

F10
Brick/ block walling
Revision C01**Section Revision History**

No.	Purpose	
T01	Stage E Issue	29th Jun 2015
T02	Stage E Issue Amendments: Mortar, brickwork & blockwork details updated	24th Aug 2015
T03	Stage E Issue Amendments: T Sheet Codes Update	2nd Sep 2015
T04	Issued for ERs	17th Dec 2015
F01	Stage F - For Coordination	2nd Dec 2016
F02	Stage F - For Coordination	8th Dec 2016
F03	Stage F - For Coordination	26th Jan 2017
C01	For Construction	24th Feb 2017

Clauses amended in Revision C01

No.	Clause	
110	CLAY FACING BRICKWORK	Revised
385A	ENGINEERING BRICKWORK	Revised
386A	ENGINEERING BRICKWORK BULLNOSE	Revised

F10 Brick/ block walling

To be read with Preliminaries/ General conditions.

TYPES OF WALLING

- 110 CLAY FACING BRICKWORK Building A1 and A2. For external walls.

Facing Brickwork (Excluding Buttresses & Base)

Refer to drawing series (00) and (21) TRS Sheet reference (WT-09)

- Bricks: To BS EN 771-1.
 - Manufacturer:
Michelmersh Brick Holdings PLC
Freshfield Lane
Danehill
Sussex
RH17 7HH
Tel: 0844 931 0022
Fax: 0844 931 0021
DDI: 01483 283111
Mob: 07775 456837
www.mbhplc.co.uk.
Product reference: First Quality Select Dark Facings as approved by client on sample panel. (Refer to drawing AX-(99)-1180).
 - Recycled content: Submit proposals.
 - Special shapes:
 - Dimensional Tolerance - T2
 - Dimensional Range - R1
 - Durability against freeze/thaw - F2
 - Active Soluble Salts Content Category - S2
 - Gross Dry Density - 1610 kg/m³
 - Compressive Strength - 25 N/mm²
 - Water Absorption - 17%
 - Thermal Conductivity - 0.48 W/m.K - 50% , 0.65 /m.K - 90%
 - Dimensions 215mm x 102.5mm x 65mm
 - Additional Requirements: Movement joints. Refer to (21) series.
- Mortar: As section Z21.
 - Standard: To BS EN 998-2.
 - Mix: 1:1:6 cement:lime:sand (Mortar class 6).
 - Additional requirements: As approved by client on sample panel, Refer to clauses Z21/310A .
- Bond: Half lap stretcher.
- Joints: Flush. As approved by client on sample panel. Refer to clauses Z21/310A.
- Features: tbc.
(Revised - F10 revision C01 - 24th Feb 2017)

255 CONCRETE FACING BLOCKWORK

Building A1 - Lower Ground - Part of Cavity Wall to Canal - Facing - standard block type .

Refer to drawing series (00) and (21) TRS Sheet reference (WT-09)

- Blocks: To BS EN 771-3.
 - Manufacturer:
Lignacite Ltd
Norfolk House
High Street Brandon
Suffolk IP27)AX
Tel: 01842 810678
web: www.lignacite.co.uk.
Product reference: Lignacite Commodity Blocks. Standard.Fair Faced.
 - Configuration: Group 1. Solid block.
 - Compressive strength:
Mean value: 7.3 N/mm².
Characteristic value: not applicable.
Category: I.
 - Freeze/ Thaw resistance: Frost resistant.
 - Recycled content: Submit proposals.
 - Work sizes (length x width x height): 440 x 100 x 215 mm.
Tolerance category: D1.
 - Finish/ Colour: Standard.
 - Special shapes: None.
 - Additional requirements: Movement joints. Refer to (21) series..
- Mortar: As section Z21.
 - Standard: To BS EN 998-2.
 - Mix: 1:1:6 cement:lime:sand (Mortar class 4).
 - Additional requirements: Coloured mortar to be approved by architect.
- Bond: Half lap stretcher.
- Joints: Refer to (99) series for sample panel options.
- Features: None.

