

SPECIFICATION SECTION 12250 - BRICK MASONRY

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SPECIFICATION SECTION 12250 - BRICK MASONRY

1. DESCRIPTION

This Specification Section prescribes materials, methods and procedures for construction of non load bearing Brick Masonry.

2. MATERIAL REQUIREMENT

2.1 Reference Standards

The most recent editions of the following Vietnamese Standards shall be applied to the Works covered by this Specification Section.

TCVN 4085-1985	Brick and Stone Structure – Instruction for Construction and Acceptance
TCVN 1451-1998	Solid Clay Bricks
TCVN 4453-1995	Concrete & Integral Steel Concrete Structure - Code of Construction and Acceptance Standard

2.2 Bricks

Unless otherwise approved by the Engineer, bricks used for masonry construction shall be locally manufactured solid clay bricks. Bricks shall be of a uniform size, shape and colour and shall be clean and free from flaws, chips and cracks. They shall have sharp, right angle edges and even surfaces.

Bricks shall conform to the requirements specified in Vietnamese Standard TCVN 1451-1998 or comparable international Standards subject to approval by the Engineer.

2.3 Mortar

Unless otherwise approved by the Engineer, the mortar used for masonry construction shall conform with the requirements of Specification Section 12100 Cement Mortar.

2.4 Reinforcing Steel

Unless otherwise approved by the Engineer, reinforcing steel used in conjunction with masonry construction shall conform with the requirements of Specification Section 07500 Reinforcing Steel.

2.5 Ties and Anchors

Metal ties and anchors shall conform with the Drawings and the requirements of Vietnamese Standard TCVN 4453-1995. If ties and anchors are not detailed on the Drawings the Contractor shall, prior to the commencement of the Works, submit a shop drawing to the Engineer for his approval of the proposed ties and anchorage details, also noting sizes and locations for all brick walls and partitions.

2.6 Submittals

2.6.1 Bricks

The Contractor shall submit to the Engineer for his approval at least six samples of the bricks intended for use on the Works. Approved samples shall be retained by the Engineer for comparison with the bricks delivered to Site for use in the Works.

2.6.2 Shop Drawings

The Contractor shall submit to the Engineer, for his approval, shop drawings for all brick masonry works indicating; laps, shapes, dimensions and details of joints, reinforcing steel and accessories.

3. CONSTRUCTION REQUIREMENTS AND PROCEDURES

3.1 Preparation

Surfaces on which masonry is to be placed shall be smooth, clean and free of foreign substances when mortar is applied.

3.2 Protection

All exposed surfaces shall be protected from mortar and other stains. When mortar joints are tooled excess mortar shall be removed from exposed surfaces with fibre brushes and wooden paddles. The base of walls shall be protected from mortar splashes by covering adjacent ground with sand, sawdust or polyethylene.

3.3 Workmanship

- a) Masonry shall be carried up, leveled and plumbed.
- b) Story poles or gauge rods shall be furnished and used throughout the work.
- c) Changes in coursing or bonding after the work is started will not be permitted.
- d) Walls shall be carried up evenly with no section in advance of others.
- e) The height of masonry at significant stages of work shall be checked to

maintain the level of the walls.

- f) Bricks shall be handled with care to avoid chipping, cracking and spalling of faces and edges.
- g) Bricks shall be cut with masonry saws for exposed work.
- h) Structural steelwork, bolts, anchors, inserts, plugs, ties and miscellaneous metalwork specified elsewhere shall be placed in position as the work progresses.
- i) Chases of approved dimensions for pipes and other purposes shall be provided where indicated and where necessary.
- j) Tops of exposed walls and partitions, not being worked on, shall be covered with a waterproof membrane secured in place and extended down at least 600 mm on both sides.
- k) Scaffolding shall be inspected regularly to ensure that it is fit for the purpose, well braced and securely tied in position.
- l) Scaffolding shall not be overloaded.

3.4 Tolerances

Masonry work shall be within the following tolerances:

Table 1. Tolerances for Masonry Work

Face of brick	±1mm from face of adjacent brick
Variation from true plane	±6mm in 3m, and 20mm in 10m
Variation from plumb	±6 mm in each story, non-cumulative and ±13mm in two stories or more
Variation from level	±3mm in 1m, 6mm in 3m maximum
Variation in wall thickness	± 6mm

3.5 Application

- a) Unless indicated or specified otherwise or required by the Engineer bricks shall be laid in stretcher bond.
- b) Bricks shall be thoroughly soaked with water before their use.
- c) Joints between bricks shall be completely filled with mortar.
- d) Bed joints shall be formed by applying a thick layer of mortar slightly furrowed or battered; the bed mortar shall be beveled or pyramid shaped.
- e) Head joints shall be formed by applying a full coat of mortar on the brick to be

laid.

- f) Closure bricks shall be laid with mortar on each bedding surface of unit to be laid and units in place.
- g) Bricks shall be placed carefully without disturbing previously laid bricks.
- h) Dry joints will not be permitted.

3.6 Bonding and Anchoring

- a) Masonry walls and partitions shall be structurally bonded or anchored to each other and to concrete walls, beams and columns.
- b) Non load bearing partitions and interior walls shall be securely anchored to the structure in a manner that provides lateral stability while permitting unrestricted deflection.
- c) Anchors shall be completely embedded in mortar joints.
- d) Intersections of non load bearing partitions with other walls or partitions shall be tied with wire mesh ties at vertical intervals of not more than 600mm or with masonry bonding in alternate courses.
- e) Masonry shall be anchored to concrete with dovetail or butterfly wire type anchors inserted in slots or inserts built into concrete at interfaces with concrete members. Anchors shall be spaced not more than 300 mm vertically and not more than 600 mm horizontally.

3.7 Cleaning of Exposed Brick Masonry

- a) Exposed brick masonry shall have a fair face finish and be free of; stains, efflorescence, mortar or grout splashes and debris. Damaged, stained, and discolored work shall be restored to original condition or replaced with a new work.
- b) Exposed masonry surfaces shall be cleaned with clear water and stiff fiber brushes and rinsed with clear water. Where stains, mortar, or other soil remain, they shall be scrubbed with warm water and detergent. Where soil still remains on brickwork, cleaning shall be continued as follows:
 - (i) Exposed surfaces of dark colored brickwork shall be thoroughly wetted with clear water and scrubbed with stiff fiber brushes and a solution of not more than 1 part of muriatic acid to 9 parts of water shall be applied to areas not exceeding 1 to 2 square meters.
 - (ii) Immediately after being cleaned each area shall be rinsed thoroughly with

clear water.

- c) The use of caustic solutions or sandblasting to clean surfaces will not be permitted.

3.8 Mortar Joints

- a) Joints shall have a uniform thickness of 10 mm unless otherwise indicated.
- b) Flush joints shall be struck; vertical joints shall be tooled first.
- c) Joints shall be brushed to remove all loose and excess mortar.
- d) Horizontal joints shall be level.
- e) Vertical joints shall be plumbed and in alignment from top to bottom of wall within a tolerance of plus or minus 10 mm in 10 m.

4. MEASUREMENT AND PAYMENT

Note: There are no pay items included in the Bill of Quantities for this Specification Section.