

Project No. 150457

Client: Council of the Isles of Scilly

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STRIDE TREGLOWN
ARCHITECTURE

Carn Gwavel School

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This document includes:

Code	Section	Revision	Dated
F10	Brick/ block walling		

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TYPES OF WALLING

355 CONCRETE COMMON BLOCKWORK BELOW DPC LEVEL

- Blocks: To BS EN 771-3.
 - Manufacturer: Celcon or equal approved.
Product reference: Standard Common.
 - Configuration: Group 1.
 - Compressive strength:
Mean value: 7 N/mm².
Characteristic value: 7.3 N/mm² For approval by SE.
Category: II.
 - Freeze/ Thaw resistance: Suitable for exposed external use below dpc.
 - Thermal properties: n/a.
 - Recycled content: None permitted.
 - Work sizes (length x width x height): 440 x 100 x 215mm.
Tolerance category: D1.
 - Special shapes: None.
 - Additional requirements: Tie back to concrete slab edge and upstand in accordance with SE's details and wall tie specification. Mortar testing to be carried out if required stipulated by SE..
- Mortar: As section Z21.
 - Standard: To BS EN 998-2.
 - Mix: 1:6.5 masonry cement:sand.
 - Additional requirements: None.
- Bond: Half lap stretcher.

355A CONCRETE COMMON BLOCKWORK FOUNDATION BLOCKS

- Blocks: To BS EN 771-3.
 - Manufacturer: H+H Celcon or equal approved.
Product reference: Celcon Foundation block.
 - Configuration: Group 1.
 - Compressive strength:
Mean value: Not applicable.
Characteristic value: 7.3 N/mm² tbc by SE.
Category: II.
 - Freeze/ Thaw resistance: Suitable for exposed external use below dpc.
 - Thermal properties: N/A.
 - Recycled content: None permitted.
 - Work sizes (length x width x height): 440 x 300 x 215 mm.
Tolerance category: D1.
 - Special shapes: None.
 - Additional requirements: None.
- Mortar: As section Z21.
 - Standard: To BS EN 998-2.
 - Mix: 1:6.5 masonry cement:sand.
 - Additional requirements: None.
- Bond: Half lap stretcher.

355B CONCRETE COMMON BLOCKWORK INFILLS TO OPENINGS

- Blocks: To BS EN 771-3.
 - Manufacturer: H+H Celcon or equal approved.
Product reference: Standard.
 - Configuration: Group 1.
 - Compressive strength:
Mean value: Not applicable.
Characteristic value: 3.6 N/mm² tbc by SE.
Category: II.
 - Freeze/ Thaw resistance: Not to be left exposed.
 - Thermal properties: N/A.
 - Recycled content: None permitted.
 - Work sizes (length x width x height): 440 x 100 x 215 mm.
Tolerance category: D1.
 - Special shapes: None.
 - Additional requirements: None.
- Mortar: As section Z21.
 - Standard: To BS EN 998-2.
 - Mix: 1:6.5 masonry cement:sand.
 - Additional requirements: None.
- Bond: Half lap stretcher.

WORKMANSHIP GENERALLY

440 CONDITIONING OF CONCRETE BRICKS/ BLOCKS

- Autoclaved concrete bricks/ blocks delivered warm from manufacturing process: Do not use.
- Age of nonautoclaved concrete bricks/ blocks: Do not use until at least four weeks old.
- Avoidance of suction in concrete bricks/ blocks: Do not wet.
 - Use of water retaining mortar admixture: Submit details.

460 MORTAR GROUPS

- Mix proportions: For a specified group select a mix design from the following:
 - Group 1:
 - 1:0–0.25:3 (Portland cement:lime:sand with or without air entraining additive).
 - 1:3 (Portland cement:sand and air entraining additive).
 - Group 2:
 - 1:0.5:4–5 (Portland cement:lime:sand with or without air entraining additive).
 - 1:3 (masonry cement:sand containing Portland cement and lime in approximate ratio 1:1, and an air entraining additive).
 - 1:2.5–3.5 (masonry cement:sand containing Portland cement and inorganic materials other than lime and air entraining additive).
 - 1:3–4 (Portland cement:sand and air entraining additive.)
 - Group 3:
 - 1:1:5–6 (Portland cement:lime:sand with or without air entraining additive).
 - 1:3.5–4 (masonry cement:sand containing Portland cement and lime in approximate ratio 1:1, and an air entraining additive).
 - 1:4–5 (masonry cement:sand containing Portland cement and inorganic materials other than lime and air entraining additive).
 - 1:5–6 (Portland cement:sand and air entraining additive).
 - Group 4:
 - 1:2:8–9 (Portland cement:lime:sand with or without air entraining additive).
 - 1:4.5 (masonry cement:sand containing Portland cement and lime in approximate ratio 1:1, and an air entraining additive).
 - 1:5.5–6.5 (masonry cement:sand containing Portland cement and inorganic materials other than lime and air entraining additive).
 - 1:7–8 (Portland cement:sand and air entraining additive).
- Batching: Mix proportions by volume.
- Mortar type: Continuous throughout any one type of masonry work.

500 LAYING GENERALLY

- Mortar joints: Fill vertical joints. Lay bricks, solid and cellular blocks on a full bed.
- AAC block thin mortar adhesive and gypsum block adhesive joints: Fill vertical joints. Lay blocks on a full bed.
- Clay block joints:
 - Thin layer mortar: Lay blocks on a full bed.
 - Interlocking perpend: Butted.
- Bond where not specified: Half lap stretcher.
- Vertical joints in brick and concrete block facework: Even widths. Plumb at every fifth cross joint.

520 ACCURACY

- Courses: Level and true to line.
- 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 ± 10 mm.
 - Straightness in any 5 m length ± 5 mm.
 - Verticality up to 3 m height ± 10 mm.
 - Verticality up to 7 m height ± 14 mm.
 - Overall thickness of walls ± 10 mm.
 - Level of bed joints up to 5 m (brick masonry) ± 11 mm.
 - Level of bed joints up to 5 m (block masonry) ± 13 mm.

535 HEIGHT OF LIFTS IN WALLING USING CEMENT GAUGED OR HYDRAULIC LIME MORTAR

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

545 LEVELLING OF SEPARATE LEAVES

- 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.

560 COURSING BRICKWORK

- Gauge: Four brick courses including bed joints to 300 mm.

580 LAYING FROGGED BRICKS

- Single frogged bricks: Frog uppermost.
- Double frogged bricks: Larger frog uppermost.
- Frog cavity: Fill with mortar.

585 LAYING CELLULAR BRICKS

- Orientation: Cavities downward.

620 BLOCK BONDING NEW WALLS TO EXISTING

- Pocket requirements: Formed as follows:
 - Width: Full thickness of new wall.
 - Depth (minimum): 100 mm.
 - Vertical spacing:
 - Brick to brick: 4 courses high at 8 course centres.
 - Block to block: Every other course.
- Pocket joints: Fully filled with mortar.

635 JOINTING

- Profile: Consistent in appearance.

645 ACCESSIBLE JOINTS NOT EXPOSED TO VIEW

- Jointing: Struck flush as work proceeds.

665 POINTING TO ALL WALLING

- Joint preparation: Remove debris. Dampen surface.
- Mortar: As section Z21.
 - Standard: To BS EN 998-2.
 - Mix: 1:1:6 cement:lime:sand.
 - Additional requirements: Submit samples of mortar for approval.
- Profile: Bucket handle.

671 FIRE STOPPING

- Avoidance of fire and smoke penetration: Fit tightly 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.
 - In thin joint mortar glue when outside the limits set by the mortar manufacturer.
- 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.