255B CONCRETE FACING BLOCKWORK

Building A1 & Building A2 Cores

Refer to drawing series (42) for scope and TRS Sheet reference WT-05 & WT-05A

- Blocks: To BS EN 771-3.
 - Manufacturer:
 - Lignacite Ltd
 - Norfolk House
 - High Street Brandon
 - Suffolk IP27)AX
 - Tel: 01842 810678
 - web: www.lignacite.co.uk.
 - Product reference: Riverbed Charcoal Roman Brick.
 - Configuration: Group 1. Solid block.
 - Compressive strength:
 - Mean value: 17.5 N/mm².
 - Characteristic value: not applicable.
 - Category: I.
 - Freeze/ Thaw resistance: Frost resistant.
 - Recycled content: Submit proposals.
- Work sizes (length x width x height): 440 x varies x 65 mm. Refer to (42) and (05) series..
 - Tolerance category: D1.
 - Finish/ Colour: Weathered Charcoal.
 - Average density: 2000 kg/m³
 - Thermal Resistance: 0.070 m² K/W
 - Special shapes: None.
 - Additional requirements: Movement joints. For location refer to (42) and (05) series..
- Mortar: As section Z21.
 - Standard: To BS EN 998-2.
 - Mix: 1:1:6 cement:lime:sand (Mortar class 4).
 - Additional requirements: Mortar to be suitable for external conditions. Coloured of mortar to be approved by architect.
- Bond: Stretcher.
- Joints: Flush.
- Features: None.
- Reinforcement: 6 mm. Bed Joint Reinforcement. Refer to WT-05A for reinforced blockwork locations. Refer to (42) series for scope drawings.
- Special requirement: All masonry specials to be manufactured by Lignacite Ltd
- Fire Resistance (non-load bearing): Refer to (68) series & Fire Engineers Report
- Sound Insulation: 37 RwdB
- Sound Absorption at 500 Hz: 0.30
- Additional requirements: Anti graffiti coating to be applied. Refer to M60/175A

257 CONCRETE NON FACING BLOCKWORK

Building A1 - Basement Perimeter wall - Non facing - standard block type with insulated plasterboard wall lining

For details on plasterboard lining refer to K10.

Refer to drawing series (00) and (21) TRS Sheet reference (WT - 12)

- Blocks: To BS EN 771-3.

- Manufacturer:

Lignacite Ltd
Norfolk House
High Street Brandon
Suffolk IP27)AX

Tel: 01842 810678

web: www.lignacite.co.uk

Product reference: Lignacite Commodity Blocks. Standard. Non facing..

- Configuration: Group 1. Solid block.
- Compressive strength:
Mean value: 7.3 N/mm².
Characteristic value: not applicable.
Category: I.
- Freeze/ Thaw resistance: Frost resistant.
- Recycled content: Submit proposals.
- Work sizes (length x width x height): 440 x 100 x 215 mm.
Tolerance category: D1.
- Finish/ Colour: Standard.
- Special shapes: None.
- Additional requirements: Movement joints. Location to be agreed..
- Mortar: As section Z21.
 - Standard: To BS EN 998-2.
 - Mix: 1:1:6 cement:lime:sand (Mortar class 4).
 - Additional requirements: Mortar to be suitable for external conditions.
- Bond: Half lap stretcher.
- Joints: Flush.
- Features: None.

257A CONCRETE NON FACING BLOCKWORK

Building A1 & Building A2 Cores

Refer to drawing series (42) for scope and TRS Sheet reference WT-06 & WT-06A

- Blocks: To BS EN 771-3.
- Manufacturer:

Lignacite Ltd
Norfolk House
High Street Brandon
Suffolk IP27)AX

Tel: 01842 810678
web: www.lignacite.co.uk

- Product reference: Lignacite Commodity Blocks. Standard. Non facing..
- Configuration: Group 1. Solid block.
- Compressive strength:
Mean value: 7.3 N/mm².
Characteristic value: not applicable.
Category: I.
- Freeze/ Thaw resistance: Frost resistant.
- Recycled content: Submit proposals.
- Work sizes (length x width x height): 440 x varies x 215 mm. Refer to (42) and (05) series..
Tolerance category: D1.
- Finish/ Colour: Standard.
- Special shapes: None.
- Additional requirements: Movement joints. For location refer to (05) & (22) series..
- Mortar: As section Z21.
- Standard: To BS EN 998-2.
- Mix: 1:1:6 cement:lime:sand (Mortar class 4).
- Additional requirements: Mortar to be suitable for external conditions. Coloured of mortar to be approved by architect.
- Bond: Half lap stretcher.
- Joints: Flush.
- Features: None.
- Reinforcement: 6 mm. Bed Joint Reinforcement. Refer to WT-06A for reinforced blockwork locations. Refer to (42) series for scope drawings.
- Additional requirements: Anti graffiti coating to be applied. Refer to M60/175A

385A ENGINEERING BRICKWORK TO CANAL WALL BUTTRESSES & BASE OF CANAL WALL

Refer to drawing series (00) and (21) TRS Sheet reference (WT-09)

- Bricks: To BS EN 771-1.
 - Manufacturer:
 - Ketley Brick Co Ltd
 - Web: www.ketley-brick.co.uk
 - Email: info@ketley-brick.co.uk
 - Tel: +44 (0)1384 78361
 - Fax: +44 (0)1384 74553
 - Address: Dreadnought Works, Pensnett, Brierley Hill, West Midlands DY5 4TH.
 - Product reference: Ketley Staffordshire Brown Brindle Bricks as approved by client on sample panel.
 - Size: 215 x 102.5 x 65 mm.
 - Type: HD.
 - Mean compressive strength: Greater than or equal to 125 N/mm².
 - Category: Engineering Grade - Class A.
 - Water absorption: Equal to or less than 4.5%.
 - Freeze/ Thaw category: F2.
 - Active soluble salts content category: S2.
 - Additional requirements: Reaction to fire class: A1.
- Mortar: As section Z21.
 - Standard: To BS EN 998-2.
 - Mix: Mortar class 12.
 - Additional requirements:
 - Durability: Freeze/ thaw resistance: Frost resistant
 - Mortar Product Reference: As approved by client on sample panel. Refer to clauses Z21/310A.
- Bond: Half lap stretcher.
- Joints: Flush. As approved by client on sample panel. Refer to clauses Z21/310A (Revised - F10 revision C01 - 24th Feb 2017)

