



**DALMIA CEMENT (B) LIMITED – CEMENT PLANT
ARIYALUR
CIVIL DEPARTMENT MANUAL**



Issue No. 01	Rev. No: 01	Effective Date: 07.07.2017	SOP/CIVIL/003
Issued By: M.R		Approved By: HOD – CIVIL	
SOP FOR BRICK WROK			

Materials

Bricks shall be table moulded, uniform in size and shape, must be well burnt of uniform deepened, cherry or copper colour and shall conform to IS 1077. No over-burnt or under-burnt bricks shall be used.

The bricks shall be of approved make and free from flaws, cracks, chips, stone or humps of any kind especially lime. They shall have sharp edges and angles, even surfaces and shall be sound and hard to resist compression. The bricks shall be homogeneous in texture and give a clear ringing sound when struck. The nominal size shall be 23x11.5x7.5 cm. No bricks absorb water more than 20% of its dry weight when soaked in water for 24 hours.

Where specifically agreed upon, bricks shall be of the best quality locally available. Bricks to be used shall be approved by the Engineer-in-charge. Samples of such approved bricks shall be deposited with Engineer-in-charge and all the bricks brought therein after for construction shall be as per approved samples. All the bricks should be unloaded by hand.

Mortar Preparation

Mortar to be prepared in accordance with IS 2250. It shall be of cement and sharp coarse sand in specified proportions. The cement and sand in the required proportion shall be first mixed dry thoroughly and then water added and mixed to a sufficiently thick consistency as required by the Engineer.

The mortar shall be prepared in small quantities so as to be used up within 30 minutes. No left over mortar shall be used. Mortar, which has partially set, shall not be re-tempered by mixing additional material or water.

Workmanship

All bricks required for masonry work shall be thoroughly soaked in clean water for at least 2 hours prior to use and until air bubbles cease to come out. The practice of dipping the bricks in water just before use shall not be allowed. Soaked bricks shall be kept on wooden planks or brick platform to avoid earth being smeared on them.

Brickwork shall be laid in English Bond unless otherwise specified. No brickbats shall be used for the work except where required to complete a standard bond. Each layer of brickwork shall



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be perfectly straight horizontally and transversely. It shall be taken up truly plumb and level and with correct break of joints.

Bricks shall be laid with frogs upward. While laying, bricks shall be thoroughly bedded and flushed in mortar and tapped into position with a wooden mallet and the superfluous mortar removed. No mortar joints shall exceed 15mm in thickness.

Brick work shall be uniformly raised panel-wise all round and no part shall be raised more than 1 meter above another, at any time. If this cannot be adhered to the brick work shall be racked back at an angle not more than 45° so as to maintain a uniform and effectual bond, but racking back should not start within 60 cm of a corner.

The Contractor shall provide all necessary openings for doors, windows or such other services and shall embed all fittings and fixtures (if separately paid for) at no extra cost.

Brickwork shall not be raised more than 10 course a day unless otherwise approved by the Engineer.

The joints in faces, which are to be plastered or pointed, shall be squarely racked out to a depth of 12mm while the mortar is still green. The raked joint shall be well brushed to remove the loose particles. After the work, the faces of the brick work shall be cleaned with wire brush so as to remove any splashes of mortar during the course of raising the brickwork.

The brickwork shall be kept thoroughly well watered on all faces for atleast 7 days after laying the last course.

115 mm and 230 mm brick walls shall be built fair faced on one side only. All other walls of greater thickness shall be built without exception with fair face to both sides.

Where specifically indicated 115 mm or thinner brickwork shall be executed in one of the following ways:

- a) With RCC Stiffeners: Brick work shall be carried out in panels measuring approximately 1.5 m x 1.5 m with RCC (1:2:4) verticals of 11.5cm x 11.5cm and horizontal stiffeners 11.5cm x 11.5cm, both reinforced with 4 Nos., 6 mm dia. bars laid in 1:2:4 concrete properly filled in



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- b) and cured. Such RC work shall not be measured separately but will be included in the rate for brickwork.
- c) Reinforced brickwork: Such brick work shall be in cement mortar 1:4. The joints shall be increased suitably to embed the reinforcement, which shall be laid at every fourth course, consisting of hoop iron 25 mm wide 1.5 mm thick with holes punched at every 15 cm. The joints shall be well filled in and reinforced properly surrounded with mortar and cured for not less than ten days. Care shall be taken to see that proper cover is provided to the reinforcement and the work laid continuously to ensure that no portion of the mortar attains initial set before mortar in adjoining portion is laid in position. In lieu of hoop iron, the Engineer may direct the use of mesh or MS bars as reinforcement.

Strength

Main strength of bricks if used as filler bricks shall be 35 kg/sq. cm. and 50 kg/sq. cm. if the brick wall is to be load bearing.