

CHAPTER 9 - BRICK MASONRY

Notes

1. Rates include: -
 - (a) Lead up to 100 m for all materials for all Items.
 - (b) Cost of all materials including water.
 - (c) All lifts for all items unless otherwise specified.
 - (d) Cost of mixing cement mortar.
 - (e) Cost of curing.
2. The rates for brick masonry in superstructure include the cost of scaffolding.
3. Work In foundation and plinth.- For purpose of measurement of masonry work in foundations and plinths it shall be determined as follows:-
 - (a) For building-Masonry work below ground floor level or 1.2 m above average ground level, whichever is lower.
 - (b) For abutment ,piers and retaining walls of culverts,bridges,walls of reservoirs, septic tanks, basement and other similar works- upto 1.5 m above top of foundation concrete.
2. Work In superstructure: - (a) For all works above the level specified In 3(a) and 3(b) above.
 - (b) For compound wall, parapet wall over retaining wall-Entire works above the average ground level.
5. Standard modular brick of size 19 cm x 9 cm x 9 cm shall be used.
6. Classification of brick masonry: - (a) The common burnt clay brick shall be classified on the basis of minimum average compressive strength. Each class of bricks shall be further divided in to two classes, first class and second class, based on tolerance and shape.
 - (b) The various types of bricks when tested in accordance with I.S. 3495 (Part I) - 1976 shall have minimum average compressive strength as follows:
 - (i)First class table moulded(TM) Chimney Kiln burnt brick/Grog or Ghol bricks 50kg/sq cm
 - (ii)Second class TM Chimney Kiln burnt brick 35kg/sq.cm
 - (iii)Second class TM. Open bhatta or pajwa burnt brick 30kg/sq cm
 - (iv)Kumbhar bricks burnt in Pajwa 20kg/sq cm.
 - (c) Tolerance - The dimensions of bricks when tested in accordance with IS-1077-1976 shall be within the following limits per 20 bricks-

(i) For bricks of class Designation 50 and 35 kg / sq cm

Length 372 to 388 cm (380 ± 8 cm)

Width & height 176 to 184 cm (180 ± 4 cm)

(ii) For bricks of class Designation 30 kg / sq cm

Length 368 to 392 cm (380 ± 12 cm)

Width & height 174 to 186 cm (180 ± 6 cm)

(iii) For bricks of class Designation 20 kg / sq cm

Length 350 to 410 cm (380 ± 30 cm)

Width & height 165 to 195 cm (180 ± 15 cm)

7. Measurements- (i) Dimensions shall be measured correct to the nearest cm. The area shall be calculated in Sq. m correct to two places of decimal and cubical contents in cum correct to two places of decimal.

(ii) The brick walls up to three bricks in thickness shall be measured in multiples of half-brick, which shall be deemed to be inclusive of mortar, viz.

½ brick wall 10 cm

1 brick wall 20 cm

1½ brick wall 30 cm

2 brick wall 40 cm

and so on Irrespective of excess of executed width. However width or thickness in no case be less than specified above.

(iii) Where fractions of half brick occur due to architectural or other reasons, measurements shall be taken as follows:

(a) Up to 1¼ brick-actual measurements.

(b) Exceeding 1¼ brick-full half-brick.

(iv) For walling which is more than 3 bricks in thickness, actual thickness of wall shall be measured

(v) The full area of honey comb brick wall shall be measured without deductions for openings

(vi) No deductions or additions shall be made on any account for the following:-

(a) Ends of dissimilar materials (that is, joists, beams, lintels, posts, girders, rafters, pulins, trusses, corbels, steps etc.), up to 0.1 Sq. m in section.

(b) Openings up to 0.1 Sq. m in area (in calculating area of an opening, any separate lintels or sills shall be Included with the size of

opening but end portions of lintel shall be excluded and extra width of rebated reveals, if any, shall also be excluded).

(c) Wall plates, bed plates and bearing of slabs, chazzas and the like, where thickness does not exceed 10 cm and bearing does not extend over the full thickness of wall.

(d) Cement concrete blocks for hold fasts and holding down bolts.

(e) Iron fixtures ,such as wall ties , pipes upto 300 mm dia and hold fast for doors and windows.

(f) Chases of sections not exceeding 50 cm in girth.

8. Rectangular pillar / column shall mean a detached masonry portion such that its breadth does not exceed three times its thickness and thickness itself does not exceed three brick lengths.

