and the minimum extent of sides and end laps. Classification shall be in accordance with clause F.8.4.
4. Strips required to be in one width (including those in foundations to walls, tension strips to floors and roofs, etc.) shall be given in metres stating the width, the mesh, the weight per square metre, the direction of main bars and the minimum extent of end laps.

F.9 Fabric reinforcement (cont'd)

5. Self-centering fabric reinforcement shall be so described. Temporary strutting shall be given in the description and where exceeding 3.50m high shall be so described stating the height in further stages of 1.50m.
6. Raking cutting and curved cutting shall be deemed to be included with the items.
7. Bending fabric reinforcement and notching fabric reinforcement around obstructions shall be deemed to be included in the items

Formwork

F.10 Generally

1. Formwork shall be grouped in the following categories:
 - a. Foundations and beds.
 - b. Slabs, staircases and associated features.
 - c. Walls and associated features.
 - d. Isolated features.
2. The following shall be deemed to be included in formwork:
 - a. All necessary boardings, supports, erecting, framing, cutting perforations for pipes, angles, cleaning, wetting and treatment with mould oil, mould liquid or limewhite and the like.
 - b. All notching, allowances for overlaps and passing at angles, battens, strutting, bolting, wedging, easing, striking and removal.
 - c. Forming chamfered edges or splayed internal angles not exceeding 50mm wide.
 - d. Raking and curved cutting.
 - e. Cutting and fitting around projecting pipes, continuity bars and the like.
 - f. Opening not exceeding 1.00m girth.
3. Formwork shall be measured to the surfaces of the finished structure which requires to be temporarily supported during the deposition of the concrete.
4. No deductions shall be made for voids not exceeding 1.00m².
5. Formwork coated with a retarding agent shall be so described.
6. Formwork that is of a permanent character and to be left in shall be so described. (Formwork left in is that which is not designed to remain in position but is nonetheless impossible to remove. Permanent formwork is that which is designed to remain in position).
7. Formwork to curved surfaces shall be described stating the geometrical nature and the radius or radii.
8. Formwork to soffits less than 1.00m high shall be so described.
9. Formwork to soffits or soffits of beams over 3.50m high shall be so described stating the height in further stages of 1.50m.

F.10 Generally (cont'd)

- 10 Any requirements as to special surfaces features of the concrete face shall be given and where such requirements apply to part only of the work the finish shall be so described. Lining material which is required to be left in position as a finish shall be so described stating the method of securing to the concrete.

F.11 Formwork to foundation and beds

1. Formwork to edges and faces of foundations (which shall be deemed to include bases, pile caps and beds) and formwork to ground beams where exceeding 1.00m high shall each be given separately in square metres. Where not exceeding 1.00m high they shall be given in metres stating the height in the following categories:

Not exceeding	250mm high
	250mm-500mm high
	500mm-1.00m high

2. Formwork to kickers for walls shall be given in metres. Where one or both sides of formwork to kickers is suspended this shall be stated. Where the height of a kicker is at the discretion of the contractor this shall be stated.

F.12 Formwork to slabs, staircases and landings

1. Formwork to soffits of slabs, staircases and landings shall each be given in square metres. Classification shall be as follows:
 - a. Horizontal.
 - b. Sloping not exceeding 15° from the horizontal.
 - c. Sloping over 15° from horizontal.
2. Formwork to soffits of solid slabs exceeding 200mm thick shall be given separately in square metres and the thickness in stages of 100mm.
3. Formwork to sloping upper surfaces of slabs where more than 15° from horizontal shall be measured in square metres.
4. Formwork to soffits of coffered, troughed or similar shaped slabs shall be described and given in square metres. Such work shall be measured as to a plain surface, the profiles or pan type and size being stated. Formwork to ribs or margins of coffered or troughed slabs not exceeding 500mm wide shall be included with the items. Where such work exceeds 500mm wide formwork shall be given separately in accordance with clause F.12.1 or 2.
5. Formwork to edges of slabs (where not associated with downstand beams or projecting eaves), steps in tops of slabs, steps in soffits of slabs and to risers to staircases shall each be given in metres stating the depth in the following categories:

Not exceeding	250mm deep
	250mm-500mm deep

Where exceeding 500mm deep the depth shall be stated.

The profile or height at each end in the case of tapering surfaces shall be given. Formwork to edges of staircase flights shall be given in metres stating the maximum width.

F.12 Formwork to slabs, staircases and landings (cont'd)

6. Formwork to ends and perimeters of openings exceeding 1.00m girth shall each be given in metres stating the width in the following categories:

Not exceeding	250mm wide
	250mm-500mm wide
Where exceeding	500mm wide the width shall be stated.

The profile or width at each end in the case of tapering surfaces shall be given.

F.13 Formwork to walls

1. Formwork to faces of walls shall be given in square metres and stating whether vertical or battered. Formwork inside stair wells and lifts wells shall each be given separately.
2. Vertical surfaces requiring formwork exceeding 3.50m high shall be given as extra over the formwork in which they occur.
3. Where formwork is required to one side of a wall only this shall be stated and the method of upholding the other face shall be given in the description.
4. No deduction of formwork shall be made for kickers.
5. Formwork to ends, sloping tops or soffits of walls and also to the perimeters of openings exceeding 1.00m girth (where not associated with columns) shall each be given in metres stating the width in the following categories:

Not exceeding	250mm wide
	250mm-500mm wide
Where exceeding	500mm wide the width shall be stated.

The profile or width at each end in the case of tapering surfaces shall be given.

F.14 Formwork to beams, casings, cantilevers and the like

1. Formwork to sides and soffits of beams, beam casing, cantilevers and the like shall be given separately in square metres. Classification shall be as follows:
 - a Horizontal.
 - b Sloping not exceeding 15° from horizontal.
 - c Sloping over 15° from horizontal.
2. In the case of tapering members the size at each end shall be given.
3. Formwork to secondary beams shall be measured up to the sides of main beams, but no deduction shall be made from the formwork of the main beam where the secondary beam intersects it.
4. Formwork to beams which intersect with stanchion casings or columns shall be measured up to them on all sides. No deduction shall be made from the formwork to stanchion or column casings at these intersections.
5. Formwork to ends shall be deemed to be included with the items.

F.14 Formwork to beams, casings, cantilevers and the like (cont'd)

6. Formwork to edges of slabs in association with the beams or beam casings shall be given with the beam or beam casing formwork.
7. Formwork to sloping Upper surfaces of beams shall be measured where more than 15° from horizontal.

F.15 Formwork to pilasters and columns

1. Formwork to pilasters (which shall be deemed to include attached columns and attached column casings grouped together) and formwork to isolated columns and column casings, defined as columns and column casings not contiguous with a wall and where their length on plan does not exceed four times their thickness shall each be given separately in square metres.
2. Formwork to edges of openings in association with columns shall be given with the column formwork.
3. In the case of tapering members the size at each end shall be given.
4. No deductions shall be made for beam intersections.
5. Formwork to ends of members shall be deemed to be included with the items.

F.16 Formwork to ancillary and associated features to slabs, walls, etc.

1. Formwork to projections (which shall be deemed to include cornices and moulding) and recesses shall be given separately in metres. The size and shape of such members shall be given. Formwork to ends shall be deemed to be included with the items. Classification shall be as follows:
 - a. Horizontal.
 - b. Sloping not exceeding 15 from horizontal.
 - c. Sloping over 15° from horizontal.
2. Formwork to complex or shaped members, isolated corbels and pilaster heads shall each be adequately described and enumerated.
3. Formwork to sides and soffits of strings, copings, sills and projecting eaves and to sides of upstands, kerbs and the like shall each be given separately in square metres. In the case of tapering members the size at each end shall be given. Classification shall be as follows:
 - a. Horizontal.
 - b. Sloping not exceeding 15° from horizontal.
 - c. Sloping over 150 from horizontal.
4. Formwork to sloping upper surfaces of items in clause F.16.3 shall be measured where more than 15 degrees from horizontal.
5. Formwork to tops and cheeks of dormers shall be given in square metres in accordance with clauses F.12-13.
6. Formwork to fascias, fins and the like shall each be given separately in square metres in accordance with clauses F.14-15.

F.16 Formwork to ancillary and associated features to slabs, wells, etc. (cont'd)

7. Formwork to edges and faces of machine bases, plinths and the like where exceeding 1.00m high shall each be given separately in square metres. Where not exceeding 1.00m high they shall be given in metres stating the height in the following categories:

Not exceeding	250mm high
	250mm - 500mm high
	500mm – 1.00m high

Precast concrete

F.17 Generally

1. Precast units including floors shall be given under an appropriate heading and shall unless otherwise required be enumerated.
2. Particulars of the following shall be given:
 - a. Mix or strength requirements of the concrete.
 - b. Kind, quality and size of reinforcement.
 - c. Nature and extent of surface finish.
 - d. Jointing and bedding materials.
 - e. Method of fixing.
3. Formwork or moulds for precast units shall be deemed to be included with the terms.
4. Work required to be designed by the contractor shall be given in accordance with clauses F.41- 45.
5. Prestressed precast units shall be given in accordance with clauses F.34~40.

F.18 Copings, kerbs, lintels, etc.

1. Standard or stock pattern copings, kerbs, channels, lintels, cornices, string-courses, sills other similar units end-jointed to form continuous runs shall each be given separately in metres stating the size and catalogue or other reference number. Curved members shall be so described stating the mean radius. Fair ends, rounded ends, angles, intersections and the like shall be deemed to be included with the items.
2. Purpose-made copings, kerbs, channels, lintels, cornices, string-courses, sills and other similar units of length to be determined by the Contractor end-jointed to form continuous runs shall be measured in accordance with clause F.18.1. Where the individual units are required to be of specific lengths, they shall be given in accordance with clause F.21.
3. Padstones, heelstones, isolated ventilating grilles and the like shall each be enumerated separately stating the size.

F.19 Steps and landings

Steps (other than spandril steps and winders) shall be given in metres, stating the number. Spandril steps, winders and landings shall each be enumerated separately stating the extreme sizes

F.20 Pavement and roof lights

Pavement and roof lights shall each be enumerated separately, stating the method of bedding and jointing.

F.21 Standard or purpose-made units

1. The catalogue or other reference number of standard or stock patterns units shall be given.
2. Except in the case of items which can be adequately described, the description of each purpose-made unit shall be accompanied by drawn information in accordance with clause A.5 showing the size and shape of the unit.

F.22 Tiles or slabs

Precast concrete tiles or slab finishings to floors and walls shall be given in accordance with Section S.

F.23 Temporary supports

Where the design of precast units requires temporary support after placing in position details of the requirements shall be given in the description and the conditions for the removal of the supports stated.

F.24 Cast stone

Cast stone shall be given in accordance with Section J.

F.25 Fixings

1. Dowels, cramps and other fixing devices shall be enumerated and described stating where cast into concrete.
2. Cutting of concrete and making good shall be measured in accordance with clauses F.6.9 -10. The separate parts of two part connecting devices shall be given with the structural work to which they relate.

Composite construction

Composite construction refers to the combination within a member (slab, beam, wall, etc.) of in-situ and precast work. (Precast concrete mullions within an otherwise in-situ frame would not be composite construction because the members are totally precast).

F.26 Generally

1. Members of composite in-situ and precast construction shall be given separately under a heading in which the construction shall be described indicating the inter-relation of the different parts of the work,
2. The in-situ and precast work shall each be measured in accordance with clauses F.1- 7 and clauses F.17 - 25 respectively. Ribs or margins shall be given in accordance with clauses F.3.10.
3. Prestressed work shall be measured in accordance with clauses F.34 - 40.

F.26 Generally (cont'd)

4. Slabs required to be designed by the contractor shall be given in accordance with clauses F.41-45.

Hollow-block suspended construction

F.27 Generally

1. Hollow-block suspended construction and its reinforcement and associated formwork shall be given under an appropriate heading.
2. Work required to be designed by the contractor shall be given in accordance with clauses F.41-45.

F.28 Slabs

1. Suspended slabs shall be given in square metres, stating the thickness. Solid concrete work and filling ends of blocks shall be deemed to be included with the items. Solid concrete work to margins and the like exceeding 500mm wide shall be given separately in cubic metres in accordance with clause F.3.9.
2. Particulars of the following shall be given:
 - a. Mix or strength requirements of concrete for ribs, margins and topping.
 - b. Overall thickness of slab.
 - c. Size and type of blocks.
 - d. Distance between centres of rows of blocks.
 - e. Size and type of slip tiles to soffits of concrete ribs between blocks.
 - f. Finish to top of slab and exposed soffit of blocks and concrete ribs. :
3. Classification shall be as follows:
 - a. Horizontal.
 - b. Sloping not exceeding 15° from horizontal.
 - c. Sloping over 15° from horizontal.

F.29 Beams and kerbs

1. Concrete beams and casings to steel supporting beams (measured below the slab) shall be given in accordance with clause F.3.14.
2. Kerbs shall be given in metres stating the size.

F.30 Labours

Labours shall be given in accordance with clause F.6.

F.31 Reinforcement

Reinforcement shall be given in accordance with clauses F.8-9.

F.32 Fixing slips and metal clips

Fixing-slips, metal -clips and similar items shall each be enumerated separately stating the method of fixing.

F.33 Formwork

Formwork shall be given in accordance with clauses F.10-16.

Prestressed concrete work

F.34 Generally

1. Concrete members shall be classified as prestressed concrete work where a stress is artificially induced in the concrete by means of tendons tensioned before working loads are applied.
2. Prestressed concrete work and its reinforcement and associated formwork shall be given under an appropriate heading.
3. Work required to be designed by the Contractor shall be given in accordance with clauses F.41 -45.
4. Work of composite construction shall be given in accordance with clause F.26.
5. A brief description of the prestressed work stating the method of tensioning shall be given. Location drawings showing the prestressing arrangements shall be provided except where stress is to be applied over the full length of a concrete member by means of continuous tendons running between the ends of the member.
6. Except in the case of standard or stock-pattern members particulars of the following shall be given:
 - a. Materials of which the wires are composed, their diameters and details of any preparatory treatment.
 - b. Numbers of wires to be tensioned simultaneously.
 - c. Amount of tension to be applied to the wires.
 - d. Strength of concrete required at transfer of stress.
 - e. Tests.
 - f. Cutting off and treating the ends of wires.
7. Where tendons are tensioned after the concrete is cast (post-tensioned) particulars of the following shall be given:
 - a. The type of jack used.
 - b. Details of anchorages and anchorage fittings.
 - c. Whether tensioning is carried out from one or both ends of tendons.

F.35 In situ concrete members

1. In-situ concrete members shall be given in accordance with clauses F.1-7.
2. Members not cast in a continuous length shall be so described stating the number and average length of separately cast sections.

F.35 In-situ concrete members (cont'd)

3. Construction joints between sections shall be enumerated.

F.36 Reinforcement to in-situ concrete members

Reinforcement shall be given in accordance with clauses F.8-9.

F.37 Formwork to in situ concrete members

1. Formwork shall be given in accordance with clauses F.10-16 subject to the following:
 - a. Additional requirement for supporting formwork shall be so described.
 - b. Formwork to pre-tensioned and post-tensioned work shall each be so described.
 - c. Temporary restraints required for tensioning shall be given in the descriptions of items for formwork.
2. Formwork for anchorage pockets shall be enumerated stating the size and shape.
3. Formwork to temporary construction joints shall be enumerated stating the section profile of the abutting units.

F.38 Precast concrete units

1. Precast concrete generally shall be given in accordance with clause F.17.
2. Precast concrete units shall be given in accordance with clauses F.21 and F.23.
3. Precast units shall be classified as follows:
 - a. Pre-tensioned.
 - b. Post-tensioned before erection.
 - c. Post-tensioned after erection. Self-supporting before and after tensioning.
 - d. Post-tensioned after erection. Self-supporting only after tensioning.
4. Item descriptions for precast concrete members which are assembled from sections cast separately shall state whether the sections are assembled before or after erection.
5. Construction joints between adjacent units shall be enumerated.
6. Temporary supports for precast units which are self-supporting only after tensioning shall be enumerated stating the area of support required and its height where this exceeds 3.50m.

F.39 Ducts, grooves and pockets

1. Ducts and grooves for post-tensioned prestressing tendons shall be given in metres stating the number and size. Particulars of the following shall be given:
 - a. Sleeves or sheathing.
 - b. Temporary supports
 - c. Mix of grout.
2. Ducts and grooves over 6.00m long shall be so described stating the length in stages of 3.00m. Curved ducts shall be described separately.

F.39 Ducts, grooves and pockets (cont'd)

3. Vents shall be enumerated.
4. Filling of anchorage pockets shall be enumerated stating the finish of any exposed surface.

F.40 Prestressed tendons

1. Prestressed tendons shall be enumerated stating their length, number of wires, ultimate strength and size of wires, type of core and sheathing. The lengths of post-tensioned tendons shall be measured to the outer faces of anchorage. The lengths of pre-tensioned tendons shall be measured to the surfaces of the concrete members. Descriptions shall state whether tendons are for pre-tensioned or post-tensioned members.
2. Anchorages shall be enumerated stating their components.

Contractor-designed construction

F.41 General

1. Construction which is to be designed and carried out by the Contractor shall be given under an appropriate heading. Reinforcement and formwork shall be deemed to be included with the items.
2. Where the Contractor's choice of design is limited such limitations shall be stated.
3. Particulars shall be given of any tests of the materials and of the finished work.
4. Work shall be measured as carried out but no deduction shall be made for voids not exceeding 0.10m²

F.42 Slabs

1. Suspended slabs (measured over all bearings and grouped together) shall be given in square metres stating the length of the span (measured in the clear between supports) in stages of 300mm except that spans not exceeding 2.00m long may be grouped together and so described. In the case of cross-reinforced construction the length and width of the slab (measured in the clear between supports) shall be stated in stages of 300mm. Details of the super-imposed loads for which the slabs are to be designed shall be given in the description. Solid concrete in hollow-block construction and filling ends of hollow-blocks shall be deemed to be included with the items. Slabs shall be grouped and described as follows:
 - a. Slabs not connected to other slabs.
 - b. Slabs connected at one end to the other slabs.
 - c. Slabs connected at both ends to other slabs.
 - d. Cross-reinforced slabs connected on two adjacent edges to other slabs.
 - e. Cross-reinforced slabs connected on three edges to other slabs.
 - f. Cross-reinforced slabs connected on four edges to other slabs.
2. Classification of slabs shall be as follows:
 - a. Horizontal.
 - b. Sloping not exceeding 15° from horizontal.
 - c. Sloping over 15° from horizontal,

F.42 Slabs (cont'd)

3. Cantilevered work shall be so described.
4. Slabs curved to any shape shall each be described as to its geometrical nature stating the radius or radii
5. Haunchings shall be given in cubic metres.

F.43 Openings

Trimming around openings where steel trimmers are not provided shall be enumerated as extra over the slabs in which they occur stating the size of the opening and its position relative to the span (i.e. whether the long or short side is across the line of the span).

F.44 Labours

1. Raking and curved boundaries and forming exposed edges shall each be given separately in metres.
2. Working concrete around pipes or cables of panel-heating systems embedded in floors or roofs shall be measured the area of the system and given in square metres.
3. Forming channels and chases shall be given in metres stating the shape, the width and the depth. Channels to falls shall be so described. Ends, angles, intersections and outlets shall be deemed to be included with the items.

F.45 Fixing-slips and metal clips

Fixing-slips, metal clips and similar items shall each be described and enumerated stating the method of fixing.

SECTION G

BRICKWORK AND BLOCKWORK

Generally

G.1 Classification of work

1. Work shall be classified as follows and each classification shall be given under an appropriate heading:
 - a. Foundations.
 - b. Load bearing superstructure.
 - c. Non-load bearing superstructure.

G.2 Measurement

1. Brickwork and blockwork shall be measured the mean length by average height, Fair face and facework shall be measured on the exposed face.
2. No deduction shall be made for the following:
 - a. Voids not exceeding 0.10m².
 - b. Flues, lined flues and flue blocks where the voids and the work displaced do not together exceed 0.25m²
3. The following shall be deemed to be included with brickwork and blockwork:
 - a. extra material for curved work.
 - b. all rough and fair cutting.
 - c. rough and fair grooves, throats, mortices, chases, rebates, stops and mitres.
 - d. raking out joints to form a key.
 - e. labours in eaves filling.
 - f. labours in returns, ends and angles.
 - g. wedging and pinning.
 - h. oversailing and receding courses.
 - j. bedding and pointing.
 - k. bedding and pointing frames.
 - l. preparing tops of existing walls to receive new walls.
 - m. making good walls and making good fair face or facings.
 - n. any other sundry items of a like nature.
4. Curved work shall be so described stating the mean radius. Curved fair face and curved facework shall be so described stating the radius on face. The provision of curved blocks shall be given in the description of curved work.
5. Work in underpinning shall be given in accordance with Section H.

Brickwork

G.3 Generally

1. Particulars of the following shall be given:
 - a. Kind, quality and size of bricks. Purpose-made bricks shall be so described.
 - b. Type of bond.
 - c. Composition and mix of mortar.
2. Deductions of brickwork for string courses, lintels, plates and the like shall be measured as regards height to the extent only of the full brick courses displaced and as regards depth to the extent only of the full half brick beds displaced.
3. Brickwork in each of the following classes shall be given separately in square metres stating the thickness:
 - a. Walls.
 - b. Filling existing openings.
 - c. Skins of hollow walls.
 - d. Dwarf support walls.
 - e. Projections (measured beyond the face of the wall) of footings and chimney-breasts.
 - f. Isolated piers and chimney-stacks (grouped together). Isolated piers defined as walls having a length on plan not exceeding four times their thickness (except where caused by openings).
 - g. Battering walls defined as walls of uniformed thickness built battered.
 - h. Brickwork used as formwork. Temporary strutting shall be given in the description.
 - j. Backing to masonry. Cutting and bonding to masonry shall be given in the description.
 - k. Refractory brick linings to flues. Those bonded to surrounding brickwork shall be so described.
 - l. Brick damp-proof courses.
 - m. Work in raising existing structures, stating the starting height above ground at which the brickwork commences.
4. Projections (measured beyond the face of the wall) of attached piers (whose length on plan is not exceeding four times its thickness) plinths, bands, oversailing courses and the like (grouped together) shall be given in metres stating the width and depth of the projection.

