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***Guide to***

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***Elemental Cost Estimating &***

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***Analysis for Building Works***

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***2003***

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## FOREWORD

A working group, comprising Dave Lindenberg (chairman), Martin Smith, Professor Paul Bowen, Martin Treadaway and Keith Cattell, undertook the compilation of a Guide to Elemental Cost Analysis based on a previous version. A new version, with minor changes, has been prepared for use in Africa by a committee of the Africa Association of Quantity Surveyors comprising Dr Corné de Leeuw (chairman) representing the Southern Region, Francis Githaiga and Daniel Kimoro representing the Eastern Region and Joseph Ajanlekoko representing the Western Region

The primary purpose of this Guide is to present a system for elemental estimating. However, the document has been compiled in such a manner as to enable and stimulate dedicated cost analysis and cost comparison between construction projects

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# EXPLANATORY NOTES

The primary objective of this Guide is to present a system which sets out principles and a model format for elemental estimating

## Cost analysis

Meaningful elemental cost analysis will only be possible if cost data are based on a uniform standard analysis. The estimator is therefore urged not to deviate from the system proposed in this Guide since only then will it be possible to use the derived data for comparative elemental estimating and cost planning

## Guide

The list of elements are as follows:

- Primary elements
- Special installations
- Alterations
- External works and services
- Training
- Preliminaries
- Contractor's fee
- Contingency allowances
- Fluctuation
- Tax

## Salient features of Guide

The element PILING falls under Special Installations as it represents an abnormal site condition and would adversely affect meaningful cost comparison of typical building projects with different ground conditions

BASEMENT EXCAVATIONS are deemed to be part of the site preparation and, therefore, have been included with External Works and Services. There is no separate element called BASEMENT and the basement components such as floors, walls, etc, have been included with the appropriate Primary Elements. However, in a special case the estimator may decide to treat the basement as a separate Primary Element.

There is an element INDEPENDENT STRUCTURAL COMPONENTS applicable to unframed structures. All slabs and staircases fall under the elements Structural Frame or Independent Structural Components, as the case may be, and the Guide clearly indicates how these are to be provided for

CONCRETE WALLS, whether reinforced or not, are included with External Facade or Internal Divisions, as the case may be, and not with the Structural Frame. Concrete walls are included with the External Envelope or Internal Divisions based on a functional, rather than a construction, definition

PARTITIONS is an element which is separate from Internal Divisions

The category SPECIALIST INSTALLATIONS includes all specialist subcontractor work, except for the conventional Electrical Installation within the building. There is a comprehensive list of Specialist Installations which incorporates all the more frequently encountered specialist work

An element, MISCELLANEOUS ITEMS, appears at the end of sections 1, 2 and 4 for any items which are not catered for within the list of elements

TRAINING is a bill required in certain countries mainly by government clients to be included in bills of quantities and, therefore, is an element of cost

PRELIMINARIES includes a break-down of components. It appears at the end of the estimate

CONTRACTOR'S FEE is a separate section. This is an optional approach and the estimator may wish to include the principal contractor's fee on a *pro rata* basis within the individual rates in the estimate. The Contractor's fee is often a separately identifiable and negotiated amount, as in the case of multiple procurement contracts, and it may be helpful to reflect this cost separately. However, it should be realised that this approach will distort the cost analysis data

CONTINGENCY ALLOWANCE includes both "Price and Detail Development" and "Building Contract Contingencies" as components. The Price and Detail Development Contingency is there to take care of design development at the estimating stage, and the Building Contract Contingency is included to cover unforeseen circumstances during the contract stage

FLUCTUATION is included in order to provide estimated pre-tender and contract fluctuation in cost

TAX is included as an element of cost. The estimator should not attempt to indicate sales tax separately if it is not readily identifiable.

# DEFINITIONS

## Sections

The elements are sub-divided into the following sections: Primary Elements, Special Installations, Alterations, External Works and Services, Training, Preliminaries, Contractor's Fee, Contingency Allowances, Fluctuation and Tax. Elements are defined and constant for all buildings, thus facilitating the use of information obtained from a building when estimating the cost of other similar buildings

## Element

Buildings are divided into elements (e.g. Substructure, External Facade, Roofs, etc). An element is that part of any building that always performs the same function irrespective of its construction or specification. Elements should not be combined or divided

## Component

Each element is sub-divided into components (eg the element Roofs is sub-divided into the components of Construction, Coverings, Insulation, etc). Where a specific component forms a high cost part of the estimate, such component should be further sub-divided into sub-components

## Measurements required for element or component

The measurement required is the actual quantitative unit of the element or component. Each of the elements or components is considered and evaluated in the plane in which it occurs (eg the element Roofs would be evaluated per square metre in the various planes of the roof, the component Downpipes per metre length and the component Dormers per unit number). The quantity of an element or a component is measured and multiplied by a monetary rate thus obtaining an estimated construction cost for that element or component

## Unit

Unit denotes the unit of measurement of the individual element or component.

## Composition of element or component

Each element comprises various components. Each component comprises various parts or sub-components

## Taking off/Pricing notes

Taking off/pricing notes are guidelines to assist the estimator in the taking off and pricing stages of an estimate

## Code

The code is the numerical identification for each element or component

## Cost

Cost is the cost of an element and is the aggregate of the component costs comprising the particular element

## Quantity

Quantity is the actual measured quantity of an element or component

### Cost per unit

Cost per unit is the cost of an element divided by the measured quantity of the element (eg the cost of the element Roofs divided by the area of the element Roofs)

### Cost per square metre

Cost per square metre is the cost of the element divided by the construction area

### Cost (percentage) %

Cost % is the cost of the element expressed as a portion of the total cost

### Construction area

The construction area of a building is the total of all the areas of a building measured on plan at each covered floor level over the external walls or external lines of the outermost vertical enclosing planes or, where applicable, the centre line of party walls between buildings

The following items are **included** in the calculation of construction area

- Internal stairwell and staircase areas
- Lift shaft areas
- Duct space areas
- Mezzanine floor areas
- Finished floor areas in attic spaces
- Floor areas to penthouses, staff quarters, lift motor rooms, etc.
- All open but covered porches, balconies and balcony corridors within the enclosing planes of the main building
- Floor areas to attached sheds, carports, etc., and all partially completed rooms, porches, balconies, etc., provided the relevant areas are covered and have at least two of their walls not less than two thirds of the storey height on which they occur

The following to be **excluded** from the calculation of construction area

- External steps and paved areas
- Areas of projecting roof overhangs, hoods, canopies and the like
- Enclosed open areas (light or ventilation wells and courtyards)
- Areas of open covered ways and carports, etc
- Areas of unenclosed fire escapes
- Areas on plan of small projections such a pilasters, attached piers, fins, chimney breasts, etc

### Training

Government clients in some countries may require the inclusion of an amount for training of individuals. Training of candidates shall consist of institutional training on a competency based modular basis and practical on-site training under competent supervision provided by the contractor

## **SUMMARY OF ELEMENTS**



# SUMMARY OF ELEMENTS

## Primary elements

- Foundations
- Ground floor construction
- Structural frame
- Independent structural components
- External facade
- Roofs
- Internal divisions
- Partitions
- Floor finishes
- Internal wall finishes
- Ceilings and soffits
- Fittings
- Electrical installation
- Internal plumbing
- Fire services
- Balustrading, etc.
- Miscellaneous items

## Specialist installations

- Piling
- Sun control screens, grilles, etc
- Raised access floors
- Special fire prevention
- Lifts
- Escalators
- Air conditioning
- Ventilation
- Heating
- Special electrical installations
- Other services
- Compactors
- Access control
- Gondolas and cleaners' rails
- Stoves
- Kitchen equipment
- Specialised equipment
- Security systems
- Communication systems
- Prefabricated cold rooms
- Signage
- Artwork
- Miscellaneous items

**Alterations**

- Alterations

**External works and services**

- Soil drainage
- Sub-surface water drainage
- Stormwater drainage
- Water supplies
- Fire service
- External electrical installations and electrification
- Connection fees, etc
- Demolitions
- Site clearance
- Earthworks
- Boundary, screen and retaining walls, etc
- Fencing and gates
- Roads, paving, etc
- Covered parking, walkways, etc
- Pergolas, canopies, etc
- Minor construction work
- Pools, etc
- Sports facilities
- Garden works
- Miscellaneous items

**Training**

- Training

**Preliminaries**

- Preliminaries

**Contractor's fee**

- Contractor's fee

**Contingency allowances**

- Price and detail development
- Building contract contingencies

**Fluctuation**

- Pre-tender fluctuation
- Contract fluctuation

**Tax**

- Value added tax
- Sales tax

## **SCHEDULE OF ELEMENTS**

CODE	SECTION AND ELEMENT	CODE	COMPONENT	MEASUREMENT REQUIRED FOR ELEMENT OR COMPONENT	QTY UNIT	COMPOSITION OF ELEMENT OR COMPONENT	TAKING OFF/ PRICING NOTES	ANALYSIS
1	PRIMARY ELEMENTS Foundations			Areas on plan of structure having foundations, measured over walls	m <sup>2</sup>	Comprises all work below lowest floor level to the buildings proper but including basement foundations but excluding structural frame, piling and site excavation (refer to 102 – Structural frame, 200 – Piling and 409 – Earthworks)		
100		100.10	Unreinforced strip footings	Length on plan	m	Comprises all excavation, risk of collapse, backfilling, working space, concrete, blinding and formwork	Measure different sizes separately Measure footings for external and internal walls separately for use when measuring superstructure State depth of excavation and size of footing	
		100.20	Reinforced strip footings	Length on plan	m	Comprises all excavation, risk of collapse, backfilling, working space, concrete, blinding, formwork and steel reinforcement	Measure different sizes separately Measure footings for external and internal walls separately for use when measuring superstructure State depth of excavation and size of footing	
		100.30	Straps and foundation beams	Length on plan	m	Comprises all excavation, risk of collapse, backfilling, working space, concrete, blinding, formwork and steel reinforcement	Measure different sizes separately Measure beams for external and internal walls separately for use when measuring superstructure State depth of excavation and size of footing	
		100.40	Columns, column bases and pile caps	Number	no	Comprises all excavation, risk of collapse, backfilling, working space, concrete, blinding, formwork and steel reinforcement below the lowest floor level	Measure different sizes separately State depth of excavation and size of bases and pile caps State column sizes and height columns	
		100.50	Lift shaft bases	Number	no	Comprises all excavation, risk of collapse, backfilling, working space, concrete, blinding, formwork and steel reinforcement	Measure different sizes separately State depth of excavation and size of bases	

