

# SPECIFICATION CLAUSES

FORTICRETE WCSM Customer Service Office, Dog Kennel Hill, Anston, Sheffield, S26 6NQ.  
Tel: 01909 775000 Fax: 01909 775043 Email: [walling@forticrete.com](mailto:walling@forticrete.com)

## Forticrete Walling Stone

### 295B - Section 1

### MANUFACTURED STONE BLOCKWORK – SHEARSTONE®

#### STANDARDS & CE MARKING

Forticrete Walling stone is manufactured and CE marked in accordance with BS EN 771-5 for the intended use in walls, columns and partitions. For full Declarations of Performance please see [www.forticrete-ce.com](http://www.forticrete-ce.com).

**Manufacturer:** Forticrete Limited

**Product Reference:** Refer to brochure to identify preference (Delete as appropriate):

Shearstone® Standard

Shearstone® Premier

**Configuration:** Group I

- **Form:** Homogenous

- **Voids:** None

**Compressive Strength:** Mean 20N/mm<sup>2</sup> (Normalised) perpendicular to the bed face.

- **Category:** I

**Freeze/Thaw Resistance:** as PD6697 Table 15

**Recycled Content:** None

**Work Sizes (length x width x height):**

(Delete as appropriate):

Shearstone® Standard or Premier:

\*220x100x65

\*330x100x65

220x100x102.5

330x100x102.5

\*220x100x140

\*330x100x140

\*440x100x140

\*330x100x215

\*Shearstone® Random Mix : Sizes marked \* form the basis of the Shearstone® Random Mix supplied in the following approximate ratios: 30% 65mm high, 60% 140mm high, 10% 215mm high.

**Tolerance category:** D1

**Finish:** (delete as appropriate)

Split

Cottage

**Colour:** (delete as appropriate)

Shearstone® Standard:

Blackmoor Olde Heather

Cotswold Village

Light Ham

Mid Grey

Shearstone® Premier:

Ironstone

Milbourne Olde Heather

Pentstone

**Special Shapes:** Select from current literature

# SPECIFICATION CLAUSES

## Additional requirements:

- **Gross Dry Density:** 2000Kg/m<sup>3</sup> tested to BS EN 772-13
- **Thermal Conductivity:** 1.0 W/mK( $\lambda_{10,dry,unit, S1}$ ) based on table value from BS EN 1745 p=50%
- **Dimensional Stability:** 0.41mm/m tested to BS EN 772-14
- **Water vapour permeability:** 5/15 $\mu$  based on Table A.3 BS EN 1745
- **Water absorption:** < 9g/m<sup>2</sup>.s tested to BS EN 772-11
- **Reaction to Fire:** Euroclass A1 based on Commission Decision 2000/605 EC amending 96/603 EC
- **Bond Strength:** 0.15N/mm<sup>2</sup> Shear Bond Strength (tabulated from BS EN 998-2 Annex C)

**Mortar:** As section Z21.

- **Standard:** To BS EN 998-2
- **Mix proportions:** For a specified group select a mix design from the following: (Delete as appropriate):

Designation (iii) 1:1:5 - 6 cement: lime: sand.

Designation (ii) 1: ½ : 4 - 4 ½ cement: lime: sand for exposed masonry such as parapets.

Whilst a higher strength mortar will be needed for exposed masonry such as parapets, consideration must then be taken to provide movement joints at closer centres.

The use of lime in mortar is strongly recommended.

Refer to Forticrete for other mixes.

- **Mortar Additional requirements:** (Delete as appropriate):

None

Coloured mortar to match walling stone

Coloured mortar to match existing

Specifiers choice

Coloured mortar Manufacturer and code:

**Bond:** (Delete as appropriate):

Half lap stretcher

Off centre stretcher

Random Bond

As shown in drawings

**Joints:** (Delete as appropriate):

Bucket Handle

Flush (bagged joints) with Cottage Finish

Weather struck

**Features:** (Delete as appropriate):

Brick quoins and dressings as F10

Cast Stone Dressings as F30

Refer to Cast Stone Dressings brochure and Specification Clauses for Cills and Decorative Heads and other features.

## Section 2 EXECUTION

### Workmanship generally

#### 440 Conditioning of units.

Avoidance of suction in concrete blocks: Do not wet unless hot weather working dictates reducing the suction.

Use of water retaining mortar admixture: Submit details.

#### 460 Mortar groups

Mix proportions: For a specified group select a mix design from the following:

Designation (iii) 1:1:5 - 6 cement: lime: sand.

Designation (ii) 1: ½ : 4 - 4 ½ cement: lime: sand for exposed masonry such as parapets.

Whilst a higher strength mortar will be needed for exposed masonry such as parapets, consideration must then be taken to provide movement joints at closer centres.