G.4 Thickening existing walls

1. Brickwork of any thickness in each of the following classes shall be given separately. Cutting and bonding new to existing and extra material to bonding shall be given in the description stating any special method of bonding:
 - a. Thickening existing walls (measured beyond the face of the wall) given in square metres stating the thickness.
 - b. Projections on existing walls (measured beyond the face of the wall) of attached piers, chimney-breasts and the like (grouped together) given in metres stating the width and thickness.

G.5 Tapering walls

Brickwork in tapering walls, defined as walls of diminishing thickness from base to top, shall be given in square metres stating the average thickness, whether one or both faces are battered and the rate of batter.

G.6 Grooved bricks

Grooved bricks shall be given in square metres as extra over the brickwork in which they occur.

G7 Cavities in hollow walls

1. Forming cavities in hollow walls shall be given in square metres stating the width of the cavity. Wall-ties shall be given in the description stating the type and spacing.
2. Closing cavities at ends of hollow walls and at jambs or sills of openings shall be given in metres stating the width of the cavity and the method of closing.

G.8 Rough arches

Rough arches (measured the mean length on face) shall be given in metres as extra over the brickwork in which they occur stating the thickness and the number of rings in the arches. Rough cutting on arches and walls shall be deemed to be included with the brickwork.

G.9 Bonding ends of walls

Bonding ends of new walls to existing shall be given in metres stating the kind of bond and the thickness of the wall. Cutting pockets in existing work and extra material for bonding shall be given in the description.

Brick facework

G.10 Generally

1. The rules relating to facework shall apply to fair face on brickwork.
2. Particulars of the following shall be given:
 - a. Kind and quality of facing bricks. Purpose-made bricks shall be so described.
 - b. Size of facing bricks where different from those in the body of the work, and the method of bonding such facings to the backing.
 - c. Type of bond except in the case of fair face.
 - d. Composition and mix of mortar for pointing where different from that in the body of the work.
 - e. Method of pointing.
3. Facework, except as clause G.10.4, shall be given in square metres as extra over the brickwork on which it occurs. Pointing shall be given in the description of the work.
4. Halfbrick walls and one-brick walls built fair both sides or entirely of facing bricks shall each be given separately in square metres stating the thickness. Pointing shall be given in the description of the work on which it occurs.
5. Deductions of facework for string courses, sills, lintels, plates and the like shall be measured as regards height to the extent only of the full brick course displaced and as regards depth to the extent only of the full halfbrick beds displaced.
6. Facework over a half-brick wide to walls, piers, chimney-stacks, returns and the like shall be given in square metres as clause G.10.3.

G.10 Generally (cont'd)

7. Facework not exceeding a half-a-brick wide to reveals, returns, soffits, offsets, exposed edges around superficial items of sunk or projecting work and the like (grouped together) shall be given in metres as facework to margins irrespective of the actual width. Curved margins and shaped margins shall be so described. Ends and angles shall be deemed to be included with the items.
8. Facework built overhand shall be so described.
9. Facework to panels and aprons not exceeding 1.00m² each shall be enumerated and described.
10. In the case of walls built fair both sides or entirely of facing bricks, fair returns to ends of walls or reveals or openings shall be given in metres stating the width in half-brick stages and in the case of fair returns which are not of exact half-brick width the nearest half-brick above the actual width.
11. Battered facework shall be so described stating the rate of the batter.
12. Facework sunk or projecting less than half-a-brick from the general face of the wall shall be so described stating the depth of the set-back or set-forward.

G.11 Fair angles, fair chases and holes

1. The following shall be deemed to be included with facework:
 - a. Fair vertical internal angles and fair vertical external angles.
 - b. Fair battered internal angles and fair battered external angles.
 - c. Fair squint angles and fair birdsmouth angles shall be deemed to be included.
 - d. Fair chamfered angles, fair rounded angles and fair moulded angles.
 - e. Fair chases.
 - f. Holes for pipes, tubes, bars, cables, conduits, gratings, ducting, trunking, trays and the like.

G.12 Plain bands

1. Facework to flush plain bands not exceeding 300mm wide formed with facing bricks which differ in kind or size from the general facings shall be given in metres stating the width of the band. Horizontal, raking, vertical and curved bands shall each be so described.
2. Facework to sunk and projecting plain bands not exceeding 300mm wide shall be given in metres stating the kind of facing bricks where they differ from those in the general facework, the width of the band and the depth of the set-back or set-forward. Horizontal, raking, vertical and curved bands shall each be so described.
3. Fair ends, stopped ends and angles shall be deemed to be included with the items.
4. Facework to plain bands over 300mm wide shall be measured as facework to walls.

G.13 Ornamental bands and cornices

1. Facework to flush, sunk or projecting brick-on-edge bands, brick-on-end bands, basket-pattern bands, moulded or splayed plinth cappings, moulded string courses, moulded cornices and the like shall each be given separately in metres stating the width of the band and the depth of the set -back or set -forward. Horizontal, raking, vertical and curved members shall each be so described. The type of moulded or splayed bricks shall be stated. Moulded or splayed bands which consist entirely of headers or stretches shall be so described. Facework to margins shall be given in the description. Extra material shall be deemed to be included with the brickwork.
2. Ends, internal angles, external angles and irregular angles shall each be enumerated separately.

G.14 Tile creasing

1. Flush, sunk and projecting tile creasings shall each be given separately in metres as extra over the brickwork in which they occur stating the number of courses and the depth of the set-back or set-forward. Horizontal, raking, vertical and curved members shall each be so described.
2. Fair ends and irregular angles shall each be enumerated separately. Stopped ends and other angles shall be deemed to be included with the items.

G.15 Quoins

1. Facework to flush quoins formed with facing bricks which differ in kind or size from the general facings shall be given in metres (measured on vertical angle) stating the average girth and the method of jointing between quoin and general facework.
2. Facework to sunk and projecting quoins shall each be given separately in metres (measured on vertical angle) stating the average girth, the depth of the set-back or set-forward and the method of jointing between quoin and general facework. Facework to margins shall be given in the description. Extra material shall be deemed to be included with the brickwork.
3. Cut and rubbed quoins shall be so described.
4. Tile insets in quoins and rustications in quoins shall be given in the description.

G.16 Arches and tumblings

1. Facework to arches (measured the mean length on face) shall be given in metres stating the width on face, the width of the exposed soffit and outline of the arch.
2. Facework to tumblings of buttresses shall be enumerated stating the size.

G.17 Sills, thresholds, copings and steps

1. Sills, thresholds, copings and steps built of fair-faced brickwork or entirely of facings shall each be given separately in metres stating the size and the method of forming. Horizontal, raking, vertical and curved work and work set weathering shall each be so described.
2. Ends, internal angles, external angles and irregulars angles shall each be enumerated separately.

G.18 Key blocks, corbels, bases and cappings

Key blocks, corbels, bases to pilasters, cappings to pilasters and cappings to isolated piers shall each be enumerated separately stating the size.

G.19 Pavings

Brick pavings shall be given in accordance with Section S.

Brickwork in connection with boilers

G.20 Boiler-seatings and boiler flues

1. Boiler-seating and boiler flues together with their associated labours shall be given in detail in accordance with the relevant clauses under the appropriate heading. Firebrick and fire claywork shall each be so described.
2. Boiler-seating blocks and curved flue-covers shall each be given separately in metres stating the size. Pieces of irregular shape shall be enumerated stating the size.

G.21 Chimney shafts

Chimney shafts together with their associated labours shall be given in detail in accordance with the relevant clauses under an appropriate heading stating the number, the size on plan, the shape and the overall height. Chimney shafts of different shapes and heights shall each be given separately. Those required to be built from outside scaffolding shall be so described.

Blockwork

G.22 Generally

1. Particulars of the following shall be given:
 - a. Kind, quality and size of blocks. Purpose-made blocks shall be so described.
 - b. Surface finish of blocks.
 - c. Type of bond in the case of glazed blocks.
 - d. Composition and mix of mortar for bedding, jointing and pointing.
 - e. Method of pointing.
2. Measurement of walls shall be taken between attached piers. Piers, defined as walls having a length on plan not exceeding four times the thickness, whether attached or isolated (except where caused by openings) shall be measured as the combined thickness of the wall and the pier.
3. Deductions of blockwork for string courses, sills, lintels, plates and the like shall be measured as regards height to the extent only of the full block courses displaced.
4. Pointing shall be given in description of the work on which it occurs.
5. Glass blockwork shall be given in accordance with clause G.27.
6. Blockwork designed to be built without cutting blocks shall be given separately.

G.23 Walls, partitions, piers and chimney-stacks

1. Blockwork shall be given in square metres stating the thickness. Classification shall be as follows:
 - a. Walls and partitions (grouped together).
 - b. Fillings existing openings.
 - c. Skins of hollow walls
 - d. Dwarf support walls.
 - e. Piers and chimney-stacks (grouped together).
 - f. Isolated casings (blockwork detached from other blockwork and not exceeding 1.50 mean girth on plan).
 - g. Blockwork used as formwork. Temporary strutting shall be given in the description.
 - h. Work in raising existing structures, stating the starting height above ground at which the blockwork commences.
2. Blockwork finished with a fair face and blockwork finished with facing blocks different from those in the body of the work shall each be so described stating whether to one or both faces.
3. Filling ends of hollow blocks or providing special blocks with solid ends shall each be given separately in metres as extra over the work in which they occur.
4. Fair returns shall be deemed to be included with the blockwork.

G.24 Backing to masonry

Blockwork in backing to masonry shall be given in square metres stating the thickness. Cutting and bonding blockwork to masonry shall be given in the description.

G.25 Cavities in hollow walls

Forming and closing cavities in hollow walls shall be given in accordance with clause G.7.

G.26 Eaves filling

Blockwork in eaves filling shall be added to the general blockwork. The labour in eaves filling shall be deemed to be included except where the blockwork is designed to be used without cutting the blocks, in which case it shall each be given in metres (measured overall) stating the thickness of the wall.

G.27 Glass blockwork

1. Glass blockwork in walls and panels shall be given in square metres stating the thickness of the blocks. Reinforcement shall be given in accordance with clause G.30.
2. Bedding the perimeter of glass blockwork in material different from the general mortar shall be given in metres stating the width and the kind of bedding material.

Damp-proof courses

G.28 Generally

1. Particulars of the following shall be given:
 - a. Kind and quality of damp -proof material. b. Gauge, thickness or substance of sheet material.

G.28 Generally (cont'd)

- c. Number of layers.
 - d. Composition and mix of bedding material.
2. Damp-proof courses over 225mm wide shall be given in square metres. Such work not exceeding 225mm wide shall be given in metres stating the width. No allowance in measurement shall be made for laps and this shall be stated in the description. No deduction shall be made for voids not exceeding 0.50m². Horizontal, raking, vertical and curved work shall each be so described. Cutting to curve shall be given in the description of work in curved walls.
3. Damp-proof courses forming cavity-gutters in hollow walls shall be so described. Ends, angles and intersections shall be deemed to be included with damp-proof courses.
4. Pointing exposed edges of damp-proof courses shall be deemed to be included with the damp-proof courses.

G.29 Asphalt damp-proof courses

Asphalt damp-proof courses shall be given in accordance with Section K.

Sundries

G.30 Reinforcement

Reinforcement to strengthen the longitudinal bond in brickwork or blockwork shall be given in the description. Bar reinforcement in hollow brickwork or blockwork shall be given in accordance with Section F.

G.31 Weather-fillets and angles-fillets

Weather-fillets and angle-fillets shall each be given separately in metres stating the width. Curved fillets shall be so described irrespective of radius. Ends and angles to fillets shall be deemed to be included with the items.

G.32 Expansion and designed construction joints

Expansion and designed construction joints shall be described and given in metres stating the size.

G.33 Preparing for flashing and asphalt skirtings

1. Raking out joints or cutting grooves for turned-in edges of flashings shall be given in metres. Horizontal, raking, stepped, vertical and curved work shall each be so described. Pointing shall be given in the description.
2. Raking out and enlarging joints or cutting grooves for nibs of asphalt shall be given in metres. Horizontal, raking, vertical and curved work shall each be so described. Pointing shall be given in the description.

G.34 Building in or cutting and pointing

1. Building in metal windows, metal doors and the like (complete with frames) shall each be enumerated separately stating the overall size. Building in strong-room doors, safe-doors and the like (complete with frames) shall each be enumerated separately stating the overall size, the approximate weight and the floor level. Building in or cutting and pinning lugs, bedding frames and pointing to one or both sides shall be given in the description.
2. Building in ends of lintels, bearing bars, steps, timbers, steel sections and the like as the work proceeds shall be deemed to be included with the brickwork and blockwork items.
3. Cutting and pinning ends of lintels, steps, timbers, tubular rails, brackets and the like (grouped together) shall be enumerated irrespective of size. No deductions shall be made for any such ends.

G.35 Air-bricks, ventilating gratings and soot-doors

Forming openings in walls and providing and building in air-bricks, ventilating gratings, soot-doors and the like shall each be enumerated separately stating the size of the opening, the nature of the wall and its thickness. Lintels and arches shall be given in the description

G.36 Flues

1. Parging and coring flues shall be given in metres stating the internal size of the flue where over 0.25m² in sectional area.
2. Fireclay linings and precast concrete linings to flues shall each be given separately in metres stating the internal size. Cutting to form easings and bends in linings and cutting walls around linings shall be given in the description. For deduction of brickwork see clause G.2.2.
3. For refractory brick linings to flues see clause G.3.3.k.

G.37 Gas flue-blocks

Gas flue-blocks shall be enumerated stating the type of block and the size and number of flues in each block. The method of building shall be described. Rough cutting on walls around flue-blocks shall be deemed to be included. For deduction of brickwork see clause G.2.2.

G.38 Chimney-pots

Chimney-pots shall be enumerated stating the type and the size. Setting and flaunching shall be given in the description.

G.39 Stoves and surrounds

1. Stoves, grates, mantels, ranges and similar units shall each be enumerated separately stating the type and the size. Setting in fireplace openings and providing any concrete and brick backing shall be given in the description stating the width of the fireplace opening.
2. Surrounds, hearths and similar units shall each be enumerated separately stating the size, the nature of the material and the condition in which each unit is supplied. Assembling and jointing or building up loose parts and setting shall be given in the description.

G.40 Centering

1. Particulars of the following shall be given
 - a. Nature of the surface to be supported.
 - b. Shape of surface.
2. Centering left in shall be so described. ':
3. Centering with supports over 3.50m high shall be so described stating the height in further stages of 1 50m.
4. Centering shall be measured as the actual surface to be supported. Strutting, shoring, bolting, wedging, easing, striking and removing shall be deemed to be included with the items.
5. Centering for flat surfaces shall be enumerated stating the span of the opening and the width of the soffit.
6. Centering for soffits over 10° from the horizontal shall be so described stating the angle of slope.
7. Centering for segmental, semicircular, invert and other curved arches shall each be enumerated separately stating the span of the opening and the width of the soffit. The rise shall also be stated except in the case of semicircular arches.
8. Raking cutting, curved cutting, scribed edges, splayed edges, notching centering for key blocks, projecting voussoirs and the like shall be deemed to be included with the items.

SECTION H

UNDERPINNING

Generally

H.1 Information

1. Underpinning work shall be given as a section in the bills of quantities.
2. The location and extent of the work and particulars of the existing structure to be underpinned shall be shown on the drawings required under clause B.3.1. or shall be shown on further drawings which shall accompany the bill of quantities.
3. Information regarding the nature of the ground shall be given in accordance with clause D.1.
4. The limit of length to be carried out in one operation and the number of sections the Contractor may be permitted to undertake at any one time shall be stated.
5. Underpinning which may be carried out from both sides, or which is required to be carried out from one side only or from within an existing building shall each be given separately and so described.
6. Underpinning which is curved on plan shall be so described.

Work in all trades

H.2 Excavation

1. Temporary supports to work to be underpinned shall be given as an item, stating any particulars requirements.
2. Excavation shall be given in accordance with clauses D.9-10 subject to the following:
 - a. Excavating preliminary trenches down to the level of the base of the existing foundation shall be so described.
 - b. Excavating below the level of the base of the existing foundation shall be so described.
3. Cutting away projecting foundations shall be given in metres stating the number of courses of footings and the dimensions of concrete to be removed.
4. Preparing the underside of the existing work to receive the pinning up of the new shall be given in metres stating the width of the existing work.

H.3 Disposal of water

Disposal of water shall be given in accordance with clauses D.15-16.

H.4 Earthwork support

1. Earthwork support shall be given in accordance with clauses D. 13-14 subject to the following:
 - a. Earthwork support to preliminary trenches shall be so described.
 - b. Earthwork support below the level of the base of existing foundations (measured to back, front and both ends of the Underpinning and also between each section of the underpinning) shall be so described.

H.5 Concrete, brickwork and asphalt

All other work in connection with Underpinning shall be given in accordance with the rules of the applicable work sections.

SECTION J

MASONRY

Generally

J.1 Measurement

1. Stone dressings to walls, other than to masonry-faced walls, shall be so described.
2. Templets and patterns shall be deemed to be included with the items.
3. Superficial items of work shall be measured the mean length by the average height. No deduction shall be made for voids not exceeding 0.10m²
4. Linear items of work shall be measured the mean length.
5. Joggle joints, sunk joints, rebated joints, concealed rebated joints and the like shall each be given in the description of the work on which they occur.
6. Enumerated items of work shall be measured as the smallest block from which each item could be obtained having regard in the case of natural stone to the plane in which the stone is required to be laid with relation to its quarry bed. The measurements shall be taken over one mortar bed and one mortar joint.
7. Plain work, sunk work, circular work and circular-circular work shall each be so described. Arrises shall be deemed to be included with the items on which they occur. Moulded work shall be given in accordance with clause J.12. Curved work shall be so described stating the mean radius and the extra stone required for curved work shall be deemed to be included with the items. Curved labours shall be so described irrespective of the radius.
8. Stones or blocks over 1.50m long shall be so described stating the length in stages of 0.50m.
9. Stones or blocks over 0.50m³ shall be so described stating the cube in further stages of 0.25m³.
10. Labours on different kinds of stones, cast stone and clayware shall each be given separately.
11. Pointing shall be given in the description of the work on which it occurs.
12. Dry masonry work (i.e. work built without mortar) shall be so described.
13. Labours on existing masonry work shall be so described.
14. Work in eaves filling shall be added to the general walling. The labour in eaves filling shall be deemed to be included with the general walling.

Dressed natural stonework

J.2 Generally

1. Stonework shall consist of dressed blocks of natural stone accurately worked to given dimensions and laid in mortar with fine joints. Particulars of the following shall be given:
 - a. Kind of stone (e.g. sandstone, limestone, granite, slate, marble, etc.).
 - b. Any requirements as to the stone and the quarry.
 - c. Texture and finish to exposed faces of stone (e.g. sawn, rubbed, vermiculated, polished etc.).
 - d. Composition and mix of mortar for bedding, jointing and pointing.
 - e. Method of pointing
 - f. Any requirements as to coating the surface of the finished work and cleaning on completion
2. Labours necessary to produce sawn stones of required overall size shall be deemed to be included with the items.
3. Stones shall be deemed to be set on their natural beds unless otherwise described.

J.3 Walls, piers, chimney-stacks and vaulting

1. Stonework in each of the following classes shall be given separately in square metre stating the thickness:
 - a. Walls.
 - b. Filling existing openings.
 - c. Dwarf supports under seats, table-tops and the like (grouped together).
 - d. Piers, defined as walls having a length on plan not exceeding four times their thickness (except where caused by openings) and chimney stacks (grouped together).
 - e. Battering walls defined as walls of Uniform thickness built battering.
 - f. Tapering walls stating the thickness at the base and top whether one or both faces are battered.
 - g. Vaulting.

J.4 Ends and angles of walls

1. Square ends, square reveals, square external angles of walls, quoins and jambs formed by returning the facework shall be given in metres stating the thickness of the wall.
2. Splayed ends, battered ends, battered external angles and battered internal angles of walls shall each be given separately in metres stating the thickness of the wall.
3. Squint angles to walls and any ends or angles to walls which involve the Use of stones thicker than the walls in which they occur shall be given in accordance with clause J.16.

J.5 Bonding ends of walls

Bonding ends of new walls to existing shall be given in metres stating the thickness of the new wall and the nature of existing wall. Cutting pockets in existing work and the extra stone for bonding shall be given in the description.

J.6 Stone facework

1. Stone facework bonded to a backing of other material shall be given in square metres stating the average thickness of the facework.
2. Stone facework built against a backing of other material shall be given in square metres stating the thickness of the facework. Wall-ties or anchors shall be given in the description stating the type and spacing thereof and the method of securing to the backing.
3. Stone facework used as formwork shall be so described and given in square metres stating the thickness. Temporary strutting shall be given in the description.
4. Stone facowork built overhand shall be so described.

J.7 Stone slabbing or cladding to walls

Stone slabbing or cladding to walls shall be given in accordance to Section S

J.8 Rough cutting

1. Rough notchings and rough sinkings for steel sections, concrete columns, concrete beams and the like shall be deemed to be included with the items.
2. Rough notchings and rough sinkings for gusset -plates' ends of joists and the like shall be deemed to be included with the items.

J.9 Fair cutting

Fair raking cutting and curved cutting on superficial items of stonework shall be given in metres stating the thickness and radius. The extra stone required for curved cutting shall be deemed to be included with the items.

J.10 Rustications

Rustications shall be given in the description of the stonework on which they occur. Stops and angles to rustifications shall be deemed to be included with the items.

J.11 Grooves, rebates, margins, flutes, sinkings and angles

1. Grooves, throats, rebates, margins, flutes, sinkings, chamfered angles, rounded angles and the like labours on superficial items of stonework shall each be given separately in metres stating the width or girth. Stops and mitres shall be deemed to be included.
2. Such labours on linear items of stonework shall be given in the description stating the width or girth. Stops and mitres shall be deemed to be included.
3. Such labours on enumerated items of stonework shall be given in the description stating the width or girth. Stops and mitres shall be deemed to be included.

J.12 Mouldings and enrichments

1. Mouldings and enrichments on superficial items of stonework shall be given in metres stating the girth and profile. Undercut mouldings and enrichments shall be so described. Stops, mitres, returned ends and the like shall be deemed to be included.