9. The following Indian standards may be referred to: -

I.S. No.	Title
1077-1992	Specifications for common burnt clay building bricks (third revision). (Reaffirmed 2002)
1905-1987	Code of practice for structural safety of buildings, Masonry walls (first revision).
2212-1991	Code of practice for brick work(with amendment No. 1)
3102-1971	Classification of burnt clay solid bricks (second revision).
3414-1968	Code of practice for design & installation of joints in buildings.
3495-1992	Methods of tests of burnt clay building bricks.
5454-1978	Methods for sampling of clay building bricks. (Reaffirmed 2006)

10. The bricks specified under Item 905 of this chapter shall not be used without written prior permission of the Superintending Engineer/Chief Engineer.

Item No.	Item	Unit	Rate	Remark
901	Second class T M. open bhatta or pajawa burnt brick masonry in superstructure in-			
	(a) Cement mortar 1:2	cum	2225.00	
	(b) Cement mortar 1:3	cum	1936.00	
	(c) Cement mortar 1:4	cum	1799.00	
	(d) Cement mortar 1:5	cum	1715.00	
	(e) Cement mortar 1:6	cum	1649.00	

Item No.	Item	Unit	Rate	Remark
	(f) Cement mortar 1:8	cum	1583.00	
902	(a) Add for arch masonry in item 901 for span up to 6 m excluding centering.	cum	95.00	
	(b) Centering for arch masonry in item 901 for span up to 6 m.	cum	318.00	
903	Deduct for Kumhar brick burnt in Pajawa in items 901	cum	91.00	
904	Add for second class TM. Chimney Kiln burnt brick in items 901	cum	73.00	
905	Add for first class TM. Chimney Kiln burnt / Grog / Ghol brick in items 901.	cum	183.00	
906	Deduct for masonry in plinth and foundation.	cum	60.00	
907	(a) Labour only for item 901 including labour for scaffolding making mortar & curing.	cum	329.00	
	(b) Deduct from item 907 (a) for plinth and foundation.	cum	44.00	
908	(a) Labour only for arch masonry up to 6 m span excluding centering but including labour for making mortar and curing.	cum	423.00	
	(b) Labour only for assembling, erection, dismantling and cleaning of centering for arch up to 6 m span.	cum	154.00	
909	Extra rate for one-brick or half-brick wall.	cum	88.00	
910	Add extra for every additional floor or every additional 3-m height or part thereof for such works which have no intermediate floor.	cum	60.00	
911	Extra rate for brick masonry circular in plan. Including wells, to a mean radius not exceeding 6 m.	cum	88.00	
912	Extra rate for brick masonry in well steining for depth-			
	(a) Up to 6 m	cum	60.00	
	(b) Beyond 6 m to 12 m	cum	90.00	
	(c) Beyond 12 m to 18 m	cum	136.00	
	(d) Beyond 18 m to 24 m	cum	204.00	

Item No.	Item	Unit	Rate	Remark
	(e) Beyond 24 m to 30 m	cum	306.00	
913	Extra rate for brick masonry In square or rectangular pillars.	cum	89.00	
914	Extra rate for brick masonry in circular pillars.	cum	200.00	
915	Honey comb brick masonry with second class T M. open bhatta or Pajawa burnt bricks in-			
	(a) Cement mortar 1:3	cum	1244.00	
	(b) Cement mortar 1:4	cum	1200.00	
	(c) Cement mortar 1:5	cum	1193.00	
	(d) Cement mortar 1:6	cum	1175.00	
	(e) Cement mortar 1:8	cum	1160.00	
916	Deduct from item 915 for Kumhar brick burnt in Pajawa.	cum	65.00	
917	Add to item 915 for second-class TM. Chimney burnt / Grog / Ghol brick.	cum	53.00	
918	Add to item 915 for first class TM. Chimney burnt / Grog / Ghol brick	cum	131.00	
919	Labour only for item 915 (a) to (e) including labour for scaffolding, making mortar and curing.	cum	339.00	
920	Second class T M. open bhatta or Paiawa burnt dry brick masonry for soak pits.	cum	1044.00	
921	Deduct from item 920 for Kumhar brick burnt in Pajawa.	cum	91.00	
922	Labour only for item 920	cum	133.00	
923	Making triangular brackets for sunshade over doors and windows in cut second class TM. Chimney burnt bricks including corbelling in cement mortar 1:3.	cum	2341.00	
924	Add to item 923 for first class TM. Chimney burnt / Grog / Ghol brick.	cum	183.00	
925	Labour only for item 923 including labour for scaffolding, making mortar and curing.	cum	704.00	
926	Chamfering, rounding masonry (other than circular pillars).	Rm	26.00	
927	Cost of water for curing only and included in items 901, 915 & 923. of masonry	one cum,	56.00	

Item No.	Item	Unit	Rate	Remark
928	Labour for curing only and one cum of included in items 907 (a), 908 (a), masonry 919 & 925		63.00	