

11 In-situ concrete works

In-situ concrete
 Surface finishes to in-situ concrete
 Formwork
 Reinforcement
 Designed joints in in-situ concrete
 Accessories cast in to in-situ concrete
 In-situ concrete sundries

<p>Drawings that must accompany this section of measurement.</p>	<p>1 General arrangement drawings.</p>	<p>Mandatory information to be provided.</p>	<p>1 Kind, quality and size of materials. 2 Details of tests of materials. 3 Details of tests of finished work. 4 Limitations on method, sequence, speed or size of pouring. 5 Method of compaction. 6 Method of curing. 7 Details of watertightness.</p>	<p>Notes, comments and glossary</p> <p>1 Work in substructures, superstructures or external works to be stated in headings or descriptions. 2 Watertight work shall be so described.</p>
<p>Minimum information that must be shown on the drawings that accompany this section of measurement.</p>	<p>1 Relative position of all members. 2 The size of members. 3 The thickness of slabs. 4 The permissible loads in relation to casting times.</p>	<p>Works and materials deemed included.</p>	<p>1 Concrete volume is measured net. 2 No allowance in volume to be made for deflection of formwork. 3 Deductions are not made for reinforcement, steel sections, cast-in accessories, voids $\leq 0.05\text{m}^3$ except voids in troughed and coffered slabs. 4 Concrete is deemed cast into formwork unless otherwise described. 5 Concrete is deemed finished as struck from basic finish formwork. 6 All top surfaces and soffits are deemed to finish horizontal unless otherwise stated. 7 All top surfaces are deemed finished tamped.</p>	<p>1 This applies to concrete laid on ribbed metal decking as well as other types of formwork.</p>

Item or work to be measured	Unit	Level one	Level two	Level three	Notes, comments and glossary
Plain in-situ concrete Reinforced in-situ concrete Fibre reinforced in-situ concrete Sprayed in-situ concrete					
1 Mass concrete	m ³	1 Any thickness.	1 In filling voids. 2 In trench filling. 3 In any other situation: details stated.	1 Poured on or against earth or unblinded hardcore.	1 Mass concrete is any unreinforced bulk concrete not measured elsewhere. 2 The volumes of each type of mass concrete work may be aggregated or given separately.
2 Horizontal work	m ³	1 ≤ 300 thick. 2 > 300 thick.	1 In blinding. 2 In structures.	1 Poured on or against earth or unblinded hardcore. 2 Reinforced > 5%.	1 Horizontal work includes blinding, beds, foundations, pile caps, column bases, ground beams, slabs, coffered and troughed slabs, landings, beams, attached beams, beam casings, shear heads, upstands whose height is ≤ than three times their width, kerbs, copings. 2 The volumes of each type of horizontal work may be aggregated or given separately. 3 Work laid in bays shall be so described giving average area of bays.
3 Sloping work ≤ 15° 4 Sloping work > 15°	m ³	1 ≤ 300 thick. 2 > 300 thick.	1 In blinding. 2 In structures. 3 In staircases.	1 Poured on or against earth or unblinded hardcore. 2 Reinforced > 5%.	1 Sloping work includes blinding, beds, slabs, steps and staircases, kerbs, copings. 2 Includes any attached beams, upstands, shear heads or similar. 3 The volumes of each type of sloping work may be aggregated or given separately. 4 Work laid in bays shall be so described giving average area of bays.

Item or work to be measured	Unit	Level one	Level two	Level three	Notes, comments and glossary
5 Vertical work	m ³	1 ≤ 300 thick. 2 > 300 thick.	1 In structures.	2 Reinforced > 5%.	1 Vertical work includes columns, attached columns, column casings, walls, retaining walls, filling to hollow walls, parapets or upstand beams where height is greater than three times the width. 2 The volumes of each type of vertical work may be aggregated or given separately.
6 Sundry in-situ concrete work	m m ³	1 Work ≤ 300 wide or thick. 2 Work > 300 wide or thick.	1 Horizontal. 2 Sloping. 3 Vertical.	4 Reinforced > 5%.	1 Includes work such as backsills, machine and plant bases and the like.
7 Sprayed in-situ concrete	m ²	1 Thickness stated.	1 Slabs.	1 Tops. 2 Soffits. 3 Curved.	1 The method of application and finish to be stated in the description.
			2 Walls. 3 Beams. 4 Columns.	1 Curved.	
Surface finishes to in-situ concrete					
8 Trowelling 9 Power floating 10 Hacking 11 Grinding 12 Any other surface treatment not left to discretion of the contractor	m ²	1 To top surfaces. 2 To faces. 3 To soffits.	1 Sloping. 2 Falls. 3 Crossfalls.	1 Application of surface hardeners, sealers, dust proofers, waterproofers, carborundum grains or the like shall be so described.	