J.12 Mouldings and enrichments (cont'd)

2. Mouldings and enrichments on linear items of stonework shall be given in the description stating the girth and profile. Stops, mitres, returned ends and the like shall be deemed to be included.
3. Mouldings and enrichments on enumerated items of stonework shall be given in the description stating the girth and profile. Stops, mitres, returned ends and the like shall be deemed to be included.
4. Projecting mouldings and enrichments shall be so described and the extra stone required shall be deemed to be included.

J.13 Ornaments

Ornaments shall be enumerated stating the size and profile. The extra stone required for projecting ornaments shall be deemed to be included.

J.14 Small panels

1. Stones forming small panels defined as panels not exceeding 0.10m² shall each be enumerated stating the size. Those which are flush shall be so described. Those which are sunk or projecting shall each be so described stating the set-back or projection.
2. Small panels worked on other stones shall be enumerated stating the size and the set - back on projection. The extra stone required for projecting panels shall be deemed to be included.

J.15 Pilasters

1. Stones forming pilasters shall be given in metres (measured vertically) stating the width on face, the total thickness and the projection beyond the face of the wall. Battered pilasters and those sunk to entasis shall each be so described.
2. Caps and bases to pilasters shall each be enumerated separately stating the size and profile.

J.16 Quoins and jambs

Stones forming quoins and jambs shall each be given separately in metres (measured vertically) stating the width on face and the thickness. Those which are battered or projecting (or both) shall each be so described.

J.17 Columns

1. Independent columns shall be given in metres (measured vertically) stating the size of the cross-section or the diameter. Those sunk to entasis shall be so described stating the greatest size or diameter.
2. Stones forming attached columns shall be given in metres (measured vertically) stating the width on face, the total thickness or the diameter of the projection. Those sunk to entasis shall be so described stating the greatest diameter.
3. Caps and bases to columns or attached columns shall each be enumerated separately stating the size and profile.

J.18 Lintels, sills, mullions and transoms

1. Lintels, sills, mullions and transoms shall each be given separately in metres stating the size and profile.
2. Ends and stoolings shall each be enumerated separately as extra over the member on which they occur.

J.19 Copings, cornices and band courses

1. Copings, cornices and band-courses, string courses, plinth-cappings and the like members shall each be given separately in metres stating the size and profile. Horizontal, raking and vertical members shall each be so described. Fair ends, returned ends and the like shall be deemed to be included.
2. Kneeler-blocks, bonder blocks, apex-blocks, angle blocks, stooling-blocks and any end-blocks which involve the use of stones thicker than the member in which they occur shall each be enumerated separately stating the size and profile.
3. Plain band-courses over 300mm wide shall be dealt with as walling or facework.

J.20 Slab architraves and surrounds to openings

1. Slab architraves and slab surrounds to openings (i.e. slabs not bonded to surrounding work) shall be given separately in metres stating the size and profile. Ends and angles shall be deemed to be included with the items.
2. Plinth-blocks, angle-blocks, key -blocks and the like shall each be enumerated separately stating the size and profile.

J.21 Arches

Springers, voussoirs and keystones of arches shall each be enumerated separately stating the size and profile of the stone and the type of arch. Projecting members of arches shall be so described stating the size and profile.

J.22 Tumbings to buttresses

Tumbling to buttresses shall be enumerated stating the size and profile.

J.23 Pier-caps and chimney-caps

Pier-caps, chimney-caps and the like shall each be enumerated separately stating the size and profile. Openings in chimney-caps shall be given in the description.

J.24 Finials, brackets and corbels

Finials, terminals, brackets, corbels and the like shall each be enumerated separately stating the size and profile.

J.25 Tracery

Stones forming tracery shall be enumerated stating the size and profile.

J.26 Special features

Special features composed of one or more stones shall each be enumerated separately stating the nature and design of the feature, the total volume of stone required and the dimensions of the exposed faces.

J.27 Steps, winders and landings

1. Steps (except winders) shall be given in metres stating the size and the number of steps. Spandril steps (i.e. steps with sloping soffits) shall be so described. Fair ends, returned ends, rounded ends, stooled ends, wall-holds and the like shall be deemed to be included with the members on which they occur.
2. Winders and landings shall each be enumerated separately stating the size. Landings of irregular shape shall be so described. Fair ends, stooled ends, wall-holds, fair edges, nosings, rebates, grooves and the like shall be deemed to be included with the members which they occur.

J.28 Handrails, cappings and kerbs

1. Handrails, cappings and kerbs shall each be given separately in metres stating the size and profile. Stopped ends, returned ends, mitres, stoolings, wall-holds and the like shall be deemed to be included with the item.
2. Scrolled-ends, angle-blocks, ramp-blocks, wreath blocks and the like shall each be enumerated separately stating the size and profile. _

J.29 Balustrade panels

Balustrade panels and the like shall be enumerated stating the size. Those of irregular shape and those worked both sides shall be so described. Fair edges, shaped edges, preforations, sinkings and the like shall be given in the description.

J.30 Balusters and newels

Balusters, halfbalusters, newels and newel-caps shall each be enumerated separately stating the size and profile.

J.31 Cover-stones and corbel-courses

Cover-stones, corbels-courses and the like shall be given separately in metres stating the size and profile. Fair edges shall be given in the description. Fair ends shall be deemed to be included with the items.

J.32 Templates, bases and hearths

Templates, bases, thresholds, hearths and the like shall each be enumerated separately stating the size and profile. Fair edges shall be given in the description stating the number.

J.33 Shelves, divisions, table-tops and seats

1. Shelves, divisions, table-tops, work-tops, countertops, seats and the like over 300mm wide shall each be given separately in square metres stating the thickness. Those not exceeding 300mm wide shall be given in metres stating the thickness and the width. Members of irregular shape and curved members shall each be enumerated separately stating the thickness and the size and profile.

J.33 Shelves, divisions, table-tops and seats (cont'd)

2. Fair edges, rounded edges, moulded edges, jointed edges, grooves, rebates and the like shall each be given in accordance with clause J.11.
3. Notches, rounded corners, holes and the like shall each be enumerated separately stating the girth or size.

J.34 Pavings

Pavings shall be given in accordance with Section S.

J.35 Carving and sculpture

1. Carving and sculpture shall each be enumerated separately stating the character of the work or alternatively the work shall be given as a provisional or prime cost sum.
2. The following shall be deemed to be included with the items:
 - a. Selecting blocks of stone for size and quality.
 - b. Boasting for carving, working mouldings and similar members and work.
 - c. Temporary work required for the exclusive use of carvers or sculptors.
 - d. Attending upon and cleaning down after the carvers and sculptors.

Natural stone rubble work

J.36 Generally

1. Rubble work shall consist of natural stones either irregular in shape or roughly -dressed and laid dry or in mortar with comparatively thick joints.
2. Particulars of the following shall be given:
 - a. Kind of stone (e.g. sandstone, limestone, granite or flint)
 - b. Any requirements as to the stone and the quarry.
 - c. Type of walling stating whether of random or squared stones and, where coursed, the average height of the courses of the maximum and minimum heights of diminishing courses.
 - d. Texture and finish to exposed faces of stones (e.g. natural, rough dressed or hammer dressed).
 - e. Composition and mix of mortar for bedding, jointing and pointing.
 - f. Method of pointing.
3. Measurement of walls shall be taken between attached piers. Piers, defined as walls having a length on plan not exceeding four times the thickness, whether attached or isolated (except where caused by openings) shall be measured as the combined thickness of the wall and the pier.

J.37 Walls, piers and chimney-stacks

1. Rubble work in each of the following classes shall be given separately in square metres stating the thickness:
 - a. Walls.
 - b. Filling existing openings.
 - c. Piers and chimney-stacks (grouped together).
 - d. Battering walls defined as walls of uniform thickness built battering.
 - e. Tapering walls stating the thickness at base and top whether one or both faces are battered.

J.38 Bonding ends of walls

Bonding of new walls to existing shall be given in metres stating the thickness of the new wall. Cutting pockets in existing work and extra material for bonding shall be given in the description.

J.39 Rubble facework

1. Rubble facework bonded to a backing of other material shall be given in square metres stating the average thickness of the facework and the method of bonding.
2. Rubble facework built against a backing of other material shall be given in square metres stating the thickness of the facework. Wall-ties or anchors shall be given in the description stating the type and spacing thereof and the method of securing to the backing.
3. Rubble facework Used as formwork shall be so described and given in square metres stating the thickness. Temporary strutting shall be given in the description.
4. Rubble facework built against a battered backing shall be so described stating the rate of batter.
5. Rubble facework in panels not exceeding 1.00m² shall be described and enumerated.
6. Rubble facework built overhand shall be so described.

J.40 Levelling uncoursed work

Levelling uncoursed rubble work for damp-proof courses, band-courses, sills, plates, copings and the like (grouped together) shall be deemed to be included with the item.

J.41 Cutting

1. Rough cutting shall be deemed to be included with the rubble work.
2. Fair cutting on superficial items of rubble work shall be given in metres stating the thickness of the work. No distinction shall be made between square, raking and curved cutting.

J.42 Fair returns

Fair returns on rubble work shall be deemed to be included with the item.

J.43 Fair angles

Fair vertical internal angles, vertical external angles, fair squint angles, birdsmouth angles, battered internal angles and battered external angles and the like shall be deemed to be included with the item.

J.44 Dressed margins

Dressed margins on rubble work shall be given in metres stating the width of the margin. Stops and angles shall be deemed to be included with the items.

J.45 Copings

Copings formed of rough stones shall be given in metres stating the width and average height of the coping. No distinction shall be made between horizontal, raking, vertical and curved copings. Ends and angles shall be deemed to be included with the items.

J.46 Arches and tumbings

1. Arches (measured the mean length on face) shall be given in metres as extra over the rubble work in which they occur stating the width on face, the width of the exposed soffit and the outline of the arch. Cutting on arches and walling shall be deemed to be included with the items.
2. Tumbings to buttresses shall be enumerated stating the size. Cutting on tumbings and walling shall be deemed to be included with the items.

J.47 Gabion work

1. Gabion work shall be measured as follows:
 - a. Excavation shall be measured in accordance with Section D,
 - b. Cages shall be enumerated stating the size, type and quality of materials used and method of laying.
 - c. Filling materials shall be given in cubic metres stating the type, quality and size of the materials.

Cast stonework

J.48 Generally

1. Cast stonework shall consist of blocks of reconstructed or artificial stone accurately cast to given dimensions and used in a similar manner and for the same purpose as natural stone,
2. Particulars of the following shall be given:
 - a. Kind and quality of cast stone.
 - b. Any requirements as to the reinforcement of blocks.
 - c. Any requirements as to the thickness, mix and colour of the facing material.
 - d. Texture and finish to exposed faces of blocks (e.g. natural, rough dressed or hammer dressed).
 - e. Composition and mix of mortar for bedding, jointing and pointing.
 - f. Method of pointing.
 - g. Any requirements as to coating the surface of the finished work and cleaning on completion.
3. Moulds necessary to produce blocks of the required size and shape shall be deemed to be included with the items.

J.49 Work in cast stone

Work in cast stone shall be given in accordance with the rules for natural stonework in clause J.3-35.

Clayware work

J.50 Generally

1. Clayware work shall consist of blocks of fired clayware cast to given dimensions and used in a similar manner and for the same purpose as natural stone.
2. Particulars of the following shall be given:
 - a Kind of clayware.
 - b Any requirements as to the colour.
 - c. Texture and finish to exposed faces of blocks (e.g. natural, rough dressed or hammer dressed).
 - d. Composition and mix of mortar for bedding, jointing and pointing.
 - e. Method of pointing.
 - f. Any requirements as to cleaning the finished work on completion.
3. Moulds necessary to produce blocks of the required size and shape shall be deemed to be included with the items.
4. Blocks required to be cast hollow and filled with concrete shall be so described stating the composition and mix of the concrete. Formwork shall be deemed to be included with the items.

J.51 Work in clayware

Work in clayware shall be given in accordance with the rules for natural stonework in clauses J.3-35.

Sundries

J.52 Grooves for waterbars, flashings and skirtings

1. Grooves for waterbars and the like shall be given in metres.
2. Grooves for turned-in edges of flashings and for nibs of skirtings shall each be given separately in metres. No distinction shall be made between horizontal, raking, vertical and curved grooves. Pointing the grooves and dressing the face of masonry or rubble work to receive flashings and skirtings shall be given in the description

J.53 Chases

Chases shall be given in metres stating the size, the kind of masonry or rubble walling and the finish to back and sides of chase. No distinction shall be made between horizontal, raking, vertical and curved chases. No deduction of masonry or rubble work shall be made for any chase.

J.54 Cramps

Metal cramps, slate dowels, metal dowels, lead plugs and the like shall each be enumerated separately stating the size. Mortices and running with lead or mortar shall be given in the description stating the kind of masonry or rubble walling.

J.55 Coating backs of stones

Coating backs of stones or blocks with slurry shall be given in the description of the masonry on which it occurs. Coating with other materials shall be given in square metres stating the kind of material.

*Centering***J.56 Centering**

Centering for masonry shall be given in accordance with clause G.40.

J.57 Supports to projecting stonework and tracery

1. Supports to projecting masonry shall be given in metres of work to be supported stating the projection.
2. Strutting and ribbing for tracery work shall be enumerated stating the overall area of the tracery.

SECTION K

WATERPROOFING AND ASPHALT WORK

Generally

K.1 Classification of work

1. Work shall be classified according to the kind of materials and given together with its associated skirtings, angle-fillets and labours under an appropriate heading:
 - a. Damp proofing and tanking.
 - b. Flooring and underlay.
 - c. Paving.
 - d. Roofing.

K.2 Measurement

1. Particulars of the following shall be given:
 - a. Kind and quality of material.
 - b. Thickness and number of coats and layers.
 - c. Nature of base.
 - d. Surface treatment.
2. Coverings shall be measured the area in contact with the base but no deduction shall be made for voids not exceeding 0.50m².
3. Coverings over 300mm wide shall be given in square metres. Such work not exceeding 300mm wide shall be given in metres stating the width in stages of 150mm. Classification shall be as follows:
 - a. Flat coverings which shall include coverings to falls or cross-falls and sloping coverings not exceeding 10° from horizontal. Intersection on works to cross falls shall be deemed to be included with the items.
 - b. Sloping coverings over 10° but not exceeding 45° from horizontal.
 - c. Sloping coverings over 45° from horizontal and vertical coverings (grouped together).
4. Coverings in isolated areas not exceeding 1.00m² each shall be enumerated.
5. Paper, felt, cork, fibreboard or other underlay in contact with waterproofing and any reinforcement shall be given in the description of the work in which they occur. Cutting, notching, bending and lapping the underlay and the reinforcement shall be deemed to be included with the items.
6. Work which will be subsequently covered shall be so described.
7. Work and labours carried out overhand or in confined situations (where at least 0.60m of working space cannot be provided) shall each be so described.
8. Work and labours on retaining walls, in sections, and where continuity of laying will be interrupted by obstructions shall each be so described. Jointing between sections shall be deemed to be included with the items.

K.2 Measurement (cont'd)

9. Curved work, conical work, spherical work and elliptical work shall each be so described irrespective of the radius. No distinction shall be made between straight and curved labours.
10. Internal angle-fillets shall be given in metres and shall be deemed to be in two coats or layers unless otherwise stated. Ends and angles shall be deemed to be included with the items.
11. Temporary rules shall be deemed to be included

K.3 Labours

1. The following shall be deemed to be included with waterproofing and asphalt works:
 - a. Fair edges, rounded edges, drips and arris.
 - b. Turning nibs of waterproofing into grooves.
 - c. Working into outlet pipes, dishing to gullies and the like.
 - d. Cutting to line for jointing new to existing.
 - e. Working to metal or other flashings against frames of manhole-covers, duct-covers, mat-sinkings and the like.
2. Working into recessed duct-covers, shaped insets, recessed manhole-covers, mat - sinkings and the like shall be given in metres as extra over the work in which they occur stating the width in stages of 150mm.

K.4 Skirtings, fascias and aprons

1. Skirtings, fascias and aprons shall each be given separately in metres stating the width on face. Stepped work and raking work shall each be so described. Internal angle filets (or dressing over tilting fillets) shall be given in the description. Fair edges, drips, arris, turning nibs into grooves, fair ends, stopped ends and angles shall be deemed to be included with the items. Stopped ends requiring an angle-fillet shall be dealt with as angles.
2. Skirtings on roof slopes shall be so described.

K.5 Gutters, channels, valleys and kerbs

1. Linings to gutters, channels, and valleys and coverings to kerbs shall each be given separately in metres stating the girth on face. Gutters to falls shall be so described. Internal angle-fillets and tilting fillets (or dressing over tilting fillets) shall each be given in the description. Arris, turning nibs into grooves, ends, angles, intersections and outlets shall be deemed to be included with the items.
2. Linings to gutters and valleys of stated or other roofs shall each be so described.
3. Working coverings into shallow channels shall be given in metres as extra over the coverings in which they occur stating the girth on face. Channels to falls shall be so described. Arris, ends, angles, intersections and outlets shall be deemed to be included with the items.

K.6 Cesspools and collars

1. Linings to cesspools, sumps and the like shall each be enumerated separately stating the size. Internal angle-filets shall be given in the description. Arris and outlets shall be deemed to be included with the items.

K.6 Cesspools and collars (cont'd)

2. Linings to bonding pockets, coverings to bonding blocks and the like shall each be enumerated separately stating the size. Internal angle-fillets shall be given in the description. Arrises shall be deemed to be included with the items.
3. Collars around pipes, standards and the like members (grouped together) shall be enumerated stating the size of the members and length of collars. Internal angle-fillets shall be given in the description. Arrises shall be deemed to be included with the items.

SECTION L

ROOFING

Generally

L.1 Classification of work

Work shall be classified according to the kind of material and each classification with its associated labours shall be given under an appropriate heading. Asphalt roofing shall be given in accordance with Section K and patent glazing in accordance with Section T.

L.2 Measurement

1. Slate or tile roofing, corrugated or troughed roofing and roof decking shall be measured as carried out. Bitumen - felt roofing shall be measured the area in contact with the base. Sheet metal roofing, flashings and gutters shall be measured as the area of finished surface subject to the allowance in clause L.38. No deduction shall be made for voids not exceeding 0.50m.
2. Work to dormers and the like shall be so described.
3. Work to curved, conical and spherical roofs shall each be so described stating the radius or diameter at base. Work to elliptical roofs and other roofs curved to more than one radius shall be so described stating the radii.

Slate or tile roofing

L.3 Generally

1. Particulars of the following shall be given:
 - a. Kind and quality of slates and tiles (examples of kind of slates or tiles include asbestos cement, natural slate, stone, clayware, concrete and shingles).
 - b. Size of slates or tiles.
 - c. Minimum extent of side and end laps.
 - d. Method of fixing and the number and kind of fixings per slate or tile.
 - e. Size and type of laths or battens.

L.4 Roof coverings

Roof coverings shall be given in square metres stating the pitch or pitches grouped together. Vertical coverings shall be given separately.

L.5 Labours on roof coverings

- I. The following shall be deemed to be included with roof coverings:
 - a. Square cutting, raking cutting and curved cutting.
 - b. Holes for pipes, standards and the like.
 - c. One and half width slates or tiles wherever they occur.

L.6 Eaves

Double course at eaves and extra undercourse at eaves shall each be given separately in metres as extra over the roof coverings in which they occur. Raking eaves and curved eaves shall each be given separately. Bedding shall be given in the description. Cut courses at eaves shall be deemed to be included in the items. Purpose-made fixing clips shall be given in the description.

L.7 Verges

Verges shall be given in metres as extra over the roof coverings in which they occur. Raking verges, curved verges and verges with purpose-made or special tiles shall each be so described. Cutting at verges shall be deemed to be included with the items. Extra undercloak course, bedding, pointing, verge clipping and finishing with mortar fillets shall be given in the description.

L.8 Valleys

1. Valley-tiles shall be given in metres as extra over the roof coverings in which they occur. Purpose-made valley-tiles shall be described.
2. Laced or swept valleys shall be given in metres as extra over the roof coverings in which they occur. Special finishes to tops or bottoms of valleys shall be enumerated stating the nature of the finish.
3. Bedding and pointing shall be given in the description.
4. Cutting to valleys shall be deemed to be included in the item.

L.9 Ridges, hips and vertical angles

1. Mitred hips and mitred vertical angles shall each be given separately in metres. Cutting shall be deemed to be included with the items.
2. Ridge-tiles, hip-tiles and vertical angle-tiles shall each be given in metres as extra over the roof coverings in which they occur. Purpose-made ridge-tiles, hip-tiles or angle-tiles shall be described. Fillets ends, mitred angles and intersections, vents, finials and purpose-made tiles shall be enumerated separately.
3. Bedding and pointing shall be given in the description.
4. Cutting to ridges, hips and vertical angles where they will be subsequently covered shall be deemed to be included.

L.10 Special fillings

Tile slips and othe fillings shall each be given separately in metres. Bedding and pointing shall be given in the description.

L.11 Hip-irons

Hip-irons shall be enumerated stating the method of fixing.

L.12 Slates, soakers and saddles

Fixing slates, soakers and saddles (provided by other trades) shall each be enumerated separately irrespective of size.

L.13 Glass tiles

Glass tiles and the like shall be enumerated as extra over the roof coverings in which they occur

L.14 Lathing or battening

1. Lathing or battening shall be given in the description of roofing as clause L.3.1.e.
2. Counter-battening shall be given in square metres stating the size and spacing of the battens and the method of fixing.

L.15 Underlay

1. Underlay shall be given in square metres stating the type and extent of the laps and method of fixing.
2. Square cutting, raking cutting and curved cutting shall be deemed to be included.

Corrugated or troughed sheet roofing or cladding

L.16 Generally

1. Particulars of the following shall be given:
 - a. Kind of sheeting (e.g. iron, steel, protected metal, aluminium and transparent sheet) stating type of corrugation or troughing and thickness.
 - b. Minimum extent of side and end laps.
 - c. Nature and general spacing of the structural supports.
 - d. Material for bedding joints of sheeting stating which joints are to be bedded.

L.17 Roof coverings

1. Roof coverings shall be given in square metres. Coverings exceeding 50° from horizontal and vertical coverings shall each be so described.
2. Roof coverings which are fixed through an under-lining laid over purlins shall be given separately and the under-lining described.
3. Cranks and upstands shall each be given separately in metres as extra over the coverings in which they occur, stating the girths.