CODE	SECTION AND ELEMENT	CODE	COMPONENT	MEASUREMENT REQUIRED FOR ELEMENT OR COMPONENT	QTY UNIT	COMPOSITION OF ELEMENT OR COMPONENT	TAKING OFF/ PRICING NOTES	ANALYSIS
	<b>Foundations</b> (continued)	100.60	Brick and block walls	Length on plan	m	Comprises all brickwork, blockwork, brick reinforcement and plinth finishes up to lowest floor level	Measure different types and thicknesses of walls separately Include horizontal dampproof course and triangular fillet in walls State height of wall and finish	
		100.70	Reinforced concrete walls	Length on plan	m	Comprises all concrete, formwork, steel reinforcement and plinth finishes up to lowest floor level	State thickness of walls and measure different thicknesses separately State height of wall and finish	
		100.80	Rock, etc excavation	Volume	m <sup>3</sup>	Comprises rock excavation, removal of concrete, brickwork, etc	State percentage of excavation volume allowed	
		100.90	Sundries	Area on plan of structure having foundations	m <sup>2</sup>	Comprises carting on/away and dewatering items that apply to 100.10 to 100.70 above (dewatering to be included with 409.70 – Dewatering when basements occur)	Each unit to be measured in the applicable unit of measurement	
101	<b>Ground floor construction</b>			Area on plan of ground floor construction, measured over walls	m <sup>2</sup>	Comprises complete ground floor construction, including integral steps and ramps	Finishes (screed, etc) to be measured under 109 – Floor finishes and Sub-surface water drainage to be measured under 401 – Sub-surface water drainage	Often the same area as foundations
		101.10	Solid floors	Area on plan of the portion having solid floors, measured over walls	m <sup>2</sup>	Comprises excavation or filling under solid floors, ant proofing, hardcore, underfloor waterproofing, surface beds, mesh reinforcement (if any), expansion joints and thickening out of surface beds under walls and at edges	Measure different types separately. Measure expansion joints and thickening out separately State floor thickness	
		101.20	Suspended floors	Area on plan of the portion having suspended floors, measured over walls	m <sup>2</sup>	Comprises excavation, ant proofing, concrete, brickwork and ties to sleeper piers, wall plates, sleepers, bearers, floor joists, boarding, battens, slabs, formwork and mesh reinforcement (if any)	Measure different types separately Applied finishes to boarding to be measured under 109 – Floor finishes	

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101	Ground floor construction (continued)	101.30	Steps	Area on plan of the steps measured over walls	m <sup>2</sup>	Comprises excavations, filling, ant proofing, hardcore, waterproofing, concrete, formwork, mesh reinforcement (if any), etc	Measure finishes under 108 – Floor finishes and balustrades under 115 – Balustrading, etc		
		101.40	Ramps	Area on slope of the ramps measured over walls	m <sup>2</sup>	Comprises excavations, filling, ant proofing, hardcore, waterproofing, concrete, mesh reinforcement (if any), etc	State thickness of ramps, measure finishes under 108 – Floor finishes and balustrades under 115 – Balustrading, etc		
102	Structural frame			Area on plan of structural floor and roof slabs measured over small openings and staircases (deduct area of lift shafts and large openings)	m <sup>2</sup>	Comprises the components above lowest floor level that form the skeleton frame of the building	Concrete walls to be measured with external envelope of internal divisions	Adjust area for large openings	
		102.10	Slabs	Area on plan of structural floor and roof slabs measured over small openings (deduct area of staircases, lift shafts and large openings)	m <sup>2</sup>	Comprises concrete, formwork (whether smooth, patterned, or otherwise), steel reinforcement, structural steelwork and sundry items	Measure different slab types separately Measure solid portions of coffer slabs separately State thickness of slabs		
		102.20	Ramps	Area on slope measured over supporting walls	m <sup>2</sup>	Comprises concrete, formwork (whether smooth, patterned, or otherwise), steel reinforcement, structural steelwork and sundry items	State thickness of ramps Measure applied finishes under 109 – Floor finishes and balustrades under 116 – Balustrading, etc		
		102.30	Staircases	Area on plan measured over enclosing walls at each floor level	m <sup>2</sup>	Comprises concrete, formwork (whether smooth, patterned, or otherwise), steel reinforcement, structural steelwork and sundry items	Measure applied finishes under 109 – Floor finishes and balustrades under 116 – Balustrading, etc		
		102.40	Columns supporting slabs	Length	m	Comprises concrete, formwork (whether smooth, patterned, or otherwise), steel reinforcement, structural steelwork and sundry items	Measure different sizes separately State size of columns		
		102.50	Beams	Length	m	Comprises concrete, formwork (whether smooth, patterned, or otherwise), steel reinforcement, structural steelwork and sundry items	Measure different sizes separately State net size of beams		

CODE	SECTION AND ELEMENT	CODE	COMPONENT	MEASUREMENT REQUIRED FOR ELEMENT OR COMPONENT	QTY UNIT	COMPOSITION OF ELEMENT OR COMPONENT	TAKING OFF/ PRICING NOTES	ANALYSIS
103	Independent structural components			Construction area	m <sup>2</sup>	Comprises ramps, staircases, slabs in unframed structures, independent columns, beams and portal frames not forming part of the structural frame (refer to 103.20 for ramps and 103.30 for staircases forming part of the integral structural frame)	Concrete walls to be measured with external envelope or internal divisions	
		103.10	Ramps	Area on slope measured over walls	m <sup>2</sup>	Comprises reinforced concrete, formwork (whether smooth, patterned or otherwise), steel reinforcement, structural steelwork and sundry items	State thickness of ramps Measure applied finishes under 109 –Floor finishes and balustrades under 116 – Balustrading, etc	
		103.20	Staircases	Area on plan measured over enclosing walls at each floor level	m <sup>2</sup>	Comprises reinforced concrete, formwork (whether smooth, patterned or otherwise), steel reinforcement, structural steelwork and sundry items	Measure reinforced concrete, structural steel, etc, staircases separately Measure applied finishes under 109 –Floor finishes and balustrades under 116 – Balustrading, etc	
		103.30	Slabs in unframed structures	Area on plan of floor and roof slabs measured over small openings (deduct area of staircases and large openings)	m <sup>2</sup>	Comprises reinforced concrete, formwork (whether smooth, patterned or otherwise), steel reinforcement, structural steelwork and sundry items	Measure different types separately State thickness and type of slabs	
		103.40	Independent columns	Length	m	Comprises reinforced concrete, formwork (whether smooth, patterned or otherwise), steel reinforcement, structural steelwork and sundry items	Measure different types separately State size of columns	
		103.50	Beams	Length	m	Comprises reinforced concrete, formwork (whether smooth, patterned or otherwise), steel reinforcement, structural steelwork and sundry items	Measure different types separately State net size of beams	
		103.60	Portal frames	Combined length of columns and beams	m	Comprises reinforced concrete, formwork (whether smooth, patterned or otherwise), steel reinforcement, structural steelwork and sundry items	State size of beams and columns	

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104	External facade			Area on elevation of the external facade of the building in line with the general faces of the building and measured over openings, columns, slab edges, etc and including gable walls	m <sup>2</sup>	Comprises all vertical components enclosing the building including gable walls	Measured from lowest floor level to underside of roof Measure parapet and balustrade walls under 116 –Balustrading, etc	
		104.10	Brick and block walls	Area on elevation	m <sup>2</sup>	Comprises brickwork, blockwork, beam filling, gable walls, sundries (eg damp-proofing, ties to concrete, building cavities solid, tanking, etc) excluding brickwork, etc imparted by openings	Measure different types and wall thicknesses separately	
		104.20	Reinforced concrete walls	Area on elevation	m <sup>2</sup>	Comprises reinforced concrete, formwork (whether smooth, patterned or otherwise), steel reinforcement, waterproofing and tanking	Measure different wall thicknesses separately	
		104.30	Curtain walls	Area on elevation	m <sup>2</sup>	Comprises the curtain wall complete with framing, glass, infill panels, service ducts, pelmets, etc and any related sundry/builders work	If divided vertically and horizontally by structural frame, then measure as windows	
		104.40	Precast cladding	Developed area on elevation	m <sup>2</sup>	Comprises the complete precast cladding with finish, steel reinforcement, fixing method, shims, etc	Measure different types, thicknesses and finishes separately	
		104.50	External finishes	Area on elevation	m <sup>2</sup>	Comprises all finishes to the external envelope, excluding finishes imparted by stonework and openings but including all finishes to projecting slabs, etc	Measure different finishes separately Measure expensive finishes in detail Smooth, patterned or other formwork to concrete walls to be measured separately	
		104.60	Windows	Area on elevation	m <sup>2</sup>	Comprises windows, lintols, internal and external cills, pelmets, curtain tracks, remote control, reveals, glass and paint	Measure window with different types of glass separately Measure louvre drapes separately	