Item or work to be measured	Unit	Level one	Level two	Level three	Notes, comments and glossary
Formwork		1 Plain formwork. 2 Special finish formwork.			1 Plain finish shall be left to discretion of the contractor. 2 Special finishes shall be described. 3 Curved work shall be described stating the radii. 4 Permanent formwork or formwork left in shall be so described. 5 Void formers shall be so described. 6 No deductions shall be made for voids $\leq 5.00\text{m}^2$ 7 All kickers except to walls shall be deemed included. 8 Top formwork is measured for sloping surfaces that are $> 15^\circ$ or where otherwise specifically required. 9 All square, raking and curved cutting deemed included. 10 All holes, boxings, recesses, rebates, chamfers, nibs, channels and the like are deemed included.
13 Sides of foundations and bases 14 Edges of horizontal work	m m ²	1 ≤ 500 high: width stated. 2 > 500 high.			
15 Soffits of horizontal work 16 Soffits of troughed or waffled horizontal work, details described	m ²	1 For concrete ≤ 300 thick. 2 For concrete 300 to 450 thick. 3 For concrete > 450 thick.	1 Propping $\leq 3\text{m}$ high. 2 Propping over 3m but not exceeding 4.5m high. 3 And thereafter in 1.5m stages.		1 Includes suspended slabs and stair landings. 2 Through propping to be described if not left to discretion of contractor.
17 Sides and soffits of isolated beams 18 Sides and soffits of attached beams 19 Sides of upstand beams 20 Sides of isolated columns, nr stated 21 Sides of attached columns	m ²	1 Regular: shape stated. 2 Irregular shaped, dimensioned description or diagram.			1 Shape is deemed regular unless described as otherwise. 2 Irregular shape is any shape other than square or rectangular. 3 Includes concrete casings to steel beams and columns.

Item or work to be measured	Unit	Level one	Level two	Level three	Notes, comments and glossary
22 Faces of walls and other vertical work	m ²	1 Vertical. 2 Battered one face. 3 Battered both faces.	1 Rate of batter to be stated.		1 Work to single sides shall be so described.
23 Extra over	nr	1 Openings for doors or the like: thickness of wall stated.	1 ≤ 5.00m ² . 2 5.00m ² to 10.00m ² . 3 > 10.00m ² .		1 All additional labour and material needed to form the opening is deemed included.
24 Wall ends, soffits and steps in walls	m m ²	1 ≤ 500 wide, width stated. 2 > 500 wide.			1 Excludes ends and soffits of walls created by the formation of an opening. These are deemed included in the item for forming the opening.
25 Soffits of sloping work	m ²	1 Sloping one way. 2 Sloping two ways.			1 This includes work to soffits of slabs, ramps, steps, staircases and the like.
26 Staircase strings and the like	m	1 Maximum width stated.			
27 Staircase risers and the like	m	1 Vertical: width stated. 2 Undercut: width stated.			
28 Sloping top surfaces	m ²	1 ≤ 15°. 2 > 15°.			
29 Steps in top surfaces 30 Steps in soffits	m	1 ≤ 500 high: width stated. 2 > 500 high.			
31 Complex shapes	nr	1 Dimensioned description or diagram.	1 Propping ≤ 3m high. 2 Propping over 3m but not exceeding 4.5m high. 3 And thereafter in 1.5m stages.		
32 Wall kickers	m	1 Plain. 2 Suspended.			1 Length is measured along centre line and is deemed to include both sides.

Item or work to be measured	Unit	Level one	Level two	Level three	Notes, comments and glossary
Reinforcement					
33 Mild steel bars 34 High yield steel bars	t	1 Nominal size stated.	1 Straight. 2 Bent. 3 Curved. 4 Links.	1 Bars exceeding 12m long: length stated. 2 Deformed. 3 Bending restrictions	1 Forming hooks, tying wire, spacers, cutting, and bending is deemed included. 2 Chairs and connectors are deemed included unless not at discretion of contractor.
35 Accessories not at the discretion of the contractor	nr	1 Nominal size stated.	1 Chairs or stools. 2 Connectors.		
36 Pre/Post-tensioned members	nr	1 Dimensioned description. 2 Nominal size stated. 3 Method of tensioning stated.	1 Composite construction described.	1 Sleeves, tendons, fittings and grouting described.	1 Post-tensioning is measured by the number of tendons in identical members.
37 Mesh	m ²	1 Weight per m ² stated. 2 Fabric reference stated 3 Minimum laps stated.	1 Bent. 2 Strips in one width, width stated.		1 Laps, tying wires, all cutting, bending, spacers, stools, chairs and other supports deemed included. 2 Voids ≤ 1.00m ² in area not deducted. 3 Bent fabric is deemed to include fabric that is wrapped around steel members.

Item or work to be measured	Unit	Level one	Level two	Level three	Notes, comments and glossary
Designed joints in in-situ concrete					1 Joints located at the discretion of the contractor are not measured. 2 Details of primers, cleaners, fillers, waterstops, backing strips, reinforcement, ties, sealants, the method of application, preparation and the like shall be stated in the description.
38 Plain 39 Formed 40 Cut	m	1 Dimensioned description. 2 total depth stated.	1 Horizontal. 2 Vertical. 3 Curved, radius stated.		1 Plain joints are those that do not require formwork. 2 Formed joints are deemed to include formwork. 3 All preparation, cleaners, primers and sealers are deemed included. 4 All angles, ends, intersections are deemed included whether they are formed, welded or purpose made.
Accessories cast into in-situ concrete					1 Kind, quality of materials and size or manufacturers reference shall be stated.
41 Type or proprietary reference stated	m ² ----- m ----- nr	1 Dimensioned description.	1 If linear or superficial quantities are used the description must include any appropriate spacing dimensions.		1 Cast-in accessories include anchor bolts, anchor boxes, fixing bolts, dowels, column guards, isolated glass blocks and any other ancillary item that is specified to be cast in as the concrete work proceeds. 2 Cast-in accessories exclude reinforcement, tying wire, distance blocks, spacers, chairs, structural steel members, hollow blocks, filler blocks, void formers, permanent formwork, joints, all components around which concrete is cast but which are not fixed in position by the contractor.

Item or work to be measured	Unit	Level one	Level two	Level three	Notes, comments and glossary
In-situ concrete sundries					
42 Grouting	nr	1 Dimensioned description.	1 Stanchion bases. 2 Grillages.		1 Formwork or other temporary means of support to exposed edges and the like is deemed included.
43 Filling mortices or holes	nr				
44 Filling chases	m				