L.18 Labours on roof coverings

1. The following shall be deemed to be included with roof coverings:
 - a. Square cutting, raking cutting and curved cutting.
 - b. Holes for pipes, standards and the like.

L.19 Filler-pieces

Filler-pieces at eaves and jambs, filler-pieces above roof glazing and over lintels, flashing-pieces under roof glazing and the like shall each be given separately in metres.

L.20 Bedding and pointing

Bedding and pointing eaves filler-pieces, verges and the like (grouped together) shall be given in metres.

L.21 Ridges, hips and vertical angles

Ridge cappings, hip cappings and vertical angle cappings shall each be given separately in metres. Capped ends, capped angles, capped intersections, vents, finials and the like shall each be enumerated separately. Fitted ends shall be deemed to be included with the items.

L.22 Barge-boards

Barge boards and corner -pieces shall each be given separately in metres stating the width or girth. Mitred angles and mitred intersections, fair ends and fitted ends shall be deemed to be included with the items

L.23 Flashings and expansion joints

Flashings and expansion joints shall each be given separately in metres stating the width or girth.

L.24 Louvres

Louvre-blades shall be given in metres stating the number and method of fixing.

L.25 Roof lights and special sheets

1. Dead roof-lights and opening roof-lights (exclusive of glass) shall each be enumerated separately as extra over the roof coverings in which they occur stating the size.
2. Transparent sheets shall be enumerated as extra over the roof coverings in which they occur and described stating the size of the sheets to be used. (Where transparent sheets are used in large areas, thus becoming the roofing material rather than an insertion therein, Clause L.16 would apply and sheets would not be measured extra over.)
3. Ventilator sheets shall be enumerated as extra over the roof coverings in which they occur stating the size.
4. Sheets with soaker flanges for pipes shall be enumerated as extra over the roof coverings in which they occur stating the size of the pipe.

L.26 Roof ventilators

Roof ventilators shall be described and enumerated.

Roof decking

L.27 Generally

1. Particulars of the following shall be given:
 - a. Kind of decking stating the thickness and quality.
 - b. Method of fixing.
 - c. Nature and general spacing of the structural supports.

L.28 Roof coverings

Roof coverings shall be given in square metres. Coverings over 50° from the horizontal and vertical coverings shall be so described.

L.29 Labours on roof deckings

1. The following shall be deemed to be included with roof coverings:
 - a. Square cutting, raking cutting and curved cutting.
 - b. Holes for pipes, standards and the like.

L.30 Bearings, eaves, kerbs and flashings

Bearings, eaves, kerbs, flashings and abutments with nibs built into chases shall each be given separately in metres. Timber blocks or fillets inserted during fixing shall be given in the description but any other material required shall be deemed to be included with the items.

Bitumen-felt roofing

L.31 Generally

1. Particulars of the following shall be give:
 - a. Kind and quality of felt.
 - b. Number of layers and extent of laps.
 - c. Nature of base on which feltwork is laid.
 - d. Method of bonding or securing to base.
 - e. Surface treatment (e.g. chippings, tiles etc.)
2. Paper, cork, fibreboard or other underlay in contact with felt shall be given in the description of the felt in which it occurs. Cutting, notching, bending and lapping the underlay shall be deemed to be included with the items.

L.32 Roof coverings

1. Roof coverings over 300mm wide shall be given in square metres. Work not exceeding 300mm wide shall be given in metres stating the width in stages of 150 mm. Classification shall be as follows:
 - a. Flat coverings which shall include coverings to falls or cross-falls and sloping coverings not exceeding 10° from horizontal. Intersections on work to cross-falls shall be deemed to be included with the items.
 - b. Sloping coverings over 10° but not exceeding 50° from horizontal.
 - c. Sloping coverings over 50° from horizontal and vertical coverings (grouped together).
2. Coverings in isolated areas not exceeding 1.00m² each shall be enumerated irrespective of size and the associated labours given in the description.

L.33 Labours

1. The following shall be deemed to be included with roof coverings:
 - a. Square cutting, raking cutting, curved cutting, fair edges, turning into grooves, wedging and the like labours.
 - b. Notching, bending, extra felt for laps and turning into grooves, trimming and jointing feltwork to flashings and the like labours,
 - c. Working feltwork into outlet pipes, dishing on gullies and the like.

L.34 Flashings, skirtings and aprons

Turn-ups or turn-downs at eaves, verges, abutments and aprons, also skirtings and counterflashings shall each be given in metres stating the width or girth in stages of 150mm. Stepped work and raking work shall be so described. Dressing over tilting-fillets shall be given in the description. Raking cutting, curved cutting, fair edges, turning into grooves, wedging and angles and ends shall be deemed to be included with the items.

L.35 Gutters, valleys and kerbs

Linings to gutters and valleys and coverings to kerbs shall each be given separately in metres stating the girth. Dressing over tilting-fillets shall be given in the description. Raking cutting, curved cutting, fair edges, turning into grooves, wedging, end, outlets, angles and intersections shall be deemed to be included with the items.

L.36 Channels

1. Working coverings into shallow channels shall be given in metres as extra over the coverings in which they occur stating the girth. Ends and outlets shall each be enumerated separately. Angles, intersections and extra felt for laps shall be deemed to be included with the items.
2. Linings to channels shall be given in accordance with clause L.35.

L.37 Cesspools and collars

1. Linings to cesspools, sumps and the like (grouped together) shall be enumerated stating the size.
2. Collars around pipes, standards and like members (grouped together) shall be enumerated stating the size of members and length of collars.

Sheet metal roofing

L.38 Generally

1. Particulars of the following shall be given:
 - a. Kind and quality of metal (examples of kind of metal would include milled lead, cast lead, zinc, aluminium, copper, etc.)
 - b. Gauge, thickness or substance both for the metal and the labours thereon.
2. Clips and tacks shall be given in the description stating the material to be used and the method of fixing. No allowance shall be made in the area of the sheet metalwork.

L.38 Generally (cont'd)

3. In the absence of any directions to the contrary, allowances shall be made in calculating the areas of the finished surface of sheet metalwork as follows:

Item	Lead	Zinc, aluminium and copper
a. For drips not exceeding 50mm high	0.18 m	0.15 m
b. For cross-welts	0.08 m	0.08 m
c. For wood-cored rolls not exceeding 50 mm high	0.25 m	0.15 m
d. For standing seams and welted seams	0.10 m	0.08 m
e. For edge-welts	0.03 m	0.03 m
f. For vertical Upstands	0.15 m	0.15 m
g. For sloping Upstands and for laps in pitched roofing	0.30 m for 30°	0.30 m for 30°
	0.35 m for 25°	0.35 m for 25°
	0.45 m for 20°	0.45 m for 20°
	0.60 m for 15°	0.60 m for 15°

(Attention should be drawn to any departures from the allowances set out in this clause.)

L.39 Roof coverings

1. Roof coverings shall be given in square metres. Classification shall be as follows:
- Flat roof coverings, which shall include coverings to falls and cross-falls and sloping coverings not exceeding 10° from horizontal.
 - Sloping roof coverings over 10° but not exceeding 50° from horizontal.
 - Sloping roof coverings over 50° from horizontal and vertical roof coverings (grouped together).
2. Coverings in isolated areas not exceeding 1.00m² each shall be enumerated irrespective of size and the associated labours given in the description.
3. Long strip roofing shall be kept separate stating the length of roof slope to be covered and classified as follows:
- | | |
|---------------|-------------|
| Not exceeding | 4.00m |
| | 4.00m-6.00m |
| | 6.00m-8.00m |
| exceeding | 8.00m. |

L.40 Labours on sheet metal

- 1 The following shall be deemed to be included with the description of roof coverings:
- Square cutting, raking cutting and curved cutting.
 - Notching and bending.
 - Welted edges, beaded edges, wedging into grooves, burned or brazed angles, welted seams, burned or brazed seams and the like labours.
 - Dressing into hollows, into condensation channels and over mouldings.
 - Dressing over glass and glazing bars, corrugated roofing, roman tiling, pantiling and similar materials, dressing over drips and rolls.
 - Bossed burned, brazed or capped ends, angles and intersections to rolls, hollows, condensation channels and mouldings.
 - Dressing into outlet pipes, dishing to gullies and the like.

L.41 Nailing

Nailing shall be described and given in metres stating the spacing.

L.42 Collars around pipes and standards

Collars around pipes, standards and the like members (grouped together) shall be enumerated giving dimensions. Burned or brazed joints to sheet metalwork shall be given in the description.

L.43 Cesspools and sumps

Linings to cesspools, sumps and the like (grouped together) shall be enumerated stating the size. Outlets and burned or brazed angles shall be deemed to be included.

L.44 Dots, ornaments and plugs

Cast lead dots, soldered dots, cast lead ornaments, lead plugs and the like shall each be enumerated separately.

L.45 Underlay

Underlay shall be given as clause L.15.

*Sheet metal flashings and gutters***L.46 Generally**

1. Particulars as clause L.38.1 shall be given.
2. Clips and tacks shall be given in the description stating the material to be used and the method of fixing. No allowance shall be made in the area or length of the sheet metalwork.
3. Intermediate laps and intermediate seams in linear items (i.e. laps and seams in running lengths) shall be given in the description stating the extent of lap and the type of seam. No allowance in measurement shall be made. Passings at ends, angles and intersections of item shall be deemed to be included in the items.

L.47 Profiles

Where profiles are required to be given in accordance with the following clauses, drawn information of the section shall be given unless the section can be adequately described or is of sheet lead or other ductile material capable of being dressed in the same manner when the labours shall be described and the girth stated.

L.48 Flashings

1. Flashings, stepped flashings, aprons, weatherings to cornices, cappings to hips, ridges, kerbs and the like shall each be given separately in metres stating the profile in accordance with clause L.47.
2. Scalloped or otherwise shaped edges, wedging into grooves, dressing over tilting fillets and the like labours shall each be given in the description.
3. Dressing into hollows, into channels and over mouldings shall be given in the description stating the girth.

L.48 Flashings (cont'd)

4. Dressing over glass and glazing bars, corrugated roofing, Roman tiling, pantiling and similar materials shall be given in the description stating whether along or across the bars or corrugations.
5. Ends, angles and intersections to cappings, hollows, condensation channels and mouldings shall be deemed to be included.

L.49 Preformed flashings

Preformed flashings, aprons, cappings and the like shall each be given separately in metres stating the profile in accordance with clause L.47 and the method of jointing. Angles and returned ends shall each be enumerated separately. Stopped ends shall be deemed to be included with the items

L.50 Flat gutters

Linings to parapet gutters and to other flat gutters requiring drips and rolls shall be given in accordance with clause L.51.

L.51 Sloping gutters

1. Linings to sloping gutters shall be given in metres stating the profile in accordance with clause L.47.
2. Dressings over tilting-fillets, wedging into grooves and the like labours shall be given in the description.
3. Bossed, burned and brazed ends and angles, dressing through outlets, dressing into rainwater heads and the like labours shall be deemed to be included in the items.

L.52 Soakers and metal slates

Soakers and metal slates shall each be enumerated separately stating the size. Collars around pipes shall be given in the description of the metal slates stating the size and kind of pipe and the method of jointing thereto.

L.53 Saddles

Saddles over abutments and intersections of hips and ridges (grouped together) shall be enumerated stating the size of the metal. Dressing and bossing shall be given in the description.

SECTION M

WOODWORK

Generally

M.1 Information

1. Particulars of the following shall be given:
 - a. Kind and quality of material including stating whether sawn or wrought. Where types of material are not specifically stated they shall be deemed to be at the Contractor's discretion.
 - b. Preliminary treatment of material (examples of preliminary treatment would include kiln drying, impregnation and the like).
 - c. Selection and protection for subsequent treatment.
 - d. Matching of grain or colour.
 - e. Surface treatment if to be applied as part of the production process (e.g. shop priming, staining, varnishing or polishing before delivery to the works).
2. All sizes shown on drawing shall be deemed to be basic (nominal) sizes unless stated as finished sizes. Limits on planning margins shall be given. (If, however, finished sizes are given the Contractor will be expected to decide the size of timber required before taking into account either specified planning margins or his own assumptions and the size provided will be subject only to normal or specified tolerances). Where deviation from the stated sizes will not be permitted, this shall be stated.
3. Where no method of jointing or form of construction is described it shall be deemed to be at the discretion of the Contractor.
4. Items shall be deemed to be fixed with nails. Particulars of any other method of fixing shall be given in the description of the item concerned.
5. Except in the case of carcassing those over 200mm wide required to be in one width shall be so described.
6. Items required to be in one continuous length exceeding 5.00m shall be so described stating the length in further stages of 600mm.
7. Unless otherwise stated labours shall be related to the particular items to which they refer.
8. Curved items shall be so described stating conical or spherical, whether concave or convex, if to more than one radius (e.g. elliptical or parabolic) and the radius or radii.
9. All labours required to be measured by the following rules shall each be given in metres where items are measured superficial and in description of the item where items are measured linear. Stops on such labours shall be deemed to be included with the item.
10. All ends, angles, mitres, intersections and the like are deemed to be included with the items to which they relate.
11. Where the girth of the mould on any moulded item is over 100mm, the girth shall be stated. Any item which is fully moulded shall be so described irrespective of the girth.

Carcassing

M.2 Carcassing items

1. Unless otherwise stated or included as part of a composite item all carcassing items shall be given in metres stating the cross-section dimensions. Classification shall be as follows:
 - a. Floors.
 - b. Partitions.
 - c. Flat roofs.
 - d. Pitched roofs including ceiling joists.
 - e. Kerbs, bearers and the like including plates, sleepers and lintels.
2. Strutting and bridging between joists (measured over the joists) shall each be given separately stating the depth of the joists.
3. Cleats, sprockets and the like shall each be enumerated stating the cross-section dimensions.

M.3 Carcassing labours

1. Notwithstanding the provisions of clauses M.1.9-10 all labours on sawn items shall be deemed to be included unless otherwise stated. All labours on wrought items shall be measured in accordance with clause M.14.
2. Wrought surfaces on sawn items shall be given in metres stating the width or girth.
3. Raking cutting, curved cutting and scribing shall be deemed to be included with the item.
4. The following shall each be enumerated separately:
 - a. Notching and fitting ends to metal.
 - b. Ornamental ends describing the moulding.
 - c. Trimming members around openings stating the size of the members to be trimmed and the size of the opening to be formed.

First fixings

M.4 Boarding and flooring

1. Boarding and flooring shall be so described stating the thickness and the method of jointing and fixing and given in square metres unless otherwise required. Classification shall be as follows:
 - a. Floors.
 - b. Walls stating whether internal or external and whether sloping or vertical.
 - c. Ceilings and beams stating whether internal or external, whether horizontal or sloping and where over 3.50m above floor (measured to ceiling level in both cases) shall each be so described stating the height in further stages of 1.50m.
 - d. Roofs stating whether flat or sloping.
 - e. Tops and cheeks of dormers (grouped together).
 - f. Gutter boarding and sides (grouped together).
 - g. Eaves and verge boarding, fascias and barge boards and the like grouped together and measured in metres stating the cross-sectional size.

M.4 Boarding and flooring (cont'd)

2. No addition shall be made for joints or laps and no deduction shall be made for voids not exceeding 0.50m².
3. Members laid diagonally or to falls or cross-falls shall each be so described. Cutting at intersections on work to cross-falls shall be deemed to be included in the items.
4. Members fixed in length not exceeding 1.00m shall be so described.
5. Areas not exceeding 300mm in width shall be given in metres stating the width.
6. Areas not exceeding 1.00m² shall be enumerated. All labours in accordance with clause M.5 shall be given in the description.

M.5 Labours on boarding and flooring

All labours, except where otherwise stated, shall be so described in the items which they occurred. Raking cutting, curved cutting, scribing on boards, boundary cutting on diagonally laid boards, stops on labours, tongued edges, mitre angles, notches, rounded corners, sinking and cutting fitting around obstructions and the like shall be deemed to be included.

M.6 Firrings, drips and bearers

1. Furring pieces shall be given in metres stating the width and average depth.
2. Drips shall be given in metres stating the extreme sizes. Those not exceeding 300mm in length shall be enumerated and grouped together irrespective of their length. Cross-rebated drips shall be so described.
3. Bearers shall be given in metres stating the extreme sizes. Those not exceeding 300mm in length shall be enumerated and grouped together irrespective of their length.

M.7 Nosings and margins

Nosings and margins shall each be given separately in metres stating the extreme sizes.

M.8 Access traps, cesspools, etc.

Access traps, cesspools and the like shall be enumerated stating the size and details of construction.

M.9 Fillets, rolls, grounds, battens and framework generally

Where items do not have constant cross-section dimensions then the extreme dimensions shall be stated and described as such. All cutting shall be deemed to be included with the items.

M.10 Fillets and rolls

1. Angle fillets and tilting fillets shall be given in metres stating the cross-section dimensions.
2. Rolls shall be given in metres stating the cross-section dimensions.

M.11 Grounds and battens

1. Open-spaced grounds and battens (measured overall) shall be given in square metres stating the size, the spacing of the members and the nature of the material to be fixed to the grounds or battens.
2. Individual grounds and battens shall be given in metres stating the cross-section dimensions
3. Pads, blocks and the like shall be grouped together and enumerated stating the length and cross-section dimensions.

M.12 Framework

1. Framework over 300mm wide (measured overall) shall be given in square metres. Framework not exceeding 300mm wide (measured overall) shall be given in metres stating the width. The size and spacing of members shall be given in the description together with details of structure to or around which the framework is to be constructed and the finish to be applied.
2. Irregular shaped areas of framework shall be enumerated stating the overall size and shape. The size and spacing of the members shall be given in the description together with details of the structure to or around which the framework is to be constructed and the finish to be applied.

Second fixings

M.13 Unframed fixings

1. Unless otherwise stated or included as part of a composite item unframed fixings shall be given in metres stating the cross-section dimensions. Classification shall be as follows:
 - a. Skirtings, picture rails, dado rails and the like (grouped together).
 - b. Architraves, cover fillets and the like (grouped together).
 - c. Stops.
 - d. Glazing beads.
 - e. Isolated shelves, work tops, seats and the like (grouped together).
 - f. Window boards, nosings, bed moulds and the like (grouped together).
 - g. Handrails.
2. Backboards, plinth blocks and the like (grouped together) shall be enumerated and described stating the size.
3. Built-up members shall be so described stating the size of the component parts.
4. Components which are tongued on shall be so described.
5. Applied coverings shall be given in the description of the item on which they occur stating whether on one or more faces or edges and the method of securing. Covering to ends, shaped comers and the like shall be enumerated stating the width and girth and the method of securing. Ends, angles, mitres, splayed ends, chamfered edges and the like on applied coverings shall be deemed to be included with the item.

M.14 Labours on unframed fixings

All labours shall be given in the description of the item on which they occur unless otherwise stated. Stopped labours shall be deemed to be included. Raking cutting, curved cutting, scribing, notches, rounded corners, sinkings and the like shall be deemed to be included.

M.15 Sheet linings and casings

1. Particulars shall be given of the kind of sheet (e.g. plywood, chipboard, fibreboard, asbestos cement, plastics and any applied finish), the thickness, treatment of joints and method of fixing to the base structure. Where external the work shall be so described.
2. All sloping work shall be so described.
3. No deduction shall be made for voids not exceeding 0.50m².
4. Work over 300mm wide to walls and ceilings shall each be given separately in square metres. Work not exceeding 300mm wide to walls and ceilings shall each be given in metres stating the width in stages of 100mm.
5. Work to sides of isolated columns, reveals of opening, pipe casings and the like (grouped together) and work to sides and soffits of beams (grouped together) shall be so described. Each face shall be considered separated and given in accordance with clause M.15.4.
6. Work to ceilings and beams over 3.50m above floor (measured to ceiling level in both cases) shall each be so described stating the height in further stages of 1.50m.
7. Applied finishes to edges of sheets shall be given in metres stating the width.

M.16 Labours on sheet linings and casings

1. Raking cutting, curved cutting, scribing, stops on labours, rounded and coved angles, notches, rounded corners, cutting and fitting around obstructions and the like shall be deemed to be included.
2. Forming openings of all sizes not exceeding 0.50m² (grouped together) shall be enumerated and shall be deemed to include cutting around edges.
3. Forming access panels shall be described and enumerated as extra over the linings or casing in which they occur stating the size.

Composite items

M.17 Generally

1. Composite items, which shall be deemed to mean all items which may be fabricated off-site, shall be described in the form they are likely to be delivered to the worksite and unless otherwise stated their incorporation into the works shall be deemed to be included in the items. Breaking down into suitable sections for handling purposes and subsequent reassembly and any adjustment necessary to enable the composite item to be incorporated into the works shall be deemed to be included in the items. All metal work, ironmongery and the like included in the description of a composite item is deemed to be fixed.
2. Cover fillets, metal angles or any other associated work not being an integral part of the composite item shall be given separately and be related to the composite item concerned.
3. All labours shall unless otherwise stated, be given in the description of the item on which they occur. Stopped labours, framed ends, angles, intersections and the like shall be deemed to be included in the items.

M.18 Trussed rafters, roof trusses and the like

Trussed rafters, roof trusses and the like shall be described and enumerated and unless they can be adequately described, it shall be accompanied by drawn information in accordance with clause A.5.

M.19 Doors

Doors shall be described and enumerated (each leaf, where multi-leafed, being counted as one door). Fitting and hanging shall be deemed to be included with the items.

M.20 Door frame and lining sets

1. Frame and lining sets shall be grouped together stating the number of sets. Jambs, heads, cills, mullions, transoms and the like shall each be fully described and given separately in metres stating the extreme sizes and the number of lengths of cills, mullions and transoms.
2. Composite frame and lining sets, and defined as frames and lining where supplied with their associated doors, shall be described, enumerated and unless they can be adequately described, it shall be accompanied by drawn information in accordance with Clause A.5.

M.21 Casements and frames, window surrounds, sash windows, lantern lights and skylight sets

Casements and frames and window surrounds, sash windows, lantern lights and skylight sets shall be described, enumerated and unless they can be adequately described, it shall be accompanied by drawn information in accordance with clause A.5.