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	<b>External facade</b> (continued)	104.70	Shopfronts and similar entrance screens	Area on elevation measured over doors and stallboard risers	m <sup>2</sup>	Comprises the shopfronts, shop entrances, doors, stallboard risers and bulkheads above including finishes and appurtenant sundry builder's work	Measure single, double and rotating doors separately State provisional sum net rate if applicable Doors to be measured separately as "extra over" State if remote control Measure bulkhead construction, fixing and finishes thereof separately Measure different types of single and double doors separately State if doors are non standard sizes Measure door closers separately Measure mat recesses and door mats separately	
		104.80	Doors	Number	no	Comprises doors, frames, lintols, fanlights, sidelights, anchors, ironmongery, door closers, dowels, reveals, glass and paint	Measure special doors (eg fire and electronic doors) separately	
		104.90	Special doors	Number	no	Comprises doors, frames, lintols, fanlights, sidelights, anchors, ironmongery, door closers, dowels, reveals, glass and paint		
105	<b>Roofs</b>			Area of the roof covering and waterproofing measured in the various planes of the roof over parapets, box gutters, etc	m <sup>2</sup>	Comprises the complete roof including concrete flat roofs	Excludes parapet and gable walls	Measure waterproofed area separate from roof construction area
		105.10	Construction (other than concrete)	Area on flat or on slope, excluding roof lights	m <sup>2</sup>	Comprises the complete roof construction including wall plates, ties, trusses, treatment, battens, purlins, boarding, hip and ridge coverings, windbracing, etc	Measure timber and structural steel construction separately	
		105.15	Coverings	Area on flat or on slope, excluding roof lights and dormers	m <sup>2</sup>	Comprises roof and dome coverings	Measure different types separately Deduct for area of roof lights and dormers	
		105.20	Roof, lantern and southlights	Area	m <sup>2</sup>	Comprises construction, glass or polycarbonate, paint, etc	Measure different types separately	

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	<b>Roofs</b> (continued)	105.25	Waterproofing	Area measured over parapets, etc but excluding roof lights and dormers	m <sup>2</sup>	Comprises screeds for and waterproofing to roofs, gutters, canopies, etc, turnups, sundry items and paint	Measure different types separately Deduct for area of roof lights and dormers	
105.30		Insulation	Area on flat or on slope but excluding roof lights and dormers	m <sup>2</sup>	Comprises all insulation materials and appurtenant sundry items	Deduct for area of roof lights and dormers		
105.35		Trafficable surfaces	Area of waterproofing finished with trafficable surfaces	m <sup>2</sup>	Comprises the materials forming the trafficable surface including appurtenant sundry items	Measure different types separately Measure in detail if expensive		
105.40		Eaves	Length	m	Comprises eaves soffit and edge treatment and eaves gutters	Measure different types separately Measure in detail if expensive State projection		
105.45		Verges	Length	m	Comprises soffit and edge treatment	Measure different types separately Measure in detail if expensive		
105.50		Accessories and flashings	Length	m	Comprises flashings, lightning conductors and valley details	State width of flashings Measure each accessory, etc. separately		
105.55		Downpipes	Length	m	Comprises downpipes cast-in or surface mounted, sundries and paint including outlets, rainwater heads, etc	Measure different types separately		
105.60		Ventilators	Number	no	Comprises ridge ventilators, revolving ventilators, powered ventilators, slope ventilators, etc	Measure different types separately		
105.65		Dormers	Number	no	Comprises construction, cladding, covering, flashing, window, etc	Measure different types separately		
105.70		Chimneys	Number	no	Comprises construction, finishes, cowls, etc	Measure different types and sizes separately State length		

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106	<b>Internal divisions</b>			Area on elevation of internal divisions measured over all openings, columns, etc	m <sup>2</sup>	Comprises all vertical components dividing the interior of the building excluding partitions (refer to 108 – Partitions)		
		106.10	Brick and block walls	Area on elevation excluding openings	m <sup>2</sup>	Comprises all brickwork, blockwork and sundries	Measure different types and thicknesses separately	
		106.20	Reinforced concrete walls	Area on elevation excluding openings	m <sup>2</sup>	Comprises reinforced concrete, formwork (whether smooth, patterned or otherwise), steel reinforcement, etc	Measure different thicknesses separately.	
		106.30	Borrowed lights	Area on elevation	m <sup>2</sup>	Comprises borrowed lights, view panels, etc., cills, glass and paint	Measure different types of glass separately	
		106.40	Doors	Number	no	Comprises doors, frames, lintols, fanlights, sidelights, anchors, ironmongery, door closers, dowels, reveals, glass and paint	Measure different types and sizes separately State if doors are non standard sizes	
107	<b>Partitions</b>	106.50	Special doors	Number	no	Comprises doors, frames, lintols, fanlights, sidelights, anchors, ironmongery, door closers, dowels, reveals, glass and paint	Measure different types and sizes separately State if doors are non standard sizes	
				Areas on elevation of partitions measured over doors, sidelights, fanlights and borrowed lights	m <sup>2</sup>	Comprises demountable, fixed, fire rated and glazed partitions, frames, doors, fanlights, borrowed lights, ironmongery, finishes, attached skirtings and cornices, glass, etc		Measure toilet partitions separately from office partitioning
		107.10	Partitions	Area on elevation	m <sup>2</sup>	Comprises demountable, fixed, fire rated and glazed partitions, borrowed lights, finishes, attached skirtings and cornices, glass, etc	Measure each type separately Measure over doors State provisional sum net rate if applicable	
		107.20	Doors	Number	no	Comprises doors, frames, fanlights, sidelights, ironmongery, door closers, paint and glass and forming openings in partitioning	Measure different types and sizes separately Doors to be measured separately as "extra over"	

CODE	SECTION AND ELEMENT	CODE	COMPONENT	MEASUREMENT REQUIRED FOR ELEMENT OR COMPONENT	QTY UNIT	COMPOSITION OF ELEMENT OR COMPONENT	TAKING OFF/ PRICING NOTES	ANALYSIS	
108	Floor finishes			Area on plan of floors, measured over walls, small openings and staircases	m <sup>2</sup>	Comprises all finishes to floors, stairs, ramps, etc		Measure parking garage, etc finishes separately from general office, etc areas	
		108.10	Applied floor finishes	Area on plan of those portions of the building having applied floor finishes measured over walls and small openings (deduct area of staircases, lift shafts and large openings)	m <sup>2</sup>	Comprises screeds and floor finishes of all types of floor construction, raised access floors, etc including dividing strips, etc	Measure different types separately State P C net rate if applicable Measure raised access floor construction under 202 – Raised access floors		
		108.20	Stair and ramp finishes	Area on plan of the staircase and ramps measured over walls at each floor above lowest floor level	m <sup>2</sup>	Comprises finishes to treads, risers, landings and edges	Measure different types separately Soffit finishes to stairs to be measured under 111 – Ceilings and soffits		
		108.30	Skirtings, etc	Length	m	Comprises all skirtings including finishes except where integral with partitions and panelling	Measure different types separately		
109	Internal wall finishes			Area on elevation of internal finishes to all walls measured between unfinished floor and ceiling and over doors, windows, etc	m <sup>2</sup>	Comprises all finishes to internal walls, including internal columns, reveals, projecting beams, etc including internal finishes to external walls		Area of internal wall finishes is area of external envelope plus twice the area of internal divisions. Rate to be adjusted for large glazed, etc areas	
		109.10	Finishes	Area on elevation but excluding area of finishes imparted by formwork, openings, etc	m <sup>2</sup>	Comprises all finishes to internal walls, including finishes to lift shaft and other concrete walls (except where finish is imparted by formwork), internal columns reveals, projecting beams, etc	Measure different finishes separately State PC net rate if applicable Measure expensive finishes accurately		
		109.20	Rails, etc	Length	m	Comprises all picture rails, hat and coat rails, etc, including finishes, except where integral with partitions and panelling	Measure different types separately		

CODE	SECTION AND ELEMENT	CODE	COMPONENT	MEASUREMENT REQUIRED FOR ELEMENT OR COMPONENT	QTY UNIT	COMPOSITION OF ELEMENT OR COMPONENT	TAKING OFF/ PRICING NOTES	ANALYSIS
110	Ceilings and soffits			Area on plan of those portions of the building having soffit finishes and ceilings measured over walls, small openings and staircases (deduct area of lift shafts and large openings)	m <sup>2</sup>	Comprises soffit finishes and ceilings		Measure ceilings over parking garages, etc., separately from general office, shop, mall, etc. areas
		110.10	Slab soffit finishes	Area on plan measured over walls, small openings and staircases	m <sup>2</sup>	Comprises plaster and paint finishes to soffits of slabs, stairs, ramps, landings and sides and soffits of beams	Deduct area of staircases, lift shafts and large openings	
		110.20	Nailed-up ceilings	Area measured over walls and small openings	m <sup>2</sup>	Comprises joists, bearers, hangers, bracing, boarding, finishes, trap doors, etc	Measure different types separately Deduct area of staircases, lift shafts and large openings	
		110.30	Suspended ceilings	Area on plan measured over walls and small openings	m <sup>2</sup>	Comprises construction, hangers, tees, panels, finishes, etc	Measure different types separately Deduct area of staircases, lift shafts and large openings State provisional sum net rate if applicable	
		110.40	Bulkheads	Length on plan	m	Comprises the complete construction, fixing and finishes thereof	Measure different types separately State girth	
111	Fittings	110.50	Cornices, etc	Length on plan	m	Comprises all cornices, etc. including finishes	Measure different types separately	
				Construction area	m <sup>2</sup>	Comprises fittings complete with ironmongery, steelwork, finishes, etc	State type of material and finish Sanitary fittings, etc integral to joinery fittings to be measured under 113 – Internal plumbing	Allow where possible individual
		111.05	Chalk boards, etc	Area on elevation	m <sup>2</sup>	Comprises chalk boards, white boards, etc	Measure different types separately State if patent type.	
		111.10	Pinning boards, etc	Area on elevation	m <sup>2</sup>	Comprises pinning boards, notice boards, etc	Measure different types separately State if patent type	