The use of lime in mortar is strongly recommended.

Refer to Forticrete for other mixes.

#### 500 Laying generally

Mortar joints: Fill vertical joints. Lay solid blocks on a full bed.

Bond where not specified: Half lap stretcher.

Vertical joints in facework: Even widths. Plumb at every fifth cross joint along course.

#### 520 Accuracy

Courses: Level and true to line.

# SPECIFICATION CLAUSES

Faces, angles and features: Plumb

Permissible deviations:

- Position in plan of any point in relation to the specified building reference  
line and/or point at the same level  $\pm 10$  mm
- Straightness in any 5m length  $\pm 5$  mm
- Verticality up to 3m height  $\pm 10$  mm
- Verticality up to 7m height  $\pm 14$  mm
- Overall thickness of walls  $\pm 10$  mm
- Level of bed joints up to 5m (block masonry)  $\pm 13$  mm

These measurements should not be regarded as the defining acceptability of appearance.

## 535 Height of lifts in walling using cement gauged or hydraulic lime mortar

- Rack back when raising quoins and other advance work.
- Lift height: 1.2 m (maximum) above any other part of work at any time.
- Daily lift height: 1.5 m (maximum) for any one leaf.

## 545 Levelling of separate leaves using cement gauged or hydraulic lime mortar

Locations for equal levelling of cavity wall leaves: As follows:

- Every course containing vertical twist type ties or other rigid ties.
- Every third tie course for double triangle/ butterfly ties.
- Courses in which lintels are to be bedded.

## 595 Lintels

Bearing: Ensure full length masonry units occur immediately under lintel ends.

## 610 Support of existing work

Joint above inserted lintel or masonry: Fully consolidated with semidry mortar to support existing structure.

## 620 Block bonding new walls to existing:

Masonry units of markedly different characteristics, e.g. fired clay bricks and concrete blocks, should not be bonded, but should be effectively separated by either a movement joint or a slip plane to avoid problems caused by differential movement.

Block to block bonding should be every other course through the full thickness of the wall for a minimum depth of 100mm. All block to block joints should be fully filled with mortar.

## 635 Jointing

Profile: Consistent in appearance.

## 671 Fire stopping

Avoidance of fire and smoke penetration: Tight fit between cavity barriers and masonry. Leave no gaps.

## 690 Adverse weather

General: Do not use frozen materials or lay on frozen surfaces.

Air temperature requirements: Do not lay bricks/ blocks:

- In cement gauged mortars when at or below 3°C and falling or unless it is at least 1°C and rising.
- In hydraulic lime: sand mortars when at or below 5°C and falling or below 3°C and rising.

Temperature of walling during curing: Above freezing until hardened.

Newly erected walling: Protect at all times from:

- Rain and snow.
- Drying out too rapidly in hot conditions and in drying winds.

## Additional requirements for facework

### 740 Finished Masonry Work Reference Panel

- Construct a reference panel on site to determine the general standard of the product and its application, including workmanship and mortar joint type. The panel should be approved by all parties as being the reference panel against which all quality assessments need to be based for the duration of the contract. The masonry standards require comparisons to be carried out before the units are used, in normal daylight conditions and at a distance of 3 metres.
- Protect panel from weather, dust, dirt and damage.

### 750 Colour consistency of masonry units:

- Conformity: Check each delivery for consistency of appearance with previous deliveries and with approved reference panels; do not use if variation is excessive.
- Finished work: Free from patches, horizontal stripes and racking back marks.

### 760 Appearance:

- Block selection: Do not use units which are cracked, broken or excessively at variance with the reference panel.
- Cut masonry units on a clipper bench station with a diamond tip blade and a fresh supply of clean, uncontaminated water. The cutting slurry produced is unavoidable and needs to be washed away immediately after cutting. The chemical reaction caused by cutting reactivates the cement which hardens on to the first material it makes contact with after cutting. This is accentuated by heat generated in the cutting process. Dry cutting is not recommended because of this reaction.
- Cut faces not to be exposed in work.
- Quality control: Lay masonry units to match relevant reference panels.
- Setting out: To produce satisfactory junctions and joints with built-in elements and components.
- Coursing: Evenly spaced using gauge rods.

# SPECIFICATION CLAUSES

- Lifts: Complete in one operation.
- Methods of protecting facework: Submit proposals.

## **780 Ground level:**

Commencement of facework: Not less than 150 mm below finished level of adjoining ground or external works level.

## **790 Putlog scaffolding:**

Not permitted in facework.

## **830 Cleanliness:**

- Facework: Keep clean.
- Mortar on facework: mortar which does encroach on the face of the masonry should be cleaned off as work proceeds. It should not be allowed to set.
- Removal of marks and stains: Rubbing not permitted. Refer to Forticrete for cleaning advice.