M.22 Screens and borrowed lights

1. Screens and borrowed lights shall be described, enumerated and unless they can be adequately described it shall be accompanied by drawn information in accordance with clause A.5.
2. Integral doors and casements and their frames shall be measured in accordance with clauses M. 19-21

M.23 Staircases and short flights of steps

1. Staircases and short flights of steps shall be enumerated. It shall be accompanied by drawn information in accordance with clause A.5. subject to the provisions of clause M.1.3.
2. Landings shall be included with the relevant staircases or flight of steps.

M.24 Balustrades

Balustrades shall be enumerated. It shall be accompanied by drawn information in accordance with clause A.5 subject to the provisions of clause M.1.3. When forming an integral part of another item (e.g. staircase) they should be included with such an item.

M.25 Sundries

Sundry items shall be described and enumerated.

M.26 Fittings

Fittings shall be enumerated. They shall be accompanied by drawn information in accordance with clause A.5 subject to the provision of clause M.1.3. Alternatively, they shall be the subject of a provisional sum.

Sundries

M.27 Plugging

Plugging shall be given in square metres, metres or enumerated (as may be appropriate) stating the nature of the structure being plugged including any applied finish thereon. Plugging may be given as a separate item or included in the description of the item concerned

M.28 Holes in timber

1. Holes shall be enumerated and grouped together notwithstanding clause M.1.7 and classified as follows:
 - a. Holes for bolts and the like (grouped together) stating the thickness of the timber. Pelleting and counter-sinking shall be given in the description.
 - b. Holes for pipes, bars, cables and the like (grouped together) stating the thickness of the timber. Fixing pipe sleeves shall be given in the description.
 - c. Holes for ducting, trunking and the like (grouped together) stating the cross-sectional area in stages 0.025m² and the thickness of the timber.
 - d. Where drawn information in accordance with clause A.5 are used holes indicated thereon shall be deemed to be included in the items.

M.29 Insulating materials

1. Insulating materials (measured the area covered) shall be given in square metres stating the extent of the laps, the nature of the structure to which it is to be fixed, whether fixed across or between members (giving centres) and the method of fixing.
2. Raking cutting and curved cutting (grouped together) shall be deemed to be included.

M.30 Metalwork

1. Dowels, bolts with nuts and washers and like metalwork shall be described and enumerated stating the method of fixing. Sinkings, mortices and the like in timber shall be deemed to be included.
2. Where drawn information in accordance with clause A.5 are given, metalwork indicated thereon shall be deemed to be included in the items.

Ironmongery

M.31 Generally

- 1, Units (or sets) of ironmongery shall each be enumerated separately. Fixing with screws to match shall be deemed to be included with the items. If the provision of ironmongery is given as a provisional or prime cost sum (which shall be deemed to include matching screws) full information in accordance with clause M.31.2 shall be given if the fixing of each unit (or set) is enumerated separately.
2. In all cases particulars of the following shall be given:
 - a. Kind and quality.
 - b. Surface finish.
 - c. Constituent parts of a unit (or set).
 - d. Nature of the background to which items are to be fixed.
 - e. Details of any constraints in respect of fixing.
3. Preparing timbers to receive ironmongery (e.g. sinking, boring, grooving or mortising) shall be deemed to be included with the items.

SECTION N

STRUCTURAL STEELWORK

Generally

N.1 Information

1. A general description of the work in this section shall be given where it is not evident from the drawings required to be provided by this document. Where the sequence of the work is dictated by the design this shall be described.
2. The following information for fabricated steelwork shall be shown either on drawing required under clause B.3. 1 or on further drawings which shall accompany the bill of quantities:
 - 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 steel members and their positions in relation to each other.
 - c. Details of connections or particulars of the reactions, moments and axial loads at connection points.

N.2 Classification of work

1. Items for structural steelwork in each different building or independent structure shall be given separately under an appropriate heading and shall be sub-divided to distinguish between:
 - a. Steelwork subject to no fabrication processes other than cutting to length (unfabricated steelwork).
 - b. Steelwork subject to fabrication processes in addition to cutting to length (fabricated steelwork).
 - c. Erection in accordance with clause N.9.

Steelwork

N.3 Generally

1. The unit of billing shall be the tonne except where otherwise stated.
2. Particulars of the following shall be given:
 - a. Grade or grades of steel.
 - b. Limits of tolerance.
 - c. Methods of fabrication and the type of site connections.
 - d. Tests of the materials stating the number required.
 - e. Tests of workmanship to be carried out during fabrication or erection stating the number required.
 - f. Tests of the finished work stating the number required.

N.3 Generally (cont'd)

3. The following particulars shall be given in the descriptions of single members and built up members:
 - a. The structural function and position in the work (e.g. beams, girders, columns, stanchions, roof trusses, etc.)
 - b. The number required, section type, size, length and total weight of single members and of the components of built-up members.
 - c. The components of a built-up member shall be listed within the description of the member giving particulars of each different component as clause N.3.3.b.
 - d. Proprietary members or components shall be described in accordance with the supplier's catalogues.
 - e. Curved, cambered or cranked members shall each be so described
 - f. Steel gutters in conjunction with structural steelwork shall be given in accordance with clauses C.4-6.

N.4 Designation of members

1. The sizes of members and components shall be designated as follows:
 - a. By serial size and weight per metre for universal beams, universal columns and universal structural tees.
 - b. By nominal size and weight per metre for joists, channels and tees.
 - c. By actual size and thickness for angles and hollow sections.
 - d. By dimensions and thickness for other sections and flat plates. In the case of plates having a raised pattern the thickness shall be given net, excluding the thickness of the pattern.
 - e. By weight per metre for bridge and flat bottom rails.
2. Each member differently described in accordance with clause N.3.3 shall be given separately.

N.5 Weights of steelwork

1. Where a weight per cubic metre for mild steel is not specified it shall be assumed for the purposes of calculation to be 7.85 tonnes per m³.
2. In computing the weight of steelwork comprising a member or component under clause N.3.3, no deductions shall be made for splay cuts, mitres, notches, holes and slots and no allowance shall be made for rolling margin or for the weight of weld metal. The weight of irregularly shaped plates shall be computed net.

N.6 Lengths of members

The lengths of members and components stated in accordance with clause N.3.3.b shall be overall lengths with no deductions shall for splay cut or mitred ends. Separate particulars shall not be stated for members or components whose length differs from the stated length by less than 300mm. Members which may be supplied in any length at the discretion of the Contractor shall be so described stating the total length

N.7 Fittings, connections, fixings and anchorages

1. Fittings, which shall be deemed to include caps, bases, haunches, gussets, end plates, splice plates, cleats, brackets, stiffeners, distance pieces, separators, diaphragms, packings and the like shall be given by weight and shown as a separate item following the item for the appropriate member or members.
2. The following items shall each be enumerated, described and given separately. Items for site work shall be given following the items for erection required in accordance with clause N.9 stating the position in the work:
 - a. Anchorages, packings and wedges for stanchions.
 - b. Anchorages and packings for beams and purlins in walls.
 - c. Steel fixing to faces of concrete, brickwork or stone.
 - d. Shear and threaded studs stating the diameter and length, and other shear connectors stating the type and size.
 - e. High strength friction grip bolts stating the size, type, grade and surface finish.
 - f. Holes, countersunk holes and tapped holes required for other trades shall each be enumerated separately stating the size of hole, the thickness of metal and giving details of any stiffeners required. Holes required to be made on site shall be so described stating their position in the work.
 - g. Site welded connections, stating the sizes of the members connected together and their positions in the work.
 - h. Driving rivets and countersinking rivet heads on site. The weight of rivets shall be disregarded in calculating the weight of fittings, components or members.
 - j. Fittings to proprietary members.
3. Shop and site black bolts, nuts and washers for steel to steel connections shall be given by weight for each structure distinguishing between those of different grades and surface finishes.
4. Other types of bolts and other fasteners shall each be given separately and enumerated, distinguishing between those with different surface finishes and stating the size and grade.

N.8 Painting and other surface treatments

1. Off site preparation and painting of steel and other surface treatments (other than galvanising) shall be given in square metres irrespective of girth. Site painting before and after erection shall be measured in accordance with Section U.
2. Off site galvanising shall be given in tonnes.

N.9 Erection

1. An item shall be given for the erection of structural steelwork in each building or independent structure, stating the total weight. Erection items shall be deemed to include all site operations not separately itemised under these rules including off-loading but excluding site preparation and painting. Delivery to site shall be deemed to be included in the items under clause N.3.3. Where drawings are not supplied (fabrication other than cutting to length not being required) the location of the work shall be stated.
2. If a trial erection of structural steelwork is required an item shall be given which shall state the location of the trial erection. The description and weight of steel involved in the trial shall be given.

Other structural metalwork

N.18 Generally

Other structural metalwork (e.g. aluminium, stainless steel, etc.) shall be measured and given in accordance with clauses N.1-9.

SECTION P

METALWORK

Generally

P.1 Information

1. Particulars shall be given of the following:
 - a. Kind and quality of metal (example of kind of metal would include mild steel, stainless steel, aluminium etc. and their alloys).
 - b. Thickness or substance.
 - c. Method of fixing.
2. Plates, bars, sections and tubes shall be deemed to be formed by casting, rolling, drawing, extruding, etc., at the Contractor's discretion unless otherwise stated.
3. Where no method of jointing or form of fabrication is described it shall be at the Contractor's discretion.
4. The finish of fixings shall be deemed to match the surface treatment or finish of the item being fixed unless otherwise stated. ..
5. Priming or painting off-site and proprietary finishes or surface treatment applied as part of the production process shall be described stating whether applied before or after fabrication or assembly.
6. Curved items shall be so described stating the radius or radii.
7. Lugs shall be described and included with the items stating the centres.

Composite items

P.2 Generally

1. Composite items, which shall be deemed to mean all items which may be fabricated off-site, shall be described in the form they are likely to be delivered to the site and unless otherwise stated their incorporation in the works shall be deemed to be included in the items. Fabrication in suitable sections for handling purposes, subsequent final assembly and adjustment to enable the item to be incorporated into the works shall be deemed to be included in the items. Except where otherwise stated, composite items shall be enumerated.
2. Except for standard items component detail drawings shall be provided and referred to in the description. Alternatively, they shall be the subject of a provisional sum. Standard products may be given in accordance with clause A.6.
3. Patterns for castings shall be deemed to be included.
4. Bolts, screws and all labours in fabrication and jointing together shall be deemed to be included in the items.

P.2 Generally (cont'd)

5. Jointing compound shall be given in the description.
6. Work required to provide fixings for other items shall be given in the description.
7. Any associated work which is not an integral part of the composite item shall be given separately and related to the item concerned.
8. Connections required to be made on site between composite items shall be described; bolts, holes, welds and the like shall be given in the item.

P.3 Windows and doors

1. Windows and doors complete with frames, mullions, transoms, hinges and fastenings shall each be given separately stating the overall size, the nature of the construction the shape where other than rectangular, the finish and the number of opening portions. Assemblies of windows shall each be so described. Where standard sections are required this shall be stated. Metal sub-frames, sub-sills, window-sills, window boards, window surrounds and other accessories shall be given in the description.
2. Opening gear shall be given and described separately stating the number of lights operated by each set.
3. Door frames, except those forming an integral part of a door unit, shall be so described stating the size.
4. Fireproof doors and strongroom doors complete with frames, hinges and fastenings shall each be given separately stating the size, type and approximate weight.

P.4 Rooflights, laylights and pavement lights

1. Rooflights and laylights complete with frames, mullions, ridges, hips, hinges and fastenings shall each be given separately stating the size and the type.
2. Pavement lights complete with frames and glass lenses shall be described stating the size.

P.5 Balustrades and staircases

1. Balustrades and railings other than fencing shall each be given separately in metres stating the height, the type, size and nature of the posts or other supports. Ends, angles, intersections and opening portions shall each be enumerated separately. Hinges and fastenings shall be given in the description of the opening portions.
2. Staircases shall be described and enumerated stating the size, numbers of risers and landings and approximate weight.
3. Handrails and core rails shall be given in metres stating the size.
4. Labours to ends, joints, angles, intersections, twists and wreaths shall be deemed to be included.
5. Handrail brackets shall be enumerated and described stating the size.

P.5 Balustrades and staircases (cont'd)

6. Isolated balustrades and newels shall be enumerated and described stating the size. Framed balustrading shall be given in accordance with clause P.5.1.

P.6 Sundries

1. Duct-covers complete with frames shall be given in metres stating the width, the thickness and the type. Ends, angles and intersections shall be deemed to be included. Cutting duct-covers shall be deemed to be included.
2. Gates, collapsible gates and revolving shutters complete with frames, guides, tracks and fastenings shall each be given separately stating the size, type and approximate weight.
3. Cloakroom fittings, cycle-racks, storage racks and the like shall each be given separately stating the size and type.
4. Grilles and gratings complete with frames shall each be given separately stating the size, type and approximate weight.
5. Ladders complete with brackets shall be described stating the size.
6. Surface-boxes and inspection covers complete with frames shall each be given separately stating the size and the type.
7. Sectional tanks shall be described stating the capacity, size and approximate weight.
8. Structural metalwork shall be given in accordance with Section N.

Plates, bars, etc.

P.7 Floor plates

1. Floor plates shall be given in square metres stating the thickness and average size and whether plain, chequered or perforated. Irregular -shaped floor plates shall be enumerated and described.
2. Frames, arch-bans, bearers and stays shall be each given in metres stating the size.
3. Labours to ends, joint, angles and intersections, twists and wreaths shall be deemed to be included.
4. Skirtings and similar trim shall be given in metres and described stating the size. Fitted ends, mitred angles and corner pieces shall be enumerated separately.
5. Straps, collars, hangers, brackets and corbels shall be enumerated and described stating the size.
6. Mat-frames shall be described stating the size and cross-section at the members and the size of the mat space.

Sheet metal, wiremesh and expanded metal

P.8 Coverings

1. Coverings over 300mm wide shall be given in square metres. The size of mesh in wiremesh and expanded coverings shall be given. Coverings not exceeding 300mm wide shall be given in metres stating the width
2. No allowance shall be made for laps and no deduction shall be made for voids not exceeding 0.50m²
3. Raking cutting and curved cutting shall be deemed to be included.
4. Welted or beaded edges, burned, brazed or welded angles and welted seams shall be deemed to be included.
5. Bending at edges, dressing into hollows and dressing over kerbs shall each be given separately in metres stating the girth of dressing into hollows and over kerbs. Bossed, brazed, or welted ends, angles and intersections shall be deemed to be included.
6. Nailing or screwing at edges of coverings and linings shall be deemed to be included.
7. Ventilation ductwork shall be given in accordance with clauses Q.14-16.
8. Wiremesh panels shall be enumerated stating the size of the panels. Where panels are other than rectangular the shape of the panels shall be stated. The diameter of the frame wire shall be stated.

Holes, bolts, screws and rivets

P.9 Generally

1. Holes, countersunk holes, tapped holes and slots, in which they occur shall be deemed to be included in the items.
2. Bolts, anchor-bolts and ragbolts (except where deemed to be included or where given in the description of other items) shall each be enumerated separately stating the diameter and the length Nuts and washers shall be given in the description.
3. Screwing, tap screwing and riveting (except where deemed to be included or where given in the description of other items) shall be given in metres stating the spacing.

SECTION Q

PLUMBING AND MECHANICAL ENGINEERING INSTALATIONS

Generally

Q1 Information

1. Particulars of the following shall be given:
 - a. Regulations, etc.
 - b. Kind and quality of material.
 - c. Gauge, thickness or substance of material.
 - d. Any tests, etc.
2. Assembling and jointing together the component parts of composite units and providing any necessary connecting flanges and jointing materials shall be deemed to be included with the items concerned. Where composite units are supplied by the Employer, particulars shall be given of the assembly work involved.
3. Patterns, moulds, templets and the like shall be deemed to be included with the items.
4. Priming and painting off-site and proprietary finishes or surface treatment applied as part of the production process shall be described stating whether applied before or after fabrication or assembly
5. Except where otherwise stated the method of fixing and the provision of nails, bolts, nuts, holes, screws, plugs, shot-fired pins and the like shall be given in the description of the work.
6. The nature of the background to which work is to be fixed shall be given in the description. Any necessary drilling of the backgrounds shall be deemed to be included. Backgrounds shall be classified as follows:
 - a. Building-board which shall be deemed to include hardboard, compressed cement sheet, plasterboard, fibreboard and similar materials which do not grip woodscrews.
 - b. Timber which shall be deemed to include softwood, hardwood, blockboard, plywood and similar materials which will grip wood-screws when a lead-hole has been drilled.
 - c. Metal-faced or composition-faced timber which shall be deemed to include faced blockboard, faced plywood and similar materials which will grip woodscrews when a lead-hole and a shank-clearance hole have been drilled.
 - d. Brickwork, concrete or stonework which shall be deemed to include reinforced concrete, blockwork and similar materials which require plugging irrespective of any plaster, glazed tiles, composition or other finish (excluding glass) to the surface.
 - e. Plain metal which shall be deemed to include any metal which requires drilling.
 - f. Glass which shall be deemed to include any material resembling glass.
7. Temporary work shall be so described. Removing temporary work and making good after shall be deemed to be included with the item.

Q.1 Information (cont'd)

8. Connections to existing services shall be so described. Breaking into existing pipes shall be measured as an item, describing the nature of the work, turning off supplies or details of any restrictions on access shall be given in the description.

Q.2 Classification of work

1. Work together with its metalwork, supports and the like (unless associated with more than one installation) shall be classified as follows and given under an appropriate heading:
 - a. Rainwater installation.
 - b. Sanitary installation including sanitary appliances.
 - c. Cold water installation.
 - d. Fire fighting installation.
 - e. Heated water installation.
 - f. Steam installation.
 - g. Fuel oil installation.
 - h. Fuel gas installation.
 - j. Refrigeration installation.
 - k. Compressed air installation.
 - l. Hydraulic installation.
 - m. Chemical installation.
 - n. Special gas installation which shall include medical and laboratory installations
 - p. Medical suction installation.
 - q. Pneumatic tube installation.
 - r. Vacuum installation.
 - s. Refuse disposal installation.
 - t. Air handling installation, identifying whether ventilation supply, ventilation extract, ventilation with heating (air heated centrally), ventilation with heating (air heated locally), air conditioning (air heated centrally), air conditioning (air heated locally) or foul air extract.
 - u. Automatic control installation.
 - v. Special equipment identifying whether incinerator and flues, kitchen equipment, laundry equipment etc. except that where appropriate it may be classified in accordance with Section R.
 - w. Any other installation.
 - x. Metalwork, supports and the like associated with more than one installation.

Q.3 Location of work

1. Work shall be identified in respect of location as follows:
 - a. Internally.
 - b. Externally.
 - c. In plant rooms.

Gutterwork

Q.4 Generally

Purpose-made gutters and purpose-made gutter fittings shall be described.

Q.5 Gutters and fittings

1. Gutters (measured over all gutter fittings, short running lengths and branches) shall be given in metres stating the type and the nominal size. Purpose-made gutters shall be so described and given separately. Curved gutters shall be so described stating the mean radius. Joints in the running length shall be given in the description stating the method of jointing.
2. Joints of a special or ornamental character in the running length shall be enumerated as extra over the gutter in which they occur.
3. Gutter fittings and purpose-made gutter fittings shall each be so described and enumerated separately as extra over the gutter in which they occur. Cutting and jointing to fittings shall be deemed to be included.
4. Providing everything necessary for jointing shall be deemed to be included with the items of gutter work.

Q.6 Gutter supports

1. Standard gutter supports shall be given in the description of the gutters stating the type and spacing of the supports.
2. Non-standard gutter supports shall be described and enumerated.
3. Particulars of the method of fixing shall be given in the description in accordance with clauses Q.1.5-6.

Pipework

Q.7 Generally

1. Purpose-made pipes and purpose-made pipe fittings shall be described.
2. Pipes and pipe fittings which are wrapped, coated or lined by the manufacturer shall be so described stating the type of treatment.
3. Pipework required to be temporarily fixed in position, dismantled for chromium-plating or other special finishing and subsequently refixed shall be so described.

Q.8 Pipes and fittings

2. Pipes (measured over all pipe fittings, short running lengths and branches) shall be given in metres stating the type and the nominal size. Purpose-made pipe shall be so described and given separately. Curved pipes shall be so described stating the mean radius. Joints in the running length shall be given in the description stating the method of jointing.
3. Joints of a special or ornamental character and extra demountable couplers in the running length shall be described and enumerated as extra over the pipe in which they occur.
4. Flexible pipes and extensible pipes (measured as fully extended) shall each be so described.
5. Pipes laid or fixed in ducts, trenches and chases or embedded in in-situ concrete or screeds shall each be so described.

Q.8 Pipes and fittings (cont'd)

5. Flow and return header pipe (except those forming an integral part of plant or equipment) shall be enumerated stating the length, type and nominal size of the main pipe, the number, length, type and nominal size of each branch pipe, the method of construction and the method of jointing the ends.
6. Pipe fittings and purpose-made pipe fittings shall each be so described and enumerated as extra over the pipe in which they occur. Cutting and jointing the pipes to fittings shall be deemed to be included. The following details shall be given:
 - a. For reducing fittings, the nominal size of each end shall be stated.
 - b. For branch fittings stating whether square, angled or sweep.
 - c. For inspection doors, the method of sealing the door. Where such doors occur in pipe fittings they shall be given in the description of the fitting.
7. Expansion loops shall be described and enumerated stating the limiting dimensions and the amount of expansion to be accommodated.
8. Expansion compensators shall be described and enumerated stating the type of joint and the amount of expansion to be accommodated.
9. Providing all flanges and unions necessary solely for erection purposes shall be deemed to be included in the items.
10. Providing everything necessary for jointing shall be deemed to be included with the items of pipework.
11. Screwed sockets, tappings, bosses and welding-necks welded to pipes or flanges shall each be enumerated separately stating the size and kind of pipe or flange concerned. Perforating the pipe or flange shall be deemed to be included with the items.

Q.9 Special connections, etc.

1. Special connections and special joints in pipes shall each be enumerated separately (except where given in the description of another enumerated item) stating the nominal size and kind of pipe concerned and the method of jointing. Classification shall be as follows:
 - a. Connections between pipes of differing materials and differing grades of the same material.
 - b. Connections between pipes and appliances or equipment.
 - c. Connections to existing pipes
2. Isolated joints which differ from that included in the description of the pipe shall be given as extra over the pipe in which they occur stating the type of jointing.
3. Connecting ends of flue pipes to boilers, chimneys and the like shall each be enumerated separately stating the nominal size and kind of pipe concerned, the method of jointing and the type of packing required.