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	<b>Fittings</b> (continued)	111.15	Raised platforms	Area on plan	m <sup>2</sup>	Comprises raised platforms not forming part of the floor	State height and covering	
		111.20	Built-in cupboards	Length	m	Comprises cupboards built into recesses in walls, between walls, etc	Measure different types separately State height and if patent type	
		111.25	Cupboards plugged to walls	Length	m	Comprises cupboards attached to face of walls	Measure different types separately State height and if patent type	
		111.30	Pigeon hole fittings, etc	Length	m	Comprises pigeon hole fittings, magazine display racks, etc	Measure different types separately State height and if patent type	
		111.35	Work benches and work tops	Length	m	Comprises work benches and work tops including integral cupboards or framing below	Measure different types separately State height and if patent type	
		111.40	Room dividers	Length	m	Comprises room dividers of all types other than built-in cupboards or cupboards plugged to walls	Measure different types separately State height and if patent type	
		111.45	Counters	Length	m	Comprises counters	Measure different types separately State height and if patent type	
		111.50	Kitchen floor units	Length	m	Comprises kitchen units at floor level	Measure different types separately State height and if patent type	
		111.55	Kitchen wall units	Length	m	Comprises kitchen units fixed to walls but not touching the floor	Measure different types separately State height and if patent type	
		111.60	Shelving	Length	m	Comprises shelving, brackets, cleats, bearers, grounds, etc	Measure different types separately State height and if patent type Measure free standing shelving separately State number of shelves	
		111.65	Pews	Length	m	Comprises pews	Measure different types separately	
		111.70	Single seating benches	Length	m	Comprises benches for seating purposes	Measure different types separately	

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	<b>Fittings</b> (continued)	111.75	Double seating benches	Length	m	Comprises back to back benches for seating purposes	Measure different types separately	
		111.80	Tables	Number	no	Comprises tables forming part of fittings	Measure different plan shapes separately	
		111.85	Pulpits, lecterns, etc	Number	no	Comprises pulpits, lecterns, etc	Measure different types separately	
		111.90	Lockers	Number	no	Comprises staff, sport, firearm, etc lockers	State size and height	
		111.95	Miscellaneous	Number	no	Comprises fittings that cannot be included above	Measure different types separately	
112	<b>Electrical installation</b> (refer also to 209 and 405)			Construction area	m <sup>2</sup>	Comprises the complete electrical installation including light fittings and builder's work		Measure area of parking garages, etc separately from general offices, shops, mall, etc. areas
		112.10	Installation	Area	m <sup>2</sup>	Comprises the complete electrical installation including power skirting or rails and general light fittings but excluding transformers and builder's work	Measure different use areas within a building and anticipated lux levels separately	
		112.20	Special light fittings	Number	no	Comprises special light fittings not included elsewhere	Measure chandeliers, etc separately	
		112.30	Builder's work	Construction area	m <sup>2</sup>	Comprises builder's work in connection with 113.10 and 113.20 above, profit and attendance, sleeves, duct covers, etc		
113	<b>Internal plumbing</b>			Number of sanitary fittings	no	Comprises the complete internal plumbing installation	Geysers, boilers, pumps, etc not to be counted as fittings Each 600 mm of stall urinal and each shower to be counted as a fitting	
		113.05	Sanitary fittings	Number	no	Comprises fittings and units complete with traps, service pipes, stop cocks and traps and those combined with cupboards or worktops	State P C net rate if applicable State quality and colour	

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	<b>Internal plumbing</b> (continued)	113.10	Sanitary fittings sundries	Number	no	Comprises soap dishes, toilet paper holders, mirrors, towel rails, medicine cabinets, etc		
		113.15	Sanitary plumbing	Number	no	Comprises anti-siphonage, waste, soil and vent stacks, paint on pipes, a proportion of holes and cutting to tiling, etc		
		113.20	Plumbing duct covers	Number	no	Comprises covers, framing, finishes, etc		
		113.25	Cold water supplies	Number	no	Comprises all cold water services including paint on pipes, a proportion of holes and cutting to tiling, wheel valves, etc	Hot water cylinders to be counted as a supply point	
		113.30	Water storage tanks	Number	no	Comprises tanks, ball valves, tank stands, trays and overflow pipes	State capacity of storage tanks	
		113.35	Hot water supplies	Number	no	Comprises piping, lagging, paint on pipes, a proportion of holes and cutting to tiling, wheel valves, etc		
		113.40	Geysers	Number	no	Comprises geysers, stands, trays and overflow pipes (if any) and those combined with cupboards	State capacity of geysers	
		113.45	Boilers	Number	no	Comprises boilers and hot water cylinders, laggings, etc	State capacity of boilers, etc	
		113.50	Booster pumps	Number	no	Comprises pumps, motors, etc		
		113.55	Solar heating	Number	no	Comprises solar heating installation, panels, support- and pipework and associated storage tanks	State area, type of panels and capacity of tanks	
		113.60	Supply heat pumps	Number	no	Comprises heat pump installation, support- and pipework		



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114	<b>Fire services</b> (refer also to 203)							
		114.10	Fire stops to vertical service shafts, etc	Number of fire service fittings	no	Comprises complete fire service installation excluding sprinkler installation and other special fire fighting installations (refer to 203 – Special fire prevention.)	Measure in number or length if areas are inappropriate	
		114.20	Fire resistant paint, etc	Area	m <sup>2</sup>	Comprises fire stopping		
		114.30	Extinguishers	Area	m <sup>2</sup>	Comprises fire resistant (intumescent) paint to structural steelwork, etc		
		114.40	Extinguishers	Number	no	Comprises extinguishers including backing boards, etc	Measure different types separately	
		114.50	Fire hose reels	Number	no	Comprises fire hose reels	Measure different types separately	
		114.60	Valve and hose couplings	Number	no	Comprises valves with instantaneous connectors, booster pump connections, etc		
		114.70	Water supply	Number	no	Comprises piping, paint on pipes, a proportion of holes and cutting tiling, wheel valves, etc		
		114.80	Water storage tanks	Number	no	Comprises tanks, ball-valves, tankstands, trays and overflow pipes	State capacity	
			Booster pumps	Number	no	Comprises pumps, motors, etc		
115	<b>Balustrading, etc.</b>							
		115.10	Balustrade walls	Length of all balustrading, parapet walls, etc	m	Comprises balustrading, balustrade and parapet walls		
		115.20	Parapet walls	Area on elevation	m <sup>2</sup>	Comprises balustrade walls complete with copings, finishes, etc		
				Area on elevation	m <sup>2</sup>	Comprises parapet walls complete with copings, finishes, etc		

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	<b>Balustrading, etc.</b> (continued)	115.30	Steel balustrading	Length	m	Comprises steel balustrading, handrails, sundry fixing items, infill panels, finishes, cappings, etc	Measure different types separately State height	
		115.40	Timber balustrading	Length	m	Comprises timber balustrading, handrails, sundry fixing items, infill panels, finishes, cappings, etc	Measure different types separately State height	
		115.50	Other balustrading	Length	m	Comprises other balustrading, handrails, sundry fixing items, infill panels, finishes, cappings, etc	Measure expensive balustrading separately State height	
116	<b>Miscellaneous items</b>			Construction area	m <sup>2</sup>	Comprises items that cannot be included with other elements or components above		
		116.10	Floor ducts	Length	m	Comprises construction, finishes, covers, etc	Measure different types separately State depth and width	
		116.20	Other	Number	no	Comprises other items that cannot be included with other elements and components above		
2	<b>SPECIALIST INSTALLATIONS</b> <b>Piling</b>			Area on plan of lowest floor having piled foundations	m <sup>2</sup>	Comprises specialist piling and sundry builder's work		
200		200.10	Sheet piling	Area on elevation	m <sup>2</sup>	Comprises sheet piling excluding builders work	Measure different types separately	
		200.20	Driven piles	Number	no	Comprises driven piles excluding builders work	State type, diameter and length	
		200.30	Cast in-situ piles	Number	no	Comprises cast in-situ piles excluding builder's work	State type, diameter and length	
		200.40	Establishment, etc	Number	no	Comprises establishment and de-establishment	Measure establishment and de-establishment separately	

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	<b>Piling</b> (continued)	200.50	Pile testing, etc	Area on plan of lowest floor having piled foundations	m <sup>2</sup>	Comprises pile testing, etc		
		200.60	Builders work	Area on plan of lowest floor having piled foundations	m <sup>2</sup>	Comprises builders work, cutting down piling items, etc in connection with 200.10 to 200.50 above		
201	<b>Sun control screens, grilles, etc.</b>			Area on elevation of sun control screens, grilles, etc	m <sup>2</sup>	Comprises special sun control features not integral with the structural frame complete with finishes and sundry builder's work	Measure different types separately	
		201.10	Sun control screens, grilles, etc	Area on elevation	m <sup>2</sup>	Comprises special sun control features not integral with the structural frame complete with finishes excluding builder's work		
		201.20	Builder's work	Area on elevation	m <sup>2</sup>	Comprises builder's work in connection with 201.10 above		
202	<b>Raised access floors</b>			Area on plan of those portions of the building having raised access floors measured over walls and small openings	m <sup>2</sup>	Comprises all raised access floors	State if patent type Measure applied finishes under 109.10 – Applied floor finishes	
		202.10	Raised access floors	Area on plan of those portions of the building having raised access floors measured over walls and small openings	m <sup>2</sup>	Comprises all raised access floors		
203	<b>Special fire prevention</b> (refer also to 114)			Area on plan of the portions of the building protected	m <sup>2</sup>	Comprises the complete special fire prevention/protection installation and sundry builder's work	State if double or single system	
		203.10	Sprinkler installation	Area on plan of the portions of the building protected	m <sup>2</sup>	Comprises the complete sprinkler installation excluding builder's work		

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204	<b>Special fire prevention</b> (Refer also to 114) (continued)	203.20	Smoke detection system	Area on plan of portions of the building protected	m <sup>2</sup>	Comprises the complete smoke detection system excluding builder's work	Measure different types separately	
		203.30	Early fire warning system	Area on plan of the portions of the building protected	m <sup>2</sup>	Comprises the complete early fire warning system excluding builder's work	Measure different types separately	
		203.40	Building evacuation	Area on plan of the portions of the building protected	m <sup>2</sup>	Comprises the complete building evacuation system excluding builder's work	Measure different types separately	
		203.50	Other special fire protection	Area on plan of the portions of the building protected	m <sup>2</sup>	Comprises other special fire protection systems excluding builder's work	Measure different types separately	
		203.60	Builder's work	Area on plan of the portions of the building protected	m <sup>2</sup>	Comprises builder's work in connection with 203.10 to 203.50 above		
204	<b>Lifts</b>	204.10	Lifts	Number of lifts	no	Comprises the complete lift installation and sundry builder's work	Measure different types separately State number of stops, speed and capacity State if hydraulic, etc	
		204.20	Builder's work	Number	no	Comprises builder's work in connection with 204.10 above		
205	<b>Escalators</b>	205.10	Escalators	Number of escalators	no	Comprises the complete escalator installation and sundry builder's work	Measure different types separately State capacity, step width, speed and rise Measure soffit and side cladding separately	
		205.20	Builder's work	Number	no	Comprises the complete escalator installation excluding builder's work		

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206	<b>Air conditioning</b>			Area on plan of the air conditioned portions of the building	m <sup>2</sup>	Comprises the complete air conditioning installation and sundry builder's work	Measure different types separately	Apply to rentable areas only
		206.10	Air conditioning	Area on plan of the air conditioned portions of the building	m <sup>2</sup>	Comprises air conditioning installation excluding builder's work		
		206.20	Builder's work	Area on plan of the air conditioned portions of the building	m <sup>2</sup>	Comprises builder's work in connection with 206.10 above		
207	<b>Ventilation</b>			Area on plan of the ventilated portions of the building	m <sup>2</sup>	Comprises the complete ventilation installation and sundry builder's work	Measure extract canopies separately	
		207.10	Ventilation	Area on plan of the ventilated portions of the building	m <sup>2</sup>	Comprises ventilation installation excluding builder's work		
		207.20	Builder's work	Area on plan of the ventilated portions of the building	m <sup>2</sup>	Comprises builder's work in connection with 207.10 above		
208	<b>Heating</b>			Area on plan of the heated portions of the building	m <sup>2</sup>	Comprises the complete heating installation and sundry builder's work	Measure different types separately	
		208.10	Heating	Area on plan of the heated portions of the building	m <sup>2</sup>	Comprises underfloor, wall mounted, etc heating excluding builder's work		
		208.20	Builder's work	Area on plan of the heated portions of the building	m <sup>2</sup>	Comprises builder's work in connection with 208.10 above		
209	<b>Special electrical installations</b> (refer also to 112 and 405)			Construction area	m <sup>2</sup>	Comprises the complete special electrical installation and sundry builder's work		
		209.10	Transformers	Number	no	Comprises transformers excluding builder's work		
		209.20	Emergency generators	Number	no	Comprises emergency generators excluding builder's work		

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	<b>Special electrical installation</b> (refer also to 112 and 405) (continued)	209.30	Uninterrupted power supply	Number	no	Comprises uninterrupted power supply excluding builder's work		
		209.40	Clean power supply	Number	no	Comprises clean power supply excluding builder's work		
		209.50	Other special electrical installation	Number	no	Comprises other special electrical installation excluding builder's work		
		209.60	Builder's work	Number	no	Comprises builder's work in connection with 209.10 to 209.50 above		
210	<b>Other services</b>			Construction area	m <sup>2</sup>	Comprises such services as gas installation, TV installation, refrigeration, etc and sundry builder's work		
		210.10	Other services	Number	no	Comprises other services excluding builder's work		
		210.20	Builder's work	Number	no	Comprises builder's work in connection with 210.10 above		
211	<b>Compactors</b>			Number of compactors	no	Comprises the complete compactor installation and sundry builder's work		
		211.10	Compactors	Number	no	Comprises compactors excluding builder's work	State capacity	
		211.20	Builder's work	Number	no	Comprises builder's work in connection with 211.10 above		
212	<b>Access control</b>			Number of access control	no	Comprises the complete access control installation and sundry builder's work		

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	<b>Access control</b> (continued)	212.10	Parking booms and/or traffic lights	Number	no	Comprises the complete access control including installation of parking booms and/or traffic lights, etc excluding builder's work		
		212.20	Builder's work	Number	no	Comprises builder's work in connection with 212.10 above		
213	<b>Gondolas and cleaners' rails</b>			Number of gondolas	no	Comprises the complete window cleaning gondola installation and sundry builder's work and/or cleaners' rails		
		213.10	Gondolas	Number	no	Comprises gondolas excluding builder's work	State if manual or automatic	
		213.20	Cleaners' rails	Length	no	Comprises cleaners' rails		
		213.30	Builder's work	Number	m	Comprises builder's work in connection with 213.10 and 213.20 above		
214	<b>Stoves</b>			Number of stoves	no	Comprises supply and installation of gas or electrical stoves and sundry builder's work		
		214.10	Stoves	Number	no	Comprises stove excluding builder's work	Measure extractor hoods separately under 207.10 – Ventilation	
		214.20	Builder's work	Number	no	Comprises builder's work in connection with 214.10 above		
215	<b>Kitchen equipment</b>			Area on plan of the portion of the building having kitchen equipment	m <sup>2</sup>	Comprises the complete kitchen equipment installation and sundry builder's work		
		215.10	Kitchen equipment	Number	no	Comprises supply and installation of all equipment excluding builder's work	Measure electrical connections under 113 – Electrical installation and water connection under 114 – Internal plumbing	
		215.20	Builder's work	Number	no	Comprises the builder's work in connection with 215.10 above		

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216	Specialised equipment	216.10	Specialised equipment	Area on plan of the portion of the building being served by specialised equipment Number	m <sup>2</sup> no	Comprises the complete specialised equipment installation and sundry builder's work	Measure different types separately	
		216.20	Builder's work	Number	no	Comprises builder's work in connection with 216.10 above		
217	Security systems	217.10	Security systems	Areas on plan of the portion of the building having security systems Number	m <sup>2</sup> no	Comprises the complete security system installation and sundry builder's work		
		217.20	Builder's work	Number	no	Comprises card readers, CCTV installation, turnstiles, etc excluding builder's work Comprises builder's work in connection with 217.10 above		
218	Communication systems	218.10	Communication systems	Area on plan of the portion of the building having communication systems Number	m <sup>2</sup> no	Comprises the complete communication system installation and sundry builder's work	Measure different types separately	
		218.20	Builder's work	Number	no	Comprises communication systems excluding builder's work Comprises builder's work in connection with 218.10 above		
219	Prefabricated cold rooms	219.10	Prefabricated cold rooms	Number of prefabricated cold rooms	no	Comprises the complete prefabricated cold room installation and sundry builder's work		
			Prefabricated cold rooms	Number	no	Comprises the complete prefabricated cold room installation including necessary mechanical equipment excluding builder's work		



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	<b>Prefabricated cold rooms</b> (continued)	219.20	Builder's work	Number	no	Comprises builder's work in connection with 219.10 on above		
220	<b>Signage</b>	220.10	Signage	Construction area	m <sup>2</sup>	Comprises the complete signage installation and sundry builder's work	Measure different types separately	
		220.20	Signage pylons, towers, etc	Number	no	Comprises directional, identification and safety signage excluding builder's work		
		220.30	Builders work	Number	no	Comprises the complete signage pylon construction and installation excluding builder's work		
221	<b>Artworks</b>	221.10	Artworks	Number of artworks	no	Comprises statues, ornamentation, artworks, murals, fountains, banners, etc	Measure each artwork separately	
222	<b>Miscellaneous items</b>	222.10	Fireplaces, etc	Number	no	Comprises special items that cannot be included with other elements or components above		
		222.20	Dock levellers	Number	no	Comprises fireplaces or units, mantles, shelves, hearths, flue linings, cappings, oil burners, paraffin heaters, etc		
		222.30	Other	Number	no	Comprises dock leveller's installation and sundry builder's work		
						Comprises miscellaneous items that cannot be included with other elements or components above		

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3	<b>ALTERATIONS</b>							
300	<b>Alterations</b>	300.10	Alterations.	Area on plan of the portion of the building having alteration works  Area on plan of the portion of the building having alteration works	m <sup>2</sup>  m <sup>2</sup>	Comprises all alterations to existing buildings  Comprises all alterations to existing buildings	  Measure in detail	
4	<b>EXTERNAL WORKS AND SERVICES</b>							
400	<b>Soil drainage</b>	400.10	Soil drains	Length of soil drains measured over manholes from the feet of stacks to the connections, etc  Length	m  m	Comprises all works in connection with soil drainage  Comprises excavations, soil drains, cleaning eyes, gulleys and concrete encasing	  Measure different types and diameters separately	
		400.20	Inspection chambers	Number	no	Comprises inspection chambers complete with channelling, covers, etc	Measure different types and sizes separately	
		400.30	Septic tanks, etc	Number	no	Comprises septic tanks, soak away, conservancy tanks, etc	Measure different types and sizes separately	
401	<b>Sub-surface water drainage</b>							
		401.10	Sub-surface drains	Length of sub-surface drains measured over catchpits to sumps  Length	m  m	Comprises all works in connection with sub-surface water drainage, sumps, sump pumps, catchpits, etc  Comprises excavations, sub-surface drains, stone chips, geofabric filter blanket, etc	  Measure different types and diameters separately	
		401.20	Catchpits, inspection chambers, sumps, etc	Number	no	Comprises catchpits, inspection chambers, sumps, etc complete with covers or gratings and all sundry items	Measure different types separately	
		401.30	Pumps	Number	no	Comprises pumps, motors, etc		