Q.10 Labours

Labours on pipes (e.g. made bends, made springs, made offsets, beaded ends, ornamental ends, etc.) shall be deemed to be included with the pipes on which they occur.

Q.11 Sundries

1. Rainwater heads, roof outlets, hopper heads, cowls, terminals, hinged flaps, cross-wired ends and the like shall each be described and enumerated stating the kind of pipes to which they are connected and the method of jointing.
2. Wire gratings, cast gratings and balloon gratings shall each be enumerated stating the nominal size of pipe or outlet to which they are attached. Alternatively, they may be included with enumerated items to which they are related.
3. Flashing-plates, weathering aprons and the like shall each be described and enumerated.
4. Exhaust heads shall be described and enumerated.
5. Drip-trays and tundishes shall each be described and enumerated.
6. Pipe-sleeves through walls, floors and ceilings shall be enumerated stating the type, lengths, the nominal size and kind of pipe passing through and the type of packing required, and if to be supplied for fixing by other trades, this shall be so described.
7. Wall, floor or ceiling plates shall be grouped together as plates and enumerated stating the type and size.

Q.12 Pipework supports

1. Standard pipe supports shall be given in the description of the pipes stating the type and spacing of the supports.
2. Non-standard pipe supports shall be described and enumerated.
3. Supports that are lined to insulate pipes shall be so described stating the type of lining material.
4. Components or assemblies of components (e.g. clips, saddles, pipe-hooks, holderbats, brackets, rollers, chairs and hangers or black-plates and girder-lugs) used to fix supports for more than one pipe shall be enumerated separately stating the type and size of components. Spring compensated components shall be so described stating the loading and movement to be accommodated.
5. Pipe anchors and guides shall be enumerated separately stating the nominal size of pipe, type and size of components, method of fixing the pipe and nature of the structure.
6. Particulars of the method of fixing shall be given in the description as clauses Q.1.5-6.

Q.13 Connections

Connections to public mains, making good public highway and any other work which may only be carried out by a Public Undertaking or Local Authority shall be given as a provisional sum.

Ductwork

Q14 Ducting and fittings

1. Ducting (measured over all ducting fittings, short running lengths and branches) shall be given in metres stating the type and size. Joints in the running length shall be given in the description stating the method of jointing. Stiffeners shall be given in the description.
2. Lining ducting internally with acoustic or protective material shall be measured separately in metres stating the type and thickness of the lining material and the internal size of the ducting.
3. Flexible ducting and extensible ducting (measured as fully extended) shall be described and enumerated.
4. Curved ducting shall be so described and enumerated stating the mean radius. Curved rectangular ducting shall state whether shaped to curve on the wider or narrower side.
5. Ducting fittings shall be described and enumerated as extra over the duct in which they occur. Cutting and forming openings and jointing ducting to fittings shall be deemed to be included. Fittings involving a change of direction of the ducting shall be described.
6. Providing materials, heat, bolts, nuts, washers and everything else necessary for making joints in ducting shall be deemed to be included with the items.

Q.15 Special connections, etc.

1. Special connections and special joints in ducting shall each be enumerated separately (except where given in the description of another enumerated item) stating the size and kind of ducting concerned and the method of jointing. Classification shall be as follows:
 - a. Connections between ducting of differing materials.
 - b. Connections between ducting and equipment stating the nature of the equipment.
 - c. Isolated joints which differ from those given in the description of the ducting.
 - d. Flexible connections between ducting and plant.
6. Ducting turns and splitters shall each be enumerated separately stating the type and internal size of the ducting.
7. Nozzle outlets, test holes and covers and access doors shall each be described and enumerated stating the size, the method of jointing and material and thickness or gauge of the ducting and lining. The forming and stiffening of openings shall be deemed to be included.
8. Cowls, terminals, intake louvres and the like shall each be enumerated stating the size and type, the size of ducting to which it is attached and the method of jointing.
9. Weathering-aprons, flashing plates and the like where not forming an integral part of the unit shall each be enumerated stating the type and size and the method of jointing.

Q.16 Ductwork supports

1. Components for supporting ductwork shall each be enumerated stating the size and type of the component and the size of the ducting. Spring-compensated components shall be so described stating the loading and the movement to be accommodated. Classification shall be as follows:
 - a. Components for supporting single runs of ducting.

Q.16 Ductwork supports (cont'd)

- b. Components for supporting multiple runs of ducting.
 - c. Combined components for supporting ducting and pipework.
2. Particulars of the method of fixing shall be given in the description as clauses Q.1.5-6.

Q.17 Alternative method of measurement

The rules contained in clause Q.18 provide an alternative to the rules set out in clause Q 14.

Q.18 Ducting and ducting fittings

1. Ducting (measured the net weight of all ducting lengths as installed and overall joints in the running length but excluding the weight of any materials required for seams or welts or for stiffening or jointing which shall be deemed to be included with the items) shall be given in kilogrammes stating the gauge or thickness of the material. Stiffeners and the method of jointing shall be given in the description.
2. Flexible ducting and extensible ducting (measured as fully extended) shall be described and enumerated.
3. Curved ducting shall be so described stating the mean radius.
4. Lining, ducting internally with acoustic or protective material shall be given separately in metres in accordance with clause Q.14.2. .

Equipment and ancillaries

Q.19 Generally

1. Unless otherwise stated, equipment such as boilers, generators, heaters, water treatment plant, tanks, cylinders, calorifiers, pumps, coolers, air-handling unit, fans, refrigerator equipment, meters, sanitary fittings, etc. and ancillaries such as soot doors to boilers, valves and cocks, gauges, automatic controls etc. shall be enumerated and related to the specification referred to in clause Q.1.1.
2. Packaged items of equipment and ancillaries shall be described in conjunction with a manufacturer's detailed specification.
3. Any limiting dimensions on the size of equipment shall be given.
4. Electrical connections shall be given in accordance with Section R.
5. Platework, fuel hoppers and supporting steelwork shall be given in accordance with Section P.

Q.20 Anti-vibration and sound insulation

Anti-vibration mountings for plant shall be enumerated stating the type and the size. Anti-vibration material and sound-insulating material in plant bases shall be given in square metres stating the nature of the material and the thickness.

Q21 Equipment supports

1. Equipment supports shall be enumerated and described.
2. Particulars of the method of fixing shall be given in the description in accordance with clauses Q.1.5-6.

Q.22 Jointing

Particulars of the method of jointing shall be given in the description of the equipment.

Q.23 Chimneys

Independent vertical steel chimneys shall be enumerated stating the height, the internal diameter and the method of jointing. Base plates, base-plate templets, linings, claddings, anchor-bolts, guy-ropes, ladders, guard-rails, painter's hooks, cleaning-doors, cowls, terminals and the like shall be given in the description stating the number, the type and the size.

Q.24 Identification plates

Plates, discs and labels for the identification of plant, equipment, appliances, pipes, valves and the like shall be deemed to be included with the item concerned. Charts giving the key thereto shall be enumerated.

Insulation

Q.25 Generally

1. Particulars of the following shall be given:
 - a. Kind and quality of material.
 - b. Thickness of material.
 - c. Finish of material
 - d. Method of fixing
2. Smoothing the material and working around supports shall be deemed to be included with the insulation items.

Q.26 Insulation to pipework

1. Insulation to pipework shall be given in metres stating the type and nominal size of the pipe. Insulation to flanged pipework, to traced oil pipework and to smoke or flue pipework shall each be so described. Particulars shall be given of any protective covering to the insulation and of any air space between flue pipes and their insulation.
2. Working insulation around ancillaries shall be enumerated separately as extra over the insulation. Particulars shall be given of any boxes for valves.
3. Working insulation over flanges and pipe fittings shall be deemed to be included with the insulation of pipework.
4. Insulation boxes shall be enumerated separately stating the type of material and infill.

Q.27 Insulation to ductwork

1. Insulation to ductwork shall be given in metres stating the type and size of the ducting.
2. Working insulation around ducting fittings, special fittings and ancillaries shall each be enumerated separately as extra over the insulation in which they occur.

Q.28 Insulation to equipment

1. Insulation to equipment shall be enumerated stating the overall size of the unit. Particulars shall be given of any protection to the insulation.
2. Providing detachable mattresses and working insulation around special fittings and ancillaries shall be deemed to be included with the items of insulation.

Q.29 Sundry insulation

1. Loose insulation in trenches, ducts, tank casings and like shall each be given separately in cubic metres stating the nature of the material.
2. Cellular concrete insulation in trenches and ducts (grouped together) shall be given in cubic metres stating the mix of the concrete.
3. Special protection or finish at openings through walls, valve chambers and the like shall each be described and enumerated.

*Sundries***Q.30 Generally**

1. Draining and refilling existing system shall be given as a provisional or prime cost sum.
2. Disconnecting, setting aside and refixing equipment for the convenience of other trades shall be given as an item stating the relevant particulars.
3. Temporarily operating each installation (except for testing) shall be given as an item stating any required qualifications of the attendant, the duration of the operating period in hours and the purpose and particulars of any special insurance cover required by the Employer. Provision of solid fuel, liquid fuel, gas and electricity for power and lighting shall be deemed to be included with the item.
4. Testing each installation shall be given as an item stating any required qualifications of the attendant, the number of stage tests in addition to the final, the purpose of the tests, the instruments and appliances required to be provided and particulars of any special insurance cover required by the Employer. Provision of solid fuel, liquid fuel, gas and electricity for power and lighting shall be deemed to be included with the item.
5. Preparing plans or diagrams of the installations as fitted shall be given as an item stating the kind of information required to be shown and the number of copies of each drawing required to be provided.

Builder's work

Q.31 Generally

1. Unless otherwise stated, all items of builder's work shall be given in accordance with the appropriate sections.
2. Builder's work in connection with plumbing and mechanical engineering installations shall be grouped together under an appropriate heading.

Q32 Particularly

1. Excavating trenches for pipes not exceeding 55mm nominal size shall be given in accordance with clause D.12.9. Excavating trenches for pipes over 55mm nominal size shall be given in accordance with clause V.2
2. Inspection chambers shall be given in accordance with clause V.6.
3. Bedding and pointing components or units of equipment, ancillaries and the like shall be enumerated stating the size thereof and the composition and mix of the bedding material.
4. Refractory linings and precast concrete linings to flues shall be given in accordance with Section G.
5. Cutting and pinning ends of support shall be given as follows:
 - a. Supports for equipment, ancillaries and the like shall be enumerated stating the size of the support and the nature of the background as clause Q.1.6.
 - b. Supports for pipes over 55mm nominal size shall be enumerated stating the size and kind of pipe and the nature of the background as clause Q.1.6
 - c. Supports for pipes not exceeding 55mm nominal size (grouped together) shall be given in metres (measured the length of pipework over all fittings) stating the spacing of the supports and the nature of the background as clause Q.1.6.
6. Cutting away for and making good after the plumbing and mechanical installations shall be given as follows:
 - a. Holes for pipes and the like shall be given in accordance with the appropriate section.
 - b. Mortices, sinkings and the like shall each be enumerated separately stating the size thereof and the nature of the structure
 - c. Lifting and replacing existing chequer-plates and the like shall be given in metres.
 - d. Lifting and replacing existing floorboards (measured along the route of the pipe or ducting) shall be given in metres stating the number and nominal size of pipe or ducts. No distinction shall be made between routes parallel to or at an angle to the floorboards. Cutting floorboards and notching joists shall be deemed to be included with the items.
 - e. Cutting chases shall be given in metres stating the number and nominal size of pipes or ducts and the nature of the structure. Chases in existing work shall be so described.
7. Pylons, poles, wall-brackets, pole-brackets, pole stays and the like for supporting pipework shall each be enumerated separately stating the size, the method of fixing and the nature of the structure.
8. Boring or excavating holes in the ground for poles and stays shall be enumerated stating the depth, the nature of the filling and the treatment of surplus soil.

Q.32 Particularly (cont'd)

9. Catenary cables shall be given in metres stating the type and the size. Eye-bolts, shackles and straining screws shall be given in the description stating the method of existing.

SECTION R

ELECTRICAL INSTALLATIONS

Generally

R.1 Information

1. Particulars of the following shall be given:
 - a. Any regulations, rules, byelaws and the like with which the installation is required to comply.
 - b. Kind and quality of material.
 - c. Gauge, thickness or substance of material
 - d. Any tests with which materials, plant and equipment are required to comply.
 - e. Type and voltage of the main electricity supply stating the location of the main supply point.
2. Assembling and jointing together the component parts of composite units and providing any necessary jointing materials shall be deemed to be included with the items concerned. Where composite units are supplied by the Employer, particulars shall be given of the assembly work involved.
3. Patterns, moulds, templets and the like shall be deemed to be included with the items.
4. Priming or painting off-site and proprietary finishes or surface treatment applied as part of the production process shall be described stating whether applied before or after fabrication or assembly.
5. Except where otherwise stated the method of fixing and the provision of nails, bolts, nuts, holes, screws, plugs, shotfired pins and the like shall be given in the description of the work.
6. The nature of the background to which work is to be fixed shall be given in the description. Any necessary drilling of the background shall be deemed to be included Backgrounds shall be classified as follows:
 - a. Building board which shall be deemed to include hardboard, compressed cement sheet, plasterboard, fibreboard and similar materials which do not grip woodscrews.
 - b. Timber which shall be deemed to include softwood, hardwood, blockboard, plywood and similar materials which will grip wood-screws when a lead-hole has been drilled.
 - c. Metal-faced or composition-faced timber which shall be deemed to include faced blockboard, faced plywood and similar materials which will grip wood-screws when a lead-hole and a shank-clearance hole have been drilled.
 - d. Brickwork, concrete or stonework which shall be deemed to include reinforced concrete, blockwork and similar materials which require plugging irrespective of any plaster, glazed tiles, composition or other finish (excluding glass) to the surface.
 - e. Perforated metal which shall be deemed to include slotted steel, cable-tray and similar metal which does not require drilling.
 - f. Plain metal which shall be deemed to include any metal which requires drilling
 - g. Glass which shall be deemed to include any material resembling glass.
7. Temporary work shall be so described. Removing temporary work and making good after shall be deemed to be included with the item.

R.2 Classification of work

1. Work together with its trunking, ducting and cable trays (unless associated with more than one installation) shall be classified as follows and given Under an appropriate heading:
 - a. Incoming services which include high voltage switchgear, high voltage cables, transformers, sub-station equipment and control gear and medium voltage cables.
 - b. Standby equipment which includes inverter and battery units, generator sets and cables to main medium voltage switchgear.
 - c. Mains installation which includes main medium voltage switchgear, sub-main cables, busbar distribution and distribution boards but excluding final sub-circuits.
 - d. Power installation.
 - e. Lighting installation.
 - f. Heating installation which includes final circuits supplying primarily electrical heating systems or heating appliances. Installations in connection with plumbing and engineering installations are referred to in clause R.2.1.h.
 - g. Electrical appliances (All appliances which do not form an integral part of another classification shall be included under this heading.)
 - h. Electrical work associated with plumbing and mechanical engineering installations.
 - j. Telephone installation which includes both communication systems within the building and provisions for the external telephone system.
 - k. Clock installation which includes impulse clock systems but not simple clocks fed from final circuits.
 - l. Sound distribution installation which includes public address, bells, signal systems and the like.
 - m. Alarm system installation which includes fire alarms, burglar alarms and the like.
 - n. Earthing system installation.
 - p. Lightning protection installation which includes finials, tapes, ionised protectors and the like.
 - q. Special services identifying whether direct current, extra low voltage, flame-proof, pressurised installation, etc.
 - r. Any other installation.
 - s. Trunking, ducting and cable trays associated with more than one installation.

R.3 Location of work

1. Work shall be identified in respect of location as follows:
 - a. Internally.
 - b. Externally.

Equipment and control gear

R.4 Generally

1. Unless otherwise stated, equipment (e.g. prime movers, generators, motors, fans, mechanical drives, batteries, rectifiers, heavy duty circuit breakers, feeder pillars, transformers and the like) and control gear (e.g. fuse and link disconnecting boxes, isolators, change-over switches, switch fuses, fused switches, distribution boards, contactors, motor starters, busbar chambers and the like) shall be described and enumerated.
2. Packaged items of equipment and control gear shall be described in conjunction with a manufacturer's detailed specification.
3. Any limiting dimensions on the size of equipment shall be given.

R.4 Generally (cont'd)

4. Connecting cable ends or cable tails shall be deemed to be included with the item. Cable termination glands shall be given in accordance with clause R.15.6.
5. Platework and supporting steelwork shall be given in accordance with Section P.

R.5 Equipment supports

1. Equipment supports shall be enumerated and described.
2. Particulars of the method of fixing shall be given in the description in accordance with clauses R.1.5-6.

Fittings and accessories

R.6 Generally

1. Unless otherwise stated fittings (e.g. clocks, telephones, alarm bells and loud speakers) and accessories (e.g. lighting switches, socket outlets, connection units, thermostats, telephone cord outlet points, bell pushes and other similar units associated with final circuits) shall be enumerated.
2. Boxes, conduit boxes, paterae, ceiling roses, connector blocks, flexible cords, starters, lamp holders and the like shall be given in the description.
3. Bushes, nipples, lock nuts and connecting the cables tails shall be deemed to be included with the items.
4. Fixing fittings provided by the Employer shall be enumerated stating the type and size. Accepting delivery, storing and handling the fittings and connecting the cable-tails shall be deemed to be included with the items. Providing any additional material and internal wiring required shall be given in the description. Where an item of fixing involves handling an ornamental or unusually expensive fitting, particulars of the character and value shall be given in the description.

R.7 Lighting fittings

1. Pendant fittings shall be enumerated stating the length of the pendant drop in stages of 300mm.
2. Cold cathode fittings and connecting to the circuit wiring shall be given as a provisional or prime cost sum.

R.8 Accessories

Accessories shall be enumerated in gangs stating the rated capacity and the type of each accessory and the number of accessory in each gang.

Conduit, trunking and cable trays

R.9 Conduit and fittings

1. Except for final sub-circuits, conduits (measured overall conduit fittings (e.g. tees, elbows, bends, cover plates, bushes, locknuts, nipples, stopping-lugs and reducing bushes), short running lengths and branches) shall be given in metres stating the type and the external size. Saddles or crampets shall be given in the description stating the pattern and nature of the background in accordance with clause R.1.6. Bending, cutting, screwing, jointing and providing all conduit fittings, except those required by clause R.9.2 shall be deemed to be included with the conduit items. Classification shall be as follows:
 - a. Conduits fixed to surfaces.
 - b. Conduits fixed in chases.
 - c. Conduits embedded in floor screeds.
 - d. Conduits embedded in concrete.
2. Special boxes, adaptable boxes, floor-trap boxes, purpose made boxes, rectangular junction boxes required for drawing in cables, flameproof boxes and expansion joints shall each be enumerated separately as extra over the conduit in which they occur. Cutting and jointing conduits to fittings shall be deemed to be included.
3. Flexible conduits and extensible conduits shall be enumerated separately stating the size, type, overall length and the size and type of termination glands. Cutting, jointing and providing all conduit fittings shall be deemed to be included.
4. Components and special boxes for making connections of conduit into trunking shall be described and enumerated. Special couplings to equipment shall be described and enumerated. Forming holes for conduit entry into other items of equipment shall be deemed to be included.

R.10 Trunking and fittings

1. Trunking (measured over all trunking fittings, short running lengths and branches) shall be given in metres stating the type and size of the trunking, the number and size of any compartments and the method of jointing. Components for earth-continuity shall be deemed to be included.
2. Fittings shall be described and enumerated as extra over the trunking in which they occur. Cutting and jointing trunking to fittings shall be deemed to be included.
3. Connections between trunking and items of equipment or control gear which require the use of flanges and/or the forming of apertures shall be enumerated stating the size of openings and the thickness, type and size of any bushing material and/or flanges.
4. Pin-racks for supporting cables in trunking shall be enumerated stating the type and the size.

R.11 Busbar trunking and fittings

1. Busbar trunking shall be given in accordance with clause R.10.1 stating the type, number and rated capacity of the busbars and the method of connecting.
2. Tap-off units, feeder units, fire barriers and the like shall each be described and enumerated stating the type, size and rated capacity where applicable.

R.12 Trays and fittings

1. Trays shall be given in metres stating the type and width and the method of jointing.
2. Stools shall be enumerated stating the type and size
3. Fittings shall each be described and enumerated as extra over the trays in which they occur. Cutting and jointing trays to fittings shall be deemed to be included.

R.13 Trunking and tray supports

Trunking and tray supports shall be deemed to be included with the items.

Cables

R.14 Generally

1. Determining circuits and providing draw-wires, draw-cables and the like shall be deemed to be included.
2. Cables required to be colour coded or otherwise marked for identification shall be so described.

R.15 Cables

1. Except for final sub-circuits, cables in conduits or trunking and cables fixed to trays shall be measured as the net length of the conduit, trunking or tray. Other cables shall be measured as fixed (but without any allowance for sag) between boxes, equipment, control gear, fittings, accessories and the like. Allowances for cable entering fittings, accessories, equipment and control gear shall be deemed to be included with the items.
2. Cables shall be given in metres stating the type and the size. Classification shall be as follows:
 - a. Drawn into conduits or ducts
 - b. Laid or drawn into trunking.
 - c. Laid or drawn into trunking and laced into circuit groups.
 - d. Fixed to surfaces.
 - e. Wrapped around pipework.
 - f. Laid in trenches
 - g. Fixed to insulators in overhead lines.
 - h. Suspended from catenary cables.
3. Cables drawn into existing conduits, existing ducts or existing trunking shall each be described. Removing and replacing existing covers, existing inspection lids and the like shall be deemed to be included.
4. Cable-joints shall be enumerated stating the type and size of cable. Joint-boxes, sealing-boxes and the like shall be given in the description stating the type. Materials and heat for making the joint shall be deemed to be included.
5. Line-taps shall be enumerated stating the size and type of the cable. Shrouds shall be given in the description stating the type.

R.15 Cables (cont'd)

6. Cable-termination glands shall be enumerated stating the type and size of the cable and the type of gland. Providing insulating material, jointing material, lock-nuts, bushes and the like shall be deemed to be included.
7. Conduit-boxes, adaptable boxes and the like Used with cable-termination glands shall each be enumerated separately stating the type and the size. Cable-connector-blocks shall be given in the description stating the type and the size. Connecting cable-tails to connector-blocks shall be deemed to be included.