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402	<b>Stormwater drainage</b>			Length of stormwater channelling and piping measured over catchpits to connections	m	Comprises all works in connection with stormwater drainage, gratings or covers, etc		
		402.10	Surface water channelling	Length	m	Comprises channelling and all sundry items	Measure different types and sizes separately	
		402.20	Stormwater drains	Length	m	Comprises stormwater drains and all sundry items	Measure different types and sizes separately	
		402.30	Catchpits, inspection chambers, sumps, etc	Number	no	Comprises catchpits, inspection chambers, sumps, etc complete with covers or gratings and all sundry items	Measure different types and sizes separately	
		402.40	Pumps	Number	no	Comprises pumps, motors, etc	Measure different types and sizes separately	
403	<b>Water supplies</b>			Length of water piping from mains to building and over site	m	Comprises water supplies within the site, piping, wheel valves, non-return valves, valve chambers, trust blocks, taps to standpipe, sundry builder's work, etc		
		403.10	Incoming main	Length	m	Comprises the incoming main within the site, piping, wheel valves, non-return valves, valve chambers, trust blocks, etc	Measure different diameters separately	
		403.20	Site reticulation	Length	m	Comprises site reticulation piping, wheel valves, taps to standpipes, sundry builder's work, etc	Measure different diameters separately	
404	<b>Fire service</b>			Length of water piping from mains to building and over site	m	Comprises fire service within the site, piping, wheel valves, non-return valves, valve chambers, trust blocks, sundry builder's work, etc		
		404.10	Incoming main	Length	m	Comprises the incoming main within the site, piping, wheel valves, non-return valves, valve chambers, trust blocks, etc	Measure different diameters separately	
		404.20	Site reticulation	Length	m	Comprises site reticulation, piping, wheel valves, etc	Measure different diameters separately	

CODE	SECTION AND ELEMENT	CODE	COMPONENT	MEASUREMENT REQUIRED FOR ELEMENT OR COMPONENT	QTY UNIT	COMPOSITION OF ELEMENT OR COMPONENT	TAKING OFF/ PRICING NOTES	ANALYSIS
404	<b>Fire service</b> (continued)	404.30 404.40	Booster connection, wheel valves, etc Hydrants, pedestals, etc	Number Number	no no	Comprises booster connection, wheel valves, sundry builder's work, etc Comprises hydrants, pedestals, sundry builder's work, etc		
405	<b>External electrical installations and electrification</b> (refer also to 112 and 209)	405.10 405.20 405.30 405.40 405.50	Electrification Incoming main Site reticulation Street, bollard, etc lighting Floodlighting	Length of cables from mains to building and over site Number Length Length Number Number	m no m no no no	Comprises electrical installation within the site, including cables, street lighting, floodlighting, sundry, builders work, etc Comprises electric power generating plant Comprises cables, etc Comprises cables, etc Comprises street, bollard, etc lighting including sundry builder's work, etc Comprises floodlighting and sundry builder's work, etc	Measure different diameters separately	
406	<b>Connection fees, etc.</b>	406.10 406.20 406.30	Soil drainage Stormwater drainage Water supplies	Number of connections, etc Number Number Number	no no no no	Comprises the local authority connection fees, etc Comprises the local authority connection fees, etc Comprises the local authority connection fees, etc Comprises the local authority connection fees, etc		

CODE	SECTION AND ELEMENT	CODE	COMPONENT	MEASUREMENT REQUIRED FOR ELEMENT OR COMPONENT	QTY UNIT	COMPOSITION OF ELEMENT OR COMPONENT	TAKING OFF/ PRICING NOTES	ANALYSIS
406	Connection fees, etc. (continued)	406.40	File service	Number	no	Comprises the local authority connection fees, etc		
		406.50	External electrical installation	Number	no	Comprises the local authority connection fees, etc		
407	Demolitions	407.10	Demolition of buildings	Number of items demolished		Comprises demolition of buildings and removal of pavings, rubble, etc		
		407.20	Pavings, etc	Area		Comprises demolition of buildings and removal of pavings, rubble, etc Comprises the removal of pavings, etc	State if removal of foundations are included	
408	Site clearance	408.10	Site clearance	Area	m <sup>2</sup>	Comprises clearing of site, removal of trees, etc (refer to 407.2 for removal of pavings, etc)		
		408.20	Trees	Number	no	Comprises the removal of large trees	State girth and height Measure each category separately	
		408.30	Hedges, fences, etc	Length	m	Comprises the removal of hedges, fences, etc	Measure each category separately	

CODE	SECTION AND ELEMENT	CODE	COMPONENT	MEASUREMENT REQUIRED FOR ELEMENT OR COMPONENT	QTY UNIT	COMPOSITION OF ELEMENT OR COMPONENT	TAKING OFF/ PRICING NOTES	ANALYSIS
409	Earthworks			Volume of excavation and/or filling	m <sup>3</sup>	Comprises total cutting, filling, levelling, forming banks, basement excavations, carting away excavated material, etc		
		409.10	Site excavation	Volume	m <sup>3</sup>	Comprises all bulk excavation and levelling over site and carting away excavated material	Measure carting away of excavated material separately	
		409.20	Rock, etc excavation over site	Volume	m <sup>3</sup>	Comprises rock excavation, removal of concrete, brickwork, etc and carting away material	State percentage of excavation volume allowed	
		409.30	Site filling	Volume	m <sup>3</sup>	Comprises all bulk filling over site, roof gardens, etc and carting on earth filling	Measure carting away/on of earth filling separately	
410	Boundary, screen and retaining walls, etc.			Area on elevation of walls, etc	m <sup>2</sup>	Comprises foundations, walls, finishes, copings, doors, screens, etc to boundary, screen, retaining and wing walls, etc		
		410.10	Boundary, screen and retaining walls, etc	Area on elevation	m <sup>2</sup>	Comprises foundations, walls, finishes, copings, doors, screens, etc	Measure different types separately Measure footings (including excavation) in metre stating size and depth of excavation and walls, including copings, in m <sup>2</sup>	
411	Fencing and gates			Length of fencing measured over gates	m	Comprises fencing, gates, standards, droppers, posts, footings, etc		
		411.10	Fencing	Length	m	Comprises fencing, standards, posts droppers, footings, etc	Measure different types separately State height and overhang (if applicable)	
		411.20	Gates	Number	no	Comprises gates, posts, stays, footings, ironmongery, etc	Measure different types separately State if electronic, double or single, etc	

CODE	SECTION AND ELEMENT	CODE	COMPONENT	MEASUREMENT REQUIRED FOR ELEMENT OR COMPONENT	QTY UNIT	COMPOSITION OF ELEMENT OR COMPONENT	TAKING OFF/ PRICING NOTES	ANALYSIS
412	Roads, paving, etc			Area on plan of roads, paving, etc	m <sup>2</sup>	Comprises roads, parking areas, paving, paths, etc including kerbs (channelling measured with stormwater drainage)		
		412.10	Roads	Area	m <sup>2</sup>	Comprises roads	Measure different types separately State thickness	
		412.20	Pavings	Area	m <sup>2</sup>	Comprises pavings, steps, etc	Measure different types separately Measure expansion joints separately State thickness	
		412.30	Kerbs	Length	m	Comprises kerbs for 412.10 and 412.20 above		
413	Covered parking, walkways, etc.			Area on plan of covered parking, walkways, etc	m <sup>2</sup>	Comprises foundations, columns, walls, doors, windows, screens, roofs, finishes, floor finishes, etc		
		413.10	Covering to parking	Area on plan	m <sup>2</sup>	Comprises foundations, columns, walls, doors, windows, screens, roofs, finishes, floor finishes, etc	Measure in detail if information is available	
		413.20	Covered walkways	Area on plan	m <sup>2</sup>	Comprises foundations, columns, walls, doors, windows, screens, roofs, finishes, floor finishes, etc	Measure in detail if information is available	
414	Pergolas, canopies, etc.			Area on plan of pergolas, canopies, etc	m <sup>2</sup>	Comprises foundations, construction, covering, supports, etc		
		414.10	Pergolas	Area on plan	m <sup>2</sup>	Comprises foundations, construction, covering, support, etc		
		414.20	Canopies	Area on plan	m <sup>2</sup>	Comprises foundations, construction, covering, support, etc		

CODE	SECTION AND ELEMENT	CODE	COMPONENT	MEASUREMENT REQUIRED FOR ELEMENT OR COMPONENT	QTY UNIT	COMPOSITION OF ELEMENT OR COMPONENT	TAKING OFF/ PRICING NOTES	ANALYSIS
415	Minor construction work	415.10	Minor construction work	Area on plan of all minor construction work Area on plan	m <sup>2</sup> m <sup>2</sup>	Comprises construction work such as gate houses, switchgear rooms, shelters, etc Comprises all elements	Measure different structures separately	
416	Pools, etc.	416.10	Swimming pools, etc	Number of pools Number	no no	Comprises pool, surrounds, shelters, change rooms, filtration plant, power connections, etc Comprises pool, surrounds, filtration plant, power connections, etc	Measure swimming, reflection, etc pools separately State size and depth range	
		416.20	Change rooms, etc	Area on plan	m <sup>2</sup>	Comprises change rooms, shelters, etc complete	Measure in detail if information is available	
417	Sports facilities	417.10	Sports facilities	Number of sports facilities Number	no no	Comprises tennis courts, bowling greens, putting greens, etc and change rooms, shelters, etc Comprises tennis courts, bowling greens, putting greens, etc	Measure each facility separately	
		417.20	Change rooms, etc	Area on plan	m <sup>2</sup>	Comprises change rooms, shelters, etc	Measure in detail if information is available	
418	Garden works	418.10	Garden works	Area on plan of garden work Area on plan of garden works	m <sup>2</sup> m <sup>2</sup>	Comprises top dressing, rockeries, grassing and planting, stone pitching and general landscaping Comprises top dressing, rockeries, grassing and planting, stone pitching and general landscaping	Measure soft and hard landscaping separately	
		418.20	Irrigation	Area on plan under irrigation	m <sup>2</sup>	Comprises piping, sprinkle heads and programming facilities		



CODE	SECTION AND ELEMENT	CODE	COMPONENT	MEASUREMENT REQUIRED FOR ELEMENT OR COMPONENT	QTY UNIT	COMPOSITION OF ELEMENT OR COMPONENT	TAKING OFF/ PRICING NOTES	ANALYSIS
419	Miscellaneous items			Number of miscellaneous site works		Comprises items, services, etc that cannot be included with other elements or components above		
		419.10	Miscellaneous external work and services	Number	no	Comprises items, services, etc that cannot be included with other elements or components above		
5	TRAINING			Construction area	m <sup>2</sup>	Comprises the whole of the training bill		
500	Training	500.10	Additional preliminaries		Item	Comprises additional competent instructional, supervising administrative personnel to carry out the training programme in a meaningful way, additional toilets, safety and first aid equipment, computers, offices, clock card and ID card systems, etc	Express as percentage of net estimate total excluding Preliminaries and Contingencies	
		500.20	Institutional training		Item	Comprises the relevant training skills obtained from approved training centres accredited by the applicable Industries Training Boards		
		500.30	Training skills and trade tests		Item	Comprises the relevant training skills obtained from approved training centres accredited by the applicable Industries Training Boards		
		500.40	Practical Training		Item	Comprises practical training on site for the time period(s) when trainees are not engaged in institutional training or doing tests but are actively being trained on site		

CODE	SECTION AND ELEMENT	CODE	COMPONENT	MEASUREMENT REQUIRED FOR ELEMENT OR COMPONENT	QTY UNIT	COMPOSITION OF ELEMENT OR COMPONENT	TAKING OFF/ PRICING NOTES	ANALYSIS
6 600	<b>PRELIMINARIES</b> Preliminaries			Construction area	m <sup>2</sup>	Comprises the whole of the preliminaries bill	Express as percentage of net estimate total excluding Preliminaries and Contingencies	
		600.05	Salaries and wages		Item	Comprises salaries and wages (including out-of-town bonuses) of personnel (including vehicle allowances where applicable). Examples of personnel: Project manager, Site agent, Engineer, Planner, Contract Surveyor, General and other foreman, Cost clerk, Timekeeper, Checker, Tea maker, Messenger, Cleaner, Storeman, Driver, Charge hands, Watchman	Assess numbers of each type of employee required, number of days/weeks/months needed and estimate percentage of time allocated to this project. Include cost of car benefit where applicable	
		600.10	Setting out		Item	Comprises materials for setting out, surveying equipment and Land Surveyor's fees	Exclude labour for setting out (include under hours for charge hands in 600.05 above)	
		600.15	Hoarding and gantries		Item	Comprises hoardings, readyfence, gates, temporary footpaths, road, pavement and adjacent property rentals, deposits, temporary roads/hardstanding, loss of parking fees		
		600.20	Signboards		Item	Comprises signboards for: Owner/consultants, main contractor, sub-contractors, no parking, safety		
		600.25	Offices		Item	Comprises rental of offices for: Clerk of works, Foreman, Contract surveyors, Timekeeper, Clerks, Site meetings	Include labour costs of erecting and dismantling if not done by charge hands (refer to 600.05)	
		600.30	Office furniture and equipment		Item	Comprises tables, chairs, filing cabinets, drawing boards, lockers, photocopiers		
		600.35	Consumables		Item	Comprises stationery, refreshments, cleaning materials, etc		

CODE	SECTION AND ELEMENT	CODE	COMPONENT	MEASUREMENT REQUIRED FOR ELEMENT OR COMPONENT	QTY UNIT	COMPOSITION OF ELEMENT OR COMPONENT	TAKING OFF/ PRICING NOTES	ANALYSIS
	<b>Preliminaries</b> (continued)	600.40	Sheds		Item	Comprises sheds for: cement; tools; general store; watchman's cubicles	Include labour costs of erecting and striking if not done by charge hands (refer to 600.05)	
		600.45	Toilets		Item	Comprises hire and servicing of temporary toilets		
		600.50	Major plant		Item	Comprises items of major plant such as: cranes; concrete/mortar mixers and batching equipment; dumpers; loadalls; tractors; hoists; conveyors	Assess number of each type required, duration of need and hire rates per period	
		600.55	Equipment		Item	Comprises items of minor equipment such as: compactors; compressors; cutting torches; grinders; Kango-hammers; hand drills; masonry saws; rollers; saw benches; skillsaws; vibrators; pumps; welding plant, etc	Assess number of each type required, duration of need and hire rates per period	
		600.60	Gear and loose tools		Item	Comprises small tools; blades; bits; wheelbarrows; and consumables		
		600.65	Temporary services		Item	Comprises temporary water connection, hoses and water consumption; temporary electrical connection, generators and consumption; temporary Telkom connections; telephones, cellular phones, fax machines; radios, etc		
		600.70	Scaffolding		Item	Comprises steel scaffolding; builders trestles; scaffold boards; ladders; platforms	Assess number of each type required duration of need and hire rates per period	
		600.75	Vehicles/transport		Item	Comprises general transport and labour transport (trucks, busses, etc)	General transport includes transport of formwork and other equipment, travelling allowances, air transport and accommodation costs. Exclude cars and bakkies included with personnel in 600.05	
		600.80	Safety measures and equipment		Item	Comprises screens and fans; rails and barricades; protection of adjacent properties; protective clothing; first aid		

CODE	SECTION AND ELEMENT	CODE	COMPONENT	MEASUREMENT REQUIRED FOR ELEMENT OR COMPONENT	QTY UNIT	COMPOSITION OF ELEMENT OR COMPONENT	TAKING OFF/ PRICING NOTES	ANALYSIS
	<b>Preliminaries</b> (continued)	600.85	Cleaning		Item	Comprises general cleaning; cleaning on completion; rubbish and rubble removal; rubbish chutes		
		600.90	Insurances, etc		Item	Comprises the following insurances: all risks; public liability; lateral support; cash in transit. Also include latent defects funds; RSC levies; photographs		
		600.95	Other costs		Item	Comprises miscellaneous costs that cannot be included with other components above		
<b>7</b>	<b>CONTRACTOR'S FEE</b> Contractor's fee							
700			Contractors fee	Construction area	m <sup>2</sup>	Comprises the whole of the construction profit and attendance if not spread pro-rata over all elements	State if the rates priced net or gross including contractors fee	
		700.10		Construction area	m <sup>2</sup>	Comprises the whole of the construction profit and attendance if not spread pro-rata over all elements	Express as a percentage of the construction cost excluding contingency allowances	
<b>8</b>	<b>CONTINGENCY ALLOWANCES</b> Price and detail development							
800			Price and detail development	Construction area	m <sup>2</sup>	Comprises amounts allowed for covering lack of detail at estimate stage	Express as a percentage of the construction cost	
		800.10		Construction area	m <sup>2</sup>	Comprises amounts allowed for covering lack of detail at estimate stage	Express as a percentage of the construction cost	
<b>801</b>	<b>Building contract contingencies</b>							
			801.10	Building contract contingencies	Construction area	m <sup>2</sup>	Comprises amounts allowed for unforeseen expenditure. Comprises amounts allowed for unforeseen expenditure	Express as a percentage of the construction cost

CODE	SECTION AND ELEMENT	CODE	COMPONENT	MEASUREMENT REQUIRED FOR ELEMENT OR COMPONENT	QTY UNIT	COMPOSITION OF ELEMENT OR COMPONENT	TAKING OFF/ PRICING NOTES	ANALYSIS
9 900	<b>FLUCTUATION</b> Pre-tender fluctuation	900.10	Pre-tender fluctuation	Construction area	m <sup>2</sup>	Comprises amounts allowed for fluctuation from date of estimate to contract tender date	State method of calculation and source of fluctuation prediction information	
901	<b>Contract fluctuation</b>	901.10	Contract fluctuation	Construction area	m <sup>2</sup>	Comprises amounts allowed for fluctuation from contract tender date to contract completion date	State method of calculation and source of fluctuation prediction information	
10 1000	<b>TAX</b> Value added tax	1000.10	Value added tax	Construction area	m <sup>2</sup>	Comprises amounts allowed for value added tax (VAT) and/or sales tax	State current percentage applicable	
1001	<b>Sales tax</b>	1001.10	Sales tax	Construction area	m <sup>2</sup>	Comprises amounts for sale tax, if readily separately identifiable	State current percentage applicable	

**EXAMPLES**

## EXAMPLE A

### TYPICAL EXAMPLE OF THE LAYOUT OF AN ELEMENTAL ESTIMATE

#### ELEMENT 104: EXTERNAL FACADE

Element	Component	Description	Details of Element and Component				Element Rate R*	Cost %
			Unit	Quantity	Cost per unit R*	Cost R*		
104 External facade			m <sup>2</sup>	111	174,68	19 390,00	220,34	15,00
	104.10 Brick and block walls	230 mm Brick wall	m <sup>2</sup>	94	130,00	12 220,00		
	104.50 External finishes	External cement plaster and PVA paint to walls	m <sup>2</sup>	83	50,00	4 150,00		
		Facing bricks	m <sup>2</sup>	11	60,00	660,00		
	104.60 Windows	Residential type windows	m <sup>2</sup>	4	340,00	1 360,00		
	104.80 Doors	FLB door size 813 x 2032 mm	No	1	1 000,00	1 000,00		

**Notes:** Construction area = 88 m<sup>2</sup>; Elemental area = 111 m<sup>2</sup>.  
Details included in descriptions will depend upon the extent of information available.