R.16 Cable supports

1. Components for supporting cables shall be given in the description of the cables stating the type and spacing. Alternatively, the components of combination systems of cable supports, two piece cleats, trefoil cleats, multiway cleats, hangers, channels etc. shall be described and enumerated.
2. Particulars of the method of fixing shall be given in the description in accordance with clauses R.1.5-6.

R.17 Connections

Connections to public mains, making good public highway and any other work which may only be carried out by a Public Undertaking or Local Authority shall be given as a provisional sum.

Final sub-circuits

R.18 Cables, conduits, etc. in final sub-circuits

1. Distribution sheets and drawing showing the layout of the points shall be given.
2. Points stating whether cable or cable and conduits installations shall be enumerated stating the ampere rating. Classification of points shall be as follows:
 - a. Lighting points stating whether one-way or two-way switch points (one point being counted for each outlet irrespective of the number of lamps or of the switching).
 - b. Socket or switch-socket points.
 - c. Immersion heater points, cooker outlet points and the like each given separately.
3. Cables, conduits, outlet boxes, junction boxes, universal boxes, accessories, all fixings, bending, cutting, screws and jointing shall be deemed to be included.

Earthing

R.19 Conductors

1. Cables for earthing shall be given in accordance with clause R.15. Tapes for earthing shall be given in metres stating the type and size. Saddles, cleats, clips, holdfasts and the like shall be given in the description stating the type and spacing.

R.19 Conductors (cont'd)

2. Conductor connections and junctions shall each be enumerated separately stating the type and size of the conductor. Tinning, sweating and providing any jointing materials, heat, holes, rivets, bolts, nuts, washers and clamps shall be deemed to be included.
3. All bends shall be deemed to be included with the items.
4. Test-clamps shall be enumerated stating the type, the size and the method of connecting.
5. Earth-electrodes shall be enumerated stating the type and size. Driving electrodes into ground shall be given in the description. Connecting electrodes to conductors shall be deemed to be included.
6. Air-termination points shall be enumerated stating the type, the size and the method of connecting.

Ancillaries

R.20 Loose ancillaries

Loose keys, tools, spares and the like shall each be enumerated separately stating the type and quantity. Rack for holding tools and the like shall be described and enumerated.

R.21 Identification Plates

Plates, discs and labels for the identification of plants, cables, switches and the like shall be deemed to be included with the item concerned. Charts giving the key thereto shall be enumerated.

Sundries

R.22 Generally

1. Marking the positions of holes, mortices, chases and the like in the structure shall be given as an item for each installation. Where the nature of the work necessitates any of those to be formed during construction, the relevant particulars shall be given.
2. General earth bonding and earthing each installation shall be given as an item.
3. Disconnecting, setting aside and refixing existing equipment for the convenience of other trades shall be given as an item stating the relevant particulars.
4. Temporarily operating each installation (except for testing) shall be given as an item stating any required qualifications of the attendant, the duration of the operating period in hours and the purpose and particulars of any special insurance cover required by the Employer. Providing current shall be deemed to be included with the items.
5. Testing each installation shall be given as an item stating particulars of any special insurance cover required by the Employer Providing instruments and current shall be deemed to be included.

R.22 Generally (cont'd)

6. Preparing plans or diagrams of the installations as fitted shall be given as an item stating the kind of information required to be shown and the number of copies of each drawing required to be provided.

Builder's work

R.23 Generally

1. Unless otherwise stated all items of builder's work shall be given in accordance with the appropriate Sections.
2. Builder's work in connection with electrical installations shall be grouped together under an appropriate heading.

R.24 Particularly

1. Excavating trenches for cables and pipe ducts not exceeding 55 mm nominal size shall be given in accordance with clause D.12.9. Excavating trenches for pipe ducts exceeding 55mm nominal size shall be given in accordance with clause V.2. Sand for bedding cables in trenches shall be given in metres stating the average width and depth of the sand.
2. Cable covers in trenches shall be given in metres stating the type and the size.
3. Inspection chambers shall be given in accordance with clause V.6.
4. Bedding and pointing components or units of equipment, ancillaries and the like shall be enumerated stating the size thereof and the composition and mix of the bedding material.
5. Cutting and pinning ends of supports for equipment, ancillaries, fittings, trunking, tray and the like shall be enumerated stating the size of the support and the nature of the structure.
6. In new structures cutting away for and making good after the electrician shall be enumerated as electrical points stating the type of conduits or cables and whether concealed or exposed. Notwithstanding any requirements to the contrary in this document, the enumerated electrical points shall include cutting or leaving all holes, notches, mortices, sinkings and chases in both the structure and its coverings and for all making good except that cutting away and making good to unusually expensive coverings, shall each be enumerated separately. Classification of electrical points shall be as follows:
 - a. Lighting points irrespective of size or type. Associated switch points shall be deemed to be included with lighting points irrespective of number.
 - b. Socket-outlet points irrespective of size or type. Associated switch points shall be deemed to be included with the socket-outlet points irrespective of number.
 - c. Fitting-outlet points irrespective of size, type and kind.
 - d. Equipment points and control gear points (grouped together) irrespective of size, type and kind.

R.24 Particularly (cont'd)

7. In existing structures, cutting away for and making good after the electrician shall be given as follows:
 - a. Holes for conduits, cables, trunking, tray and the like shall be given in accordance with the appropriate section.
 - b. Mortices, sinkings and the like shall each be enumerated separately stating the size thereof and the nature of the structure.
 - c. Lifting and replacing existing chequer-plates and the like shall be given in metres.
 - d. Lifting and replacing existing floorboards (measured along the route of the cable or conduit) shall be given in metres stating the number of cables or conduits as follows:

In groups not exceeding	3 cables or conduits.
	3-6
exceeding	6
 - e. Cutting chases shall be given in metres stating the size of the cable, conduit or trunking and the nature of the structure.
8. Pylons, poles, hut-posts, wall-brackets, pole-brackets, pole-stays and the like for supporting cables shall each be enumerated separately stating the size, the method of fixing and the nature of the structure.
9. Boring or excavating holes in ground for poles and stays shall be enumerated stating the depth, the nature of the filling and the treatment of surplus soil.
10. Excavating pits and forming concrete bases for pylons shall be given in accordance with Sections D and F.
11. Catenary cables shall be given in metres stating the type and size. Eye-bolts, shackles and straining screws shall be given in the description stating the method of fixing.

SECTION S

FLOOR, WALL AND CEILING FINISHINGS

Generally

S.1 Information

1. Work shall be classified as follows and given under an appropriate heading:
 - a. Internal work.
 - b. External work.
2. Work shall be grouped according to the kind of material and shall be given under an appropriate heading. Mastic asphalt floor finishings shall be given in accordance with Section K.
3. Work to a pattern or in more than one colour shall be so described stating the nature thereof. (Work to a pattern would include isolated panels within a general wall or other surface.)
4. The nature of the base to which finishings are to be applied shall be described. Work on differing bases shall be kept separate. Work on existing surfaces shall be so described. Preparatory work to the base and preparation of existing surfaces shall be deemed to be included with the items.
5. Curved work shall be given separately stating the radius or radii and indicating:
 - a. If conical or spherical.
 - b. Whether concave or convex.
 - c. Whether to more than one radius (elliptical or parabolic).
6. Work to ceilings and beams, except in staircase areas, where over 3.50m above floor (measured to ceiling level in both cases) shall be so described stating the height in further stages of 1.50m.
7. Work of a repairing nature shall be kept separate.
8. The descriptions of items shall be deemed to include for narrow widths and small quantities, temporary rules, temporary screeds and templets, joints between different types of finishes, joints between new and old works, arrises, quirks, groin points and other intersections of curved surfaces, rounded coves and internal and external angles and mitres, stops, ends, etc. On cornices, mouldings, enrichments, coves, skirtings, gutters and strings and isolated areas not exceeding 1.00 m, all making good and any other sundry items of a like nature.
9. No deduction from the areas of finishings shall be made for grounds.

In-situ finishings

S.2 Generally

1. Particulars of the following shall be given:
 - a. Kind of material (e.g. plaster, granolithic, terrazzo, tarmacadam, etc.)
 - b. Composition and mix.
 - c. Method of application. (If none stated it shall be at the Contractor's discretion.)
 - d. Thickness exclusive of keys, grooves, etc.
 - e. Number of coats. (If none stated the number shall be at the Contractor's discretion.)
 - f. Nature of surface treatment (e.g. steel trowelled, wood floated, polished, sprinkled with carborundum and in the case of work lined to imitate stone slabs or blocks whether plain, rough, reticulated or vermiculated.)
 - g. Any special curing of finished work.
2. Work shall be given in square metres measured the area in contact with the base but no deduction shall be made for voids not exceeding 0.50 m²
3. Lathing, reinforcement and baseboarding shall each be given separately stating the gauge, type, extent of laps, method of fixing and jointing.

S.3 Walls, ceilings, beams and columns

1. Work to walls and ceilings shall each be given separately. Ceilings shall be deemed to include sloping ceilings.
2. Work to sides and soffits of attached beams and openings and to sides of attached columns shall be regarded as work to the abutting walls or ceilings.
3. Work to sides, soffits or tops of isolated beams (grouped together) and to sides of isolated columns shall each be given separately
4. Angle screed, casing and similar beads shall be given in metres stating the type, size and method of fixing. Working finishings thereto shall be deemed to be included.

S.4 Mouldings

1. Architraves, mouldings, ceiling ribs, cornices and flush raised or sunk bands (measured the length in contact with the base) shall each be given separately in metres stating the girth of the visible contour. Under-cut mouldings, raking members and vertical members shall each be so described.
2. Cornices with bracketing shall be so described.
3. Cornices with flat or weathered tops shall be so described. The width of the top shall be deemed to be part of the visible contour for the purpose of clause S.4.1.
4. Enrichments defined as regularly recurring features shall be given in the description of mouldings. Ornaments defined as irregularly occurring features applied where required shall be enumerated stating the size and character. Undercut enrichments and undercut ornaments shall each be so described.

S.5 Staircase areas

1. All work to staircase areas shall be given separately.
2. Work to landings shall be so described.
3. Work to treads and risers shall each be given in metres stating the dimensions. Undercut risers shall be given separately and so described.
4. Nosings, inserts and the like shall each be given in metres as extra over the work in which they occur, stating the size of section.
5. Strings and aprons shall each be given in metres stating the width. Ends, angles, ramped and wreathed corners and the like shall be deemed to be included with the items.

S.6 Floors

1. Work to floors shall be classified as follows:
 - a. Level, falls, falls and crossfalls and to slopes not exceeding 15° from horizontal (grouped together). Intersections on work to crossfalls shall be deemed to be included with the items.
 - b. Work over 15° from horizontal shall be so described.
2. Work in boiler rooms, machine rooms and similar locations where the surfaces are interrupted by seatings, channels, ducts and the like shall be so described.
3. Work to floors laid in bays shall be so described, stating the average size of the bays
4. Work to floors laid in one operation with the base shall be so described
5. Filling in to recessed manhole covers and the like shall be so described.

S.7 Channels

1. Working finishings into shallow channels shall be given in metres as extra over the finishings in which they occur stating the girth on face. Channels to falls shall be so described. Arrises, ends, angles, intersections and outlets shall be deemed to be included.
2. Linings to channels shall be given in metres stating the girth on face. Channels to falls shall be so described. Arrises, ends, angles, intersections and outlets be deemed to be included.

S.8 Skirtings and kerbs

Skirtings and kerbs shall each be given in metres stating the height or height and width as appropriate. Raking and vertical work shall each be so described. Fair edges, flush edges, beaded edges, moulded edges, rounded edges, covered junction, ends, angles and ramps shall be deemed to be included.

S.9 Dividing strips, cover strips, cover fillets, movement joints and the like

Dividing strips, cover strips, cover fillets, movement joints and the like shall be given in metres and described stating the size. Ends, angles, intersections and working finishings thereto shall be deemed to be included.

Beds and backings

S.10 Generally

1. Beds and backings shall be given in accordance with clauses S.2-8.
2. Beds and backings to receive different types of finishes shall be given separately stating whether screeded, floated or trowelled.
3. Forming channels in beds and backings shall be given in metres as extra over the area in which they occur stating the size.

Tile, slab and block finishings

S.11 Generally

1. Particulars of the following shall be given:
 - a. Kind of tile, slab or block Units. (e.g. precast concrete, precast terrazzo, mosaic tile, brick, natural stone, slate, tile, glass, plastic, woodblock, metal, linoleum, cork and rubber).
 - b. Size and thickness of tile, slab or block units.
 - c. Shape of units where other than rectangular or square.
 - d. Nature of surface finish.
 - e. Bedding or other method of fixing
 - f. Treatment of joints.
 - g. Layout of joints. (If none stated, the layout shall be at the contractor's discretion.)
 - h. Cover fillets to joints and boundaries shall be described and given in metres stating the method of fixing.
2. Temporary moulds for precast tile, slab and blocks units shall be deemed to be included with the items.
3. Work shall be measured on the exposed face. No deduction shall be made for voids not exceeding 0.50 m².
4. All cuttings to angles, boundaries and junctions shall be deemed to be included. Any special tiles, slabs or blocks shall be given in metres as extra over the work in which they occur stating catalogue references where appropriate; angles and corner pieces shall be enumerated.
5. Work shall be given in accordance with clauses S.2-9 except that work in one piece shall be enumerated stating the size, giving details of any notchings, openings and access panels and the shape if not rectangular or square. (Alternatively reference may be made to a drawing.)
6. Isolated special units or access Units shall be enumerated as extra over the work in which they occur stating catalogue references where appropriate.

Flexible sheet finishings

S.12 Generally

1. Particulars of the following shall be given:
 - a. Kind and quality of material. (e.g. linoleum, vinyl, plastic, etc.)
 - b. Thickness of material.
 - c. Method of fixing and treatment of joints.
2. Work shall be given in square metres and measured as carried out but no deduction shall be made for voids not exceeding 0.50 m2.
3. Laps and seams shall be given in the description stating the extent of lap and the type of seam.

S.13 Wall and ceiling finishes

1. Work to walls and ceilings shall be given separately in accordance with clause S.3.
2. Cover strips over joints of finishings shall be described and given in metres stating the size. Ends, angles and intersections shall be deemed to be included with the items.

S.14 Floor finishings

Work to floors shall be given in accordance with clause S 6.

S.15 Labours

Labours on finishings shall be given in accordance with clause S.1.8.

Dry linings and partitions

S.16 Generally

1. Particulars of the followings shall be given:
 - a. Kind and quality of sheeting.
 - b. Thickness of sheeting.
 - c. Size and spacing of supports (including details of design module both for the building and the work in this section).
 - d. Treatment of joints. Lapped joints shall be given in the description and no allowances shall be made for these in measurement.
 - e. Nature of structure to which members are to be fixed and methods of fixing. Where to steel framing, the size and spacing of the members of such framing shall be given. Where fixing is obstructed by services it shall be so stated.
 - f. Any services which are integrated with the lining including additional members, etc.
 - g. Layout of joints. (If none stated, the layout shall be at the contractor's discretion).
2. Linings shall be given in square metres and shall include all necessary members and accessories except those required to be measured separately under clause S.16.3. No deduction shall be made for voids not exceeding 0.5.m2.

S.6 Generally (cont'd)

3. The following shall be given separately in metres stating the method of fixing if other than that in clause S.16.1.e.
 - a. Sole plates.
 - b. Head.
 - c. Abutments to other finishings
 - d. Intersections.
 - e. Framings to openings.
4. Work to isolated columns shall be kept separate and so described stating the number of columns.
5. Access panels shall be described and enumerated as extra over the work in which they occur stating the method of securing.

Suspended ceilings, linings and support work (e.g. plasterboard, fibrous tiles, etc.)

5.17 Generally

1. Particulars of the following shall be given:
 - a. Kind and quality of sheeting or tiles.
 - b. Size and thickness of sheeting or tiles.
 - c. Size and spacing of supports (including details of design module both for the building and work in this section.)
 - d. Layout of joints. (If none stated the layout shall be at the Contractor's discretion.)
 - e. Treatment of joints. Lapped joints shall be given in the description.
 - f. Type, size and length of any hangers and brackets.
 - g. Nature of structure to which the brackets and hangers are fixed and, where to steel framing, the wire and spacing of the members of such framing. Where the fixing of brackets and hangers is obstructed by services, it shall be so described.
 - h. Method of securing brackets and hangers to structure.
 - j. Any services which are integrated with the lining including additional hangers, framing, etc.
2. Linings shall be given in square metres. All necessary support work and accessories for fixing shall be deemed to be included. No deduction shall be made for voids not exceeding 0.50 m².
3. Linings to ceilings, beams, upstands and sloping work shall each be so described giving details of the slope (if any).
4. Access panels shall be described and enumerated as extra over the work in which they occur stating the size
5. Trim at edges of linings shall be given in metres stating the material, size of section and method and centres of fixing.

Fibrous plaster

S.18 Generally

1. Particulars of the following shall be given:
 - a. Method of fixing and treatment of joints.
 - b. Nature of background.
2. Fibrous plasterwork shall be given in square metres and measured as carried out. No deduction shall be made for voids not exceeding 0.50 m².

S.19 Wall and ceiling coverings

1. Plain slab coverings and panelled slab coverings to walls and ceilings shall each be described and given separately in accordance with clause S.3 stating the thickness.
2. Square cutting, raking cutting, curved cutting, notches, rounded corners, cutting around profiles of steps and the like shall be deemed to be included.
3. Forming openings of all sizes not exceeding 0.50m² (grouped together) shall be enumerated. Cutting around edges and providing any extra material shall be deemed to be included with the items.
4. Forming access panels shall be enumerated as extra over the finishings in which they occur stating the size and the method of securing.

S.20 Arches and domes

Arches, domes and groined soffits shall each be described and enumerated separately stating the overall size.

S.21 Casings to beam, columns and pilasters

1. Plain casings to beams, columns, stanchions, pilasters and the like shall each be given separately in square metres.
2. Moulded and ornamental casings to beams columns, stanchions, pilasters and the like shall each be enumerated separately stating the overall size. Shaft caps and bases shall be given in the description.

S.22 Coves and cornices

1. Coves, mouldings and cornices (measured the extreme lengths) shall each be given separately in metres stating the girth of the visible contour. Undercut mouldings shall be so described Raking members and vertical members shall each be so described. Ends, angles and the like shall be deemed to be included with the items.
2. Enrichments defined as regularly recurring features shall be given in the description. Ornaments defined as irregularly occurring features applied where required shall be enumerated stating the size and character. Undercut enrichments and undercut ornaments shall be so described.

S.23 Consoles and canopies

Consoles, overdoors, canopies and the like shall each be enumerated separately stating the size.

Fitted carpeting

S.24 Generally

1. Particulars of the following shall be given:
 - a. Kind and grade or quality of carpeting.
 - b. Dimensions of pattern.
 - c. Method of fixing and treatment of joints
 - d. Nature of base.
2. Plain and patterned carpeting shall each be given separately.
3. Carpeting shall be measured the area in contact with the base and no deduction shall be made for voids not exceeding 0.50m².

S.25 Walls and ceilings

1. Carpeting to walls and ceilings shall each be given separately in square metres.
2. Cover strips shall be described and given in metres stating the size. Ends, angles and intersections shall be deemed to be included with the items.

S.26 Staircase areas

1. Carpeting to landings shall be given in square metres.
2. Carpeting to treads and risers (grouped together) shall be given in square metres stating the width. Carpeting to winders (measured on the centre line) shall be so described. Notwithstanding clause 5.1.8, folded or tailored ends to winders shall each be enumerated separately.
3. Notwithstanding clause S.1.8, carpeting to returned ends, rounded ends, quadrant ends and curtain ends shall each be enumerated separately.
4. Stair rods, carpet holders, carpet clips and the like shall each be enumerated separately.

S.27 Floors

1. Carpeting to floors shall be given in square metres.
2. Fixing at the perimeter shall be deemed to be included.
3. Cover and threshold strips shall be given in metres stating the type and size. Ends, angles and intersections shall be deemed to be included with the items.

S.28 Underlay

Underlay shall be given in square metres measured the area in contact with the base stating the grade or quality, method of fixing and nature of base. No deduction shall be made for voids not exceeding 0.50m².

S.29 Labours

1. Fair sewn heading joints in doorways or plain openings shall be deemed to be included.
2. Square cutting, raking cutting, curved cutting, notches, rounded comers, cutting around profile of steps and the like shall be deemed to be included with the items.

SECTION T

GLAZING

Generally

T.1 Classification of work

1. Work shall be grouped according to the kind and quality of glass and each group with its associated labours shall be described in accordance with the trade terms.
2. Materials resembling glass (e.g. acrylic, polycarbonates and similar plastic materials) shall be given in accordance with the rules for glass.

Glass in openings

T.2 Generally

1. Particulars of the following shall be given:
 - a. Kind and the nominal thickness of the glass.
 - b. Kind of glazing compound.
 - c. Method of glazing (e.g. compound and sprigs, woods beads or mouldings, metal beads or mouldings and metal clips or angle pieces).
 - d. Method of securing (e.g. beads and mouldings being bradded, screwed or self-fixed); where gasket glazed, details of the gasket shall be given.
 - e. Nature of sash, casement or other surround.
2. Panes in double glazed lights not hermetically sealed (each pane measured separately) shall be so described.
3. Panes of wired, patterned or decorated glass which are required to align (within the limits of manufacture) between adjacent panes shall be so described.

T.3 Measurement

1. Glass shall be grouped as clause T.1.1 and subject to clause T.4 shall be given in square metres, stating the size of the pane where one or both dimensions are over the manufacturer's normal maximum. The size of other panes shall be classified and given as follows:
 - a. Not exceeding 0.10m² stating the number of panes.
 - b. 0.10 - 0.50m²
 - c. 0.50 -1.00 m²
 - d. Over 1.00 m²
2. Panes of irregular shape shall be measured the smallest rectangular area from which such irregular shape can be obtained and shall be so described.

T.4 Special glass

1. The following glass shall be enumerated stating the size of the pane. Where exact thickness are required they shall be so described:
 - a. Glass less than 10mm thick where the size of the pane exceeds 4.00m².
 - b. Glass 10mm thick and over.
 - c. Toughened or laminated glass.
 - d. Solar control and other speciality glass.
 - e. Acrylic, polycarbonate and similar material.