\*Or other denomination

## EXAMPLE B

### TYPICAL EXAMPLE OF AN ELEMENTAL ESTIMATE SUMMARY

#### ESTIMATE OF ESCALATED CONSTRUCTION COST AT CONTRACT COMPLETION DATE INCLUDING VALUE ADDED TAX (16/6/98)

##### SUMMARY OF CONSTRUCTION COST

	Construction Cost R*	Rate per m <sup>2</sup> R*	% of construction cost %
Primary elements	2 781 900	1 028,81	61,48
Special installations	450 050	166,44	9,95
Alterations	-	-	-
External works and services	715 030	264,43	15,80
Training	-	-	-
Preliminaries	278 020	102,82	6,14
Contractor's fee (spread over all elements)	-	-	-
Contingency allowances	300 000	110,95	6,63
<b>ESTIMATE OF CURRENT CONSTRUCTION COST (EXCLUDING VAT)** (1/04/97)</b>	<b>4 525 000</b>	<b>1 673,45</b>	<b>100,00</b>
Pre-tender fluctuation	141 700	52,40	3,13
Contract fluctuation	351 100	129,84	7,76
Value added tax (VAT)**	702 500	259,80	15,52
<b>ESTIMATE OF ESCALATED CONSTRUCTION COST AT CONTRACT COMPLETION DATE INCLUDING VALUE ADDED TAX** (16/06/99)</b>	<b>5 720 300</b>	<b>2 115,50</b>	<b>126,42</b>

\*Or other denomination

**CONSTRUCTION AREA:** 2 704 m<sup>2</sup>

**PROGRAMME ASSUMPTIONS:** Date of estimate : 1 April 1997  
Contract tender date : 16 June 1997  
Contract completion date : 16 June 1999

**FLUCTUATION:** Pre-tender contract fluctuation : Based on latest published tender price index  
Date of estimate index : 1092,5  
Contract tender date index : 1126,7  
Contract fluctuation : Based on latest published building cost index (fluctuation during building period) adjusted for cash flow and fixed portion  
Contract tender date index : 158,4  
Contract completion date index : 183,6

**VALUE ADDED TAX (VAT)\*\*:** Value added tax calculated at 14,00%

#### EXCLUSIONS

This estimate of construction cost is based on ruling competitive tender market conditions and excludes the following:  
Abnormal foundations    Security system    Loose furniture and fittings    Fencing and gates    Professional fees

#### USER NOTE:

Other items comprising the total capital investment for the project should be reflected elsewhere eg:

Property costs	Promotional costs	Financing costs	Funding costs
Local authority costs	Sundry costs	Professional fees	Tenancing costs

\*Or other denomination

\*\*Adjust if sales tax is applicable



## EXAMPLE B – continued

ELEMENTAL ESTIMATE OF CONSTRUCTION COST							
Code	Description	Cost R*	Quantity	Unit	Cost per unit R*	Cost per m <sup>2</sup> R*	Cost %
1	<b>PRIMARY ELEMENTS</b>	2 781 900	2 704	m <sup>2</sup>	1 028,81	1 028,81	61,48%
100	Foundations	92 380	2 624	m <sup>2</sup>	35,21	34,16	2,04%
101	Ground floor construction	148 120	2 624	m <sup>2</sup>	56,45	54,78	3,27%
102	Structural frame	–	–	m <sup>2</sup>			
103	Independent structural components	97 020	2 704	m <sup>2</sup>	35,88	35,88	2,14%
104	External facade	673 900	1 232	m <sup>2</sup>	547,00	249,22	14,89%
105	Roofs	530 930	2 580	m <sup>2</sup>	205,79	196,35	11,73%
106	Internal divisions	137 770	901	m <sup>2</sup>	152,91	50,95	3,04%
107	Partitions	12 780	48	m <sup>2</sup>	266,25	4,73	0,28%
108	Floor finishes	137 210	2 624	m <sup>2</sup>	52,29	50,74	3,03%
109	Internal wall finishes	126 680	2 453	m <sup>2</sup>	51,64	46,85	2,80%
110	Ceilings and soffits	172 120	2 624	m <sup>2</sup>	65,59	63,65	3,80%
111	Fittings	18 900	2 624	m <sup>2</sup>	7,20	6,99	0,42%
112	Electrical installation	541 440	2 624	m <sup>2</sup>	206,34	200,24	11,97%
113	Internal plumbing	82 000	26	no	3 153,85	30,33	1,81%
114	Fire services	10 650	17	no	626,47	3,94	0,24%
115	Balustrading, etc	–	–	m			
116	Miscellaneous items	–	–	m <sup>2</sup>			
2	<b>SPECIALIST INSTALLATIONS</b>	450 050	2 704	m <sup>2</sup>	166,44	166,44	9,95%
200	Piling	–	–	m <sup>2</sup>			
201	Sun control screens, grilles, etc	–	–	m <sup>2</sup>			
202	Raised access floors	–	–	m <sup>2</sup>			
203	Special fire prevention	–	–	m <sup>2</sup>			
204	Lifts	–	–	no			
205	Escalators	–	–	no			
206	Air conditioning	264 000	800	m <sup>2</sup>	330,00	97,63	5,83%
207	Ventilation	143 050	1 774	m <sup>2</sup>	80,64	52,90	3,16%
208	Heating	–	–	m <sup>2</sup>			
209	Special electrical installations	–	–	m <sup>2</sup>			
210	Other services	13 000	2 704	m <sup>2</sup>	4,81	4,81	0,29%
211	Compactors	–	–	no			
212	Access control	–	–	no			
213	Gondolas and cleaners' rails	–	–	no			
214	Stoves	–	–	no			
215	Kitchen equipment	–	–	m <sup>2</sup>			
216	Specialised equipment	–	–	m <sup>2</sup>			
217	Security systems	–	–	m <sup>2</sup>			
218	Communication systems	–	–	m <sup>2</sup>			
219	Prefabricated cold rooms	–	–	no			
220	Signage	30 000	2 704	m <sup>2</sup>	11,09	11,09	0,66%
221	Artworks	–	–	no			
222	Miscellaneous items	–	–	m <sup>2</sup>			

\*Or other denomination

## EXAMPLE B – continued

ELEMENTAL ESTIMATE OF CONSTRUCTION COST							
Code	Description	Cost R*	Quantity	Unit	Cost per Unit R*	Cost per m <sup>2</sup> R*	Cost %
3	<b>ALTERATIONS</b>	-	-	m <sup>2</sup>	-	-	-
4	<b>EXTERNAL WORKS AND SERVICES</b>	715 030	2 704	m <sup>2</sup>	264,43	264,43	15,80%
400	Soil drainage	20 750	273	m	76,01	7,67	0,46%
401	Sub-surface water drainage	-	-	m			
402	Stormwater drainage	18 680	295	m	63,32	6,91	0,41%
403	Water supplies	16 380	273	m	60,00	6,06	0,36%
404	Fire service	16 380	273	m	60,00	6,06	0,36%
405	External electrical installations	25 000	1	m	25 000,00	9,25	0,55%
406	Connection fees, etc	20 000	4	no	5 000,00	7,40	0,44%
407	Demolitions	72 000	1	no	72 000,00	26,63	1,59%
408	Site clearance	2 470	4 930	m <sup>2</sup>	0,50	0,91	0,05%
409	Earthworks	137 410	1 808	m <sup>3</sup>	76,00	50,82	3,04%
410	Boundary, screen and retaining walls, etc.	34 080	122	m <sup>2</sup>	279,34	12,60	0,75%
411	Fencing and gates	-	-	m			
412	Roads, paving, etc	244 080	5 072	m <sup>2</sup>	48,12	90,27	5,39%
413	Covered parking, walkways, etc	-	-	m <sup>2</sup>			
414	Pergolas, canopies, etc	11 400	30	m <sup>2</sup>	380,00	4,22	0,25%
415	Minor construction work	-	-	m <sup>2</sup>			
416	Pools, etc	-	-	no			
417	Sports facilities	-	-	no			
418	Garden works	50 000	1 430	m <sup>2</sup>	34,97	18,49	1,10%
419	Miscellaneous items	46 400	80	no	580,00	17,16	1,03%
5	<b>TRAINING</b>	-	-	m <sup>2</sup>	-	-	-
6	<b>PRELIMINARIES</b>	278 020	2 704	m <sup>2</sup>	102,82	102,82	6,14%
7	<b>CONTRACTOR'S FEE</b>	-	-	m <sup>2</sup>	-	-	-
8	<b>CONTINGENCY ALLOWANCES</b>	300 000	2 704	m <sup>2</sup>	110,95	110,95	6,63%
800	Price and detail development	150 000	2 704	m <sup>2</sup>	55,47	55,47	3,31%
801	Building contract contingencies	150 000	2 704	m <sup>2</sup>	55,47	55,47	3,31%
<b>ESTIMATE OF CURRENT CONSTRUCTION (EXCLUDING VAT** (01/04/97))</b>		4 525 000	2 704	m <sup>2</sup>	1 673,45	1 673,45	100,00%
9	<b>FLUCTUATION</b>	492 800	2 704	m <sup>2</sup>	182,25	182,25	10,89%
900	Pre-tender fluctuation	141 700	2 704	m <sup>2</sup>	52,40	52,40	3,13%
901	Contract fluctuation	351 100	2 704	m <sup>2</sup>	129,84	129,84	7,76%
10	<b>VALUE ADDED TAX (VAT)**</b>	702 500	2 704	m <sup>2</sup>	259,80	259,80	15,52%
<b>ESTIMATE OF ESCALATED CONSTRUCTION COST AT CONTRACT COMPLETION DATE INCLUDING VALUE ADDED TAX** (16/06/99)</b>		5 720 300	2 704	m <sup>2</sup>	2 115,50	2 115,50	126,42%

**Note:** Contractor's fee spread over all elements

\*Or other denomination

\*\*Adjust if sales tax is applicable