T.5 Labours on glass

1. Raking and curved cutting shall be deemed to be included with the items.
2. Polished edges and bevelled edges shall each be given separately in metres stating the width of the bevel and the size of the pane. Work on the curved edges or on bent panels shall be so described. Internal mitres, scallops and other shapings shall each be enumerated separately. External mitres shall be deemed to be included with the items.
3. Grinding, sandblasting and embossing (measured over the whole area of the pane) shall each be given separately in square metres stating whether the pane is wholly or partly obscured. For embossing the type of acid work shall be stated. For design work, a full description of the design stating the type of acid work shall be given, even if in plain lines. Where one or more dimensions of the pane does not exceed 300mm the size of the pane shall be stated.

T.6 Drilled panes

Drilled panes shall be enumerated stating the size of the pane and the diameter, number and type of the holes.

T.7 Bent panes

Bent panes shall be enumerated stating the size of the pane, the radius or girth of the bend and whether bent in the long or the short dimension or both.

T.8 Brilliant cut panes

Brilliant cut panes and panes with other decorative work shall each be enumerated separately stating the nature of the decoration and the size of the pane.

T.9 Hermetically sealed units

Double or multiple factory-made hermetically sealed units shall be described and enumerated stating the size and the construction.

T.10 Glass louvres

Glass louvres shall be described and enumerated stating the size. Labours to edges shall be deemed to be included with the item.

T.11 Bedding

Bedding edges of panes in strips or channels shall be given in metres stating the kind of material.

T.12 Hacking out

Hacking out existing glass and preparing rebates (measured the perimeter of the pane) shall be given in metres

Leaded lights and copper lights in openings

T.13 Generally

1. Particulars in accordance with clause T.2.1 shall be given with the addition of the following:
 - a. Type, section and width of comes stating whether nominal or finished width and whether reinforced
 - b. Shape of panes.
 - c. Average size of panes.
2. Leaded lights and copper lights over 300mm in both directions shall each be given separately in square metres without distinction as to the size. Those not exceeding 300mm in one dimension shall be given in metres stating the width. Those not exceeding 300mm in both dimensions shall be enumerated stating the size.

Mirrors

T.14 Generally

Mirrors shall be enumerated stating the type, size and the method of fixing. Protective coatings, holes, countersunk holes, brilliant cutting, polished edges, blackened edges, bevelled edges, rounded corners and the like shall be given in the description.

Patent glazing

T.15 Generally

1. Patent glazing (measured over bars) shall be given in square metres stating the following:
 - a. Number of areas.
 - b. The length and spacing of the glazing bars.
 - c. The nature of the bearing and the span between bearings.
2. Patent glazing shall be classified as follows:
 - a. Roofs
 - b. Skylights.
 - c. Lantern lights stating the type (e.g. lean- to, gable-ended, hipped, domed or barrel)
 - d. Vertical surfaces.
3. Opening portions of patent glazing shall be enumerated as extra over the work in which they occur stating the size. Opening gear shall be given in the description stating the type and the method of fixing.

T.16 Labours on patent glazing

Raking cutting and curved cutting shall be deemed to be included with the items.

*Domelights***T.17 Generally**

Domelights shall be enumerated stating the type, overall size, shape and method of fixing.

*Glass Blocks***T.18 Generally**

Glass blocks shall be given in accordance with clause G.27.

SECTION U

PAINTING AND DECORATING

Generally

U.1 Information

1. Work shall be classified as follows and given under an appropriate heading:
 - a. New work internally.
 - b. New work externally.
 - c. Repainting and redecoration work internally.
 - d. Repainting and redecorating work externally.
2. Redecoration or work of a restorative nature shall be particularly described.
3. Work required to be carried out in members before they are fixed shall be so described, stating if specifically required to be carried out on or off site
4. Work to ceilings and beams over 3.50m above floor (measured to ceiling level in both cases) shall be so described stating the height in further stages of 1.50m.

U.2 Measurement

Work shall be measured the area covered and allowances made (unless otherwise provided herein) for the extra girth of edges, mouldings, panels, sinkings, corrugations, flutings, carvings, enrichments and the like. No deduction shall be made for voids not exceeding 0.50m²

Painting, polishing and similar work

U.3 Generally

1. Particulars of the following shall be given:
 - a. Kind and quality of materials.
 - b. Nature of the base.
 - c. Preparatory work. (e.g. rubbing down, burning off, stripping old paper or other decorations specifying the number of layers or type if appropriate, cutting out and repairing cracks, knotting, stopping, staining, bodying in, etc.)
 - d. Number of priming or sealing coats.
 - e. Number of undercoats.
 - f. Number of finishing coats stating the surface finish.
 - g. Method of application (if none stated it shall be at the Contractor's discretion).
 - h. Rubbing down between coats with glass, emery or sand paper shall be deemed to be included with the items. Particulars of any abrasive or other treatment required shall be stated.
2. Work on surfaces over 300mm girth shall be given in square metres. Work on isolated surfaces not exceeding 300mm girth shall be given in metres stating the girth in stages of 150mm. Work on isolated surfaces not exceeding 0.50m² shall be enumerated irrespective of size.

U.3 Generally (cont'd)

3. Mouldings and bands picked out in colours different from the surrounding work shall be so described.

U.4 General surfaces

1. Classification of work shall be as follows:
 - a. Walls.
 - b. Ceilings.
 - c. Staircase areas.
 - d. Cornices.
 - e. Skirtings, dado rails, picture rails, wall-mouldings, cappings, margins and the like (grouped together).
 - f. Floors.
 - g. Other general surfaces (grouped together).
2. Work on friezes and coves shall be added to similar work on abutting walls or ceilings where in the same colour. Work on piers and columns shall be added to similar work on walls. Work on beams shall be added to similar work on ceilings.
3. Work on corrugated, fluted and carved surfaces shall each be so described.
4. Work in multi-colours on walls and piers or on ceilings and beams shall each be so described. Multi-colours shall be defined as the application in one room of more than one colour on either the walls and piers or the ceilings and beams.
5. Cutting in edges on flush surfaces shall be deemed to be included with the item.

U.5 Doors, windows, frames, linings and associated mouldings

1. Classification of work shall be as follows:
 - a. Doors.
 - b. Glazed doors and screens stating the size of the panes as follows:

Small	-	not exceeding	0.10m ²
Medium	-	"	0.10 - 0.50m ²
Large	-	"	0.50 – 1.00m ²
Extra large	-	exceeding	1.00m ²

Where panes of more than one size occur the size shall be averaged. Cutting in next glass shall be deemed to be included with the item.

- c. Frames and linings and associated mouldings other than to windows.
- d. Windows, each side to be measured over frames, linings, mullions, transoms, sills and glass stating the size of panes as clause U.5.1.b. Where windows are to have the casements and/or beads in a colour differing from the frames, linings, mullions and transoms they shall be so described. Cutting in next glass shall be deemed to be included with the item. Reference shall be made to any features other than glazing or ironmongery which are to be unpainted.
- e. Work on glazing beads, butts and fastening shall be deemed to be included with the items to which they are attached.

U.6 Structural metalwork

1. Classification of work shall be as follows:
 - a. Members of roof trusses.
 - b. Surfaces of other metalwork (grouped together). Work on hookbolts, clips and the like shall be deemed to be included with the purlins, rails and the like with which they are associated.

U.7 Radiators

Work on radiators (measured the area to be painted) shall be so described. Work on brackets and stays shall be deemed to be included.

U.8 Railings, fences and gates

1. Classification of work shall be as follows:
 - a. Fencing and gates (grouped together) each side to be measured net overall describing the type of fence and gate.
 - b. Posts, rails, balusters and the like.
 - c. Ornamental railings, gates and the like (grouped together) each side to be measured overall regardless of voids.

U.9 Gutters

1. Classification of work shall be as follows:
 - a. Valley and parapet gutters (grouped together)
 - b. Eaves gutters.
2. Work on brackets shall be deemed to be included.

U.10 Pipes, ducts, etc.

1. Classification of work shall be as follows:
 - a. Pipes and conduits.
 - b. Lagged pipes.
 - c. Cables.
 - d. Ducting and trunking.
 - e. Straps, standards, bars and the like.
2. Work on saddles, pipehooks, holderbats, conduit boxes, other components for fixing and the like shall be deemed to be included with the work on pipes and conduits.
3. Work on ventilating gratings, soot-doors, flushing cisterns, rainwater-heads, strap-hinges and the like shall be enumerated separately irrespective of size. Work on ventilating gratings not exceeding 0.50m² shall be given in square metres.
4. Service pipes and equipment painted throughout in coded colours shall be so described stating the number of colours. Coloured bands in coding service pipes shall be enumerated and described stating the number of colours.

Signwriting

U.11 Generally

Letters or numerals, stops and motifs shall each be enumerated separately stating the style and height and the number of coats. Work finished with gold leaf shall be so described.

Decorative paper, sheet plastic or fabric backing and lining

U.12 Generally

1. The supply and delivery to site of paper, fabric or plastic wall coverings unless they can be fully described shall be included as a prime cost sum and the hanging or fixing shall be given in square metres stating the number of pieces giving the following particulars:
 - a. Kind and quality of materials and pattern.
 - b. Nature of base.
 - c. Preparatory work.
 - d. Method of fixing and jointing. (Paper is deemed to be hung vertically unless described otherwise).
2. Classification shall be as follows:
 - a. Walls and columns (grouped together).
 - b. Ceilings and beams (grouped together).
3. Border-strips shall be given in metres. Cutting strips to profile shall be given in the description. Mitres and intersections shall be deemed to be included.
4. Corners and motifs shall each be enumerated separately. Cutting units to profile shall be given in the description.
5. Raking cutting and curved cutting, cutting and fitting around wants or projections shall be deemed to be included.

SECTION V

DRAINAGE

Generally

V.1 Information

1. Work beyond the boundary of the site shall be so described and any restriction regarding access, etc. shall be stated.
2. The nature of the ground in which the excavations are to be made shall be given in accordance with clause D.1.

Drains

V.2 Excavation

1. Excavating pipe trenches shall be given in metres stating the starting level, the depth-range in increments of 2.00m and the average depth within the depth-range to the nearest 0.25m.
2. Excavating curved trenches shall be so described irrespective of radius.
3. Trenches to receive pipes not exceeding 200mm nominal size may be grouped together and so described. Trenches to receive pipes exceeding 200mm nominal size shall be given separately stating the size of the pipe.
4. Excavating trenches to receive surface water drains stating the starting level (measured the width of the foundations of the surface water drains therein) shall be classified as follows:
 - a. Trenches not exceeding 0.30m in width shall be given in metres stating the average depth to the nearest 0.25m.
 - b. Trenches exceeding 0.30m in width shall be given in cubic metres in accordance with Section D.
5. Earthwork support, treating bottoms, filling in, compaction and disposal of surplus spoil shall be given in the description.
6. Excavation below ground water level shall be given as extra over the trench in which it occurs and any adjustment to earthwork support shall be deemed to be included.
7. Trenches next to roadway, next to existing buildings or in unstable ground shall each be so described.
8. Trenches in rock as defined in clause D.12.2 shall be described. Alternatively rock may be given in metres as extra over the trench in which it occurs.
9. Breaking up concrete, reinforced concrete, brickwork, tarmacadam and the like shall each be given separately in metres as extra over the trench in which it occurs stating the pipe diameter as clause V.2.3.

V.3 Disposal of water

Disposal of water shall be given in accordance with clauses D.15 -16.

V.4 Beds, benchings and coverings

1. Beds, benchings and coverings shall each be given separately in metres stating:
 - a. Nominal size of the pipe to be laid.
 - b. Widths and thickness of the beds, benchings, haunching, surrounds and the like.
 - c. Materials from which the beds, benchings, haunching, surrounds and the like are to be constructed. Any formwork required shall be deemed to be included.

V.5 Pipework and surface water channels

1. Pipes (measured over all pipe fittings) shall each be given in metres stating the kind and quality of pipe, the nominal size and the method of jointing. Any pipes not laid in bottom of the trench (e.g. found in a multipurpose trench) shall be given separately and the depth stated in accordance with the depth-range stages as clause V.2.1.
2. Suspended pipes including the supports shall be so described. Classification shall be as follows:
 - a. In ducts in the ground or below the floor.
 - b. Bracketed off walls, stating the average height above the floor.
 - c. Suspended from soffits, stating the average height above the floor.
3. Vertical pipes shall be so described.
4. Pipe fittings shall each be described and enumerated as extra over the pipes in which they occur. Cutting and jointing pipes to fittings and providing everything necessary for jointing shall be deemed to be included.
5. Accessories (e.g. gullies, traps, inspection shoes, fresh air inlets, non-return flaps, etc.) shall each be described and enumerated stating the kind, quality and size of the accessory and the nominal size of each inlet and outlet. Jointing pipes to such accessories, bedding in concrete and providing gratings, sealing plates and the like shall be given in the description of the item.
6. Surface water channels (measured over all fittings and cascades) shall be given in metres stating the kind and quality of drain, the size and method of jointing. Angles, ends, outlets, intersections, jointing to sumps or other drains and formwork to concrete shall be deemed to be included with the item.
7. Cascades shall be described fully and enumerated as extra over the drain in which they occur stating the number of steps in cascade and the total drop.

Sumps, manholes, soakaways, cesspits, septic tanks, imhoff tanks and the like

V.6 Generally

1. Sumps, manholes, soakaways and the like shall each be grouped together and given in detail under an appropriate heading stating the number.

V.6 Generally (cont'd)

2. Cesspits, septic tanks, imhoff tanks, oxidation ponds and the like for the treatment and disposal of sewage shall each be grouped together and given in detail under an appropriate heading stating the number.
3. Excavation, concrete work, brickwork and other work shall be given in accordance with the appropriate sections
4. Building in ends of pipes shall be enumerated stating the nominal size of the pipe. Cutting pipe shall be deemed to be included.
5. Channels, concrete benchings, step-irons, covers and intercepting traps shall each be enumerated separately stating the type~ the quality, the size and the method of bedding or fixing.
6. Work in existing manholes, cesspits, septic tanks, imhoff tanks and the like shall each be so described.

Connections to mains

V.7 Generally

1. Connecting ends of drains to mains, making good public highways and other work which may only be carried out by a Public Undertaking or Local Authority shall be given as a provisional sum.
2. Connections to existing work shall each be enumerated stating the size of pipe or drain and the type of structure. Cutting openings, making good, jointing, etc. shall be deemed to be included with the term.

Testing drains

V.8 Generally

Testing the drainage system shall be given as an item stating the method of testing.

SECTION W

FENCING, TURFING AND PLANTING

Fencing

W.1 Generally

1. Particulars of the following shall be given:
 - a. Kind and quality of material (e.g. timber, concrete or steel).
 - b. Preliminary treatments (e.g. impregnating or galvanising) applied as part of production process or applied before delivery to site.
2. Fencing specially designed to suit sloping ground (over 15 degrees from the horizontal) shall each be so described (e.g. fencing laid sloping stating the constant height, fencing laid level on top stating the average height or fencing laid across sloping ground stating the constant height).
3. Fencing set out to a curve but straight between posts shall be so described irrespective of radius. Curved fencing, defined as curved between posts, shall be so described stating the radius.
4. Posts, struts and other supports which occur at regular intervals in fencing shall be given in the description of the fencing stating the size, the spacing, the height above the surface of ground or base and the depth below such surface. Special posts shall be given in accordance with clause W.13.
5. Pointing and driving posts, struts and other supports into ground shall be given in the description of the fencing. Excavating holes in ground (posts not driven in) shall be given in accordance with clause W.14.
6. Gravel-boards with or without centre stumps shall be given in the description of the fencing stating the size and method of fixing.
7. Reinforcing tapes or wires shall be given in the description of the fencing stating the size or gauge, the number of lines and the method of fixing.
8. Fencing shall be measured overall (i.e. over posts and other supports). The height of fencing shall be measured from the surface of the ground (or other base) to the top of the filling (or to the top wire where there is no filling) between the posts. Inclined fencing shall be described separately.

Open type fencing

W.2 Post -and-wire fencing

Post-and-wire fencing shall be given in metres stating the height of the fencing, the gauge and number of line-wires, the method of attaching the line-wires to the posts and the method of straining. Barbed wire shall be described stating the spacing of the points.

W.3 Post-and-rail fencing

Post-and-rail fencing shall be given in metres stating the height of the fencing, the size and number of horizontal rails and the method of fixing the rails to the posts.

W.4 Chain-link and wire-mesh fencing

Chain-link fencing and wire-mesh fencing shall each be given separately in metres stating the height of the fencing, the gauge and number of line wires, the method of attaching the line-wires to the posts, the size of mesh and gauge of wire in the fabric and the method of attaching the fabric to the line wires.

W.5 Cleft-pale fencing

Cleft-pale fencing shall be given in metres stating the height of the fencing, the spacing of the pales, the number of lines of binding wire and the method of fixing the binding wires to the posts.

W.6 Palisade fencing

Palisade fencing shall be given in metres stating the height of the fencing, the size and the number of horizontal rails, the method of fixing the rails to the posts, the size and spacing of the pales, the treatment of the tops (e.g. pointed, shaped, etc.) and the method of fixing the pales to the rails.

W.7 Metal bar fencing

1. Metal bar fencing shall be given in metres stating the height of the fencing, the size, spacing and arrangement of the bars, the treatment of the tops of the bars (e.g. pointed, shaped, etc.) and the size and number of the rails, the method of assembling (e.g. riveted, welded, etc.) and the method of fixing rails to the posts. Side-stays, back-stays and struts shall each be deemed to be included.
2. Railings forming part of a building shall be given in accordance with Section P.

Close type fencing

W.8 Close -boarded fencing

Close-boarded fencing shall be given in metres stating the height of the fencing, the size and number of horizontal rails, the method of jointing the rails to the posts, the type of boarding, (e.g. sawn or cleft) the type of joint between boards and the method of fixing the boarding to the rails. Weathered cappings and supporting fillets shall be given in the description stating the size of the members and the method of fixing to the boarding.

W.9 Built-up concrete fencing

Built-up concrete fencing shall be given in metres stating the height of fencing, the size and thickness of the infilling units between posts, the method of jointing the units to the posts, the size of cappings and the method of fixing the cappings to the infilling units.

W.10 Corrugated fencing

Corrugated fencing shall be given in metres stating the height of the fencing, the size and the number of horizontal rails, the method of fixing the rails to the posts, the kind and gauge or thickness of the corrugated sheeting, the extent of the laps in the sheeting, the treatment of the tops of the corrugations and the method of fixing the sheeting to the rails.

Gates

W.11 Generally

1. Gates shall be enumerated stating the size and the method of construction. Hinges, locks, fastenings and the like shall be given in the description. Gate-posts (other than those forming part of the fencing) shall be enumerated stating the size. Holes for gate-posts shall be given in accordance with clause W.14.
2. Wicket gates shall be enumerated as extra over the item in which it occurs stating the size, method of assembly, fixing including framing, accessories, etc.
3. Gate-steps, gate-catches and independent gate-stays shall each be enumerated separately stating the method of fixing. Excavating and bedding in concrete shall be given in the description stating the composition and mix of the concrete.

Sundries

W.12 Concrete spurs

Concrete spurs for timber posts shall be enumerated stating the size and the method of fixing. Bolts and holes shall be given in the description stating the size.

W.13 Special posts

Ends posts, angle-posts, integral gate-posts, straining posts and other posts which differ from those given in the description of the fencing shall each be enumerated separately as extra over the fencing in which they occur stating the size and the depth below the ground or other base. Struts shall be given in the description stating the size, the number and the method of fixing to the posts. Holes for posts and struts shall be given in accordance with clause W.14. (Integral gate posts are those integral with the fencing).

W.14 Holes and mortices for posts

1. Excavating holes for posts, struts and other supports shall be enumerated stating the size and depth, the nature of the filling and the disposal of surplus soil. Earthwork support shall be deemed to be included.
2. Mortices for posts, struts and other supports (grouped together) in concrete, brickwork, blockwork, stonework and the like shall each be given in accordance with the rules in the appropriate Sections.

Seeding and turfing

W.15 Generally

1. Particulars of the following shall be given:
 - a. Timing of operations.
 - b. Method of cultivating and degree of tilth.
 - c. Kind, quality, composition and mix of materials.
 - d. Method of application.
 - e. Method of securing turves.

W.15 Generally (cont'd)

2. Soiling, cultivating treating top surfaces, fertilizing for seeding and turfing shall be given separately in square metres stating the thickness of soil, depth of cultivation and the quantity per square metre of the seed or fertilizer. Any requirement for watering, weeding, cutting settlement, re-seeding, protective temporary fencing and the like shall be stated.
3. Mulching after planting to beds shall be given in square metres stating the thickness. Any requirements for the type of mulch, time and method of application shall be given in the description

Planting

W.16 Generally

1. Particulars of the following shall be given:
 - a. Timing of operation.
 - b. Method of cultivating and degree of tilth.
 - c. Kind, quality, composition and mix of materials.
 - d. Size and type of pits, holes and trenches, excavated or formed.
 - e. Type of support and ties
 - f. Special materials for refilling.
 - g. Labelling.
2. Trees, young nursery stock trees, shrubs, bulbs, corms and tubers shall be enumerated. Each type of plant shall be given separately stating the botanical name, the size and root system, girth, height and clear stem Any requirement for watering, weeding, cutting, supports and ties, temporary fencing the like shall be stated.
3. Hedge plants shall be enumerated or alternatively given in metres. Each of type of hedge shall be given separately stating the botanical name, height, spacing, number of row and layout. Any requirement for watering, weeding, cutting and temporary fencing and the like shall be stated.
4. Herbaceous plants shall be enumerated or alternatively given in square metre. Each type of herbaceous plants shall be given separately stating the Botanical name, size and number per square metre. Any requirement for watering, weeding, cutting and temporary fencing and the like shall be stated.
5. Excavating or forming pits, holes or trenches, refilling, removing surplus excavated material and labelling shall be given in the description.
6. Mulching after plants around individual plants shall be enumerated stating the thickness and area. Any requirements for tree-spats, type of mulch, time and method of application shall be given in the description
7. Protection of plants (e.g. tree guards, anti-desiccant sprays and wrapping) shall be enumerated stating the size, height and girth of tree or spread of plant, height of wrapping.

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