386A ENGINEERING BRICKWORK BULLNOSE TO CANAL WALL BUTTRESSES

Refer to drawing series (00) and (21) TRS Sheet reference (WT-09)

- Bricks: To BS EN 771-1.
 - Manufacturer:
 - Ketley Brick Co Ltd
 - Web: www.ketley-brick.co.uk
 - Email: info@ketley-brick.co.uk
 - Tel: +44 (0)1384 78361
 - Fax: +44 (0)1384 74553
 - Address: Dreadnought Works, Pensnett, Brierley Hill, West Midlands DY5 4TH.
 - Product reference: Ketley Staffordshire Brown Brindle Bricks as approved by client on sample panel.
 - Size: Bn.1.1 standard 25mm radius Bullnose .
- Type: HD.
- Mean compressive strength: Greater than or equal to 125 N/mm².
- Category: Engineering Grade - Class A.
- Water absorption: Equal to or less than 4.5%.
- Freeze/ Thaw category: F2.
- Active soluble salts content category: S2.
- Additional requirements: Reaction to fire class: A1.
- Mortar: As section Z21.
 - Standard: To BS EN 998-2.
 - Mix: Mortar class 12.
 - Additional requirements: Durability: Freeze/ thaw resistance: Frost resistant
 - Mortar Product Reference: As approved by client on sample panel. Refer to clauses Z21/310A.
- Bond: Half lap stretcher.
- Joints: Flush. As approved by client on sample panel. Refer to clauses Z21/310A. (Revised - F10 revision C01 - 24th Feb 2017)

TESTING

401 GENERAL

Provide independently certified tests certificates.
c) Include for on-Site testing.

402 TESTING MASONRY

Testing shall be carried out in accordance with BS EN 1052 and BS EN 772.

403 MORTAR TESTING

Refer to Section Z21 for testing of mortars.

404 AIR PERMEABILITY - EXFILTRATION

Refer to the Services Engineer's/ M.E.P. documentation. (not sure which one you use practice wide).

WORKMANSHIP GENERALLY

430 CONDITIONING OF CLAY AND CALCIUM SILICATE BRICKS AND CLAY BLOCKS

- Bricks and blocks delivered warm from manufacturing process: Do not use until cold.
- Absorbent bricks in warm weather: Wet to reduce suction. Do not soak.

- 585 LAYING CELLULAR BRICKS
- Orientation: Cavities downward.
- 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.
- 615 BRICKWORK TO RECEIVE ASPHALT DPC
- Substrate: Mortar bed finished flush, smooth and level.
- 635 JOINTING
- Profile: Consistent in appearance.
- 645 ACCESSIBLE JOINTS NOT EXPOSED TO VIEW
- Jointing: Struck flush as work proceeds.
- 665A POINTING TO EXTERNAL BRICKWORK
- Joint preparation: Remove debris. Dampen surface.
 - Profile: tbc.
- 667 POINTING To Internal blockwork.
- Joint preparation: Remove debris. Dampen surface.
 - Profile: Flush.
- 671A FIRE STOPPING
- Refer to section P12
- 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.

ADDITIONAL REQUIREMENTS FOR FACEWORK

- 710 THE TERM FACEWORK
- Definition: Applicable in this specification to brick/ block walling finished fair.
 - Painted facework: The only requirement to be waived is that relating to colour.

- 730 BRICK/ CONCRETE BLOCK SAMPLES
- General: Before placing orders with suppliers submit for approval of appearance labelled samples of the following: Facing Brickwork as Clause F10 - 110 and Clause 111. .
 - Selection of samples: Representative of the range in variation of appearance.
- 735 BRICK/ CONCRETE BLOCK SAMPLES
- General: Before placing orders with suppliers submit for approval of appearance labelled samples of the following: Internal blockwork as clause F10 - 225 .
 - Selection of samples: Representative of the range in variation of appearance.
- 740 FINISHED MASONRY WORK REFERENCE PANELS
- General: Before proceeding to construct the following walling types, construct panels as specified. Give notice when panels are dry.
 - Selection of masonry units: Randomly to BS EN 771-1 .
 - Panel types:
 - Walling type: External masonry walls F10 - 110 and clause 111 .
 - Location: Internal and external masonry in external facade .
 - Size: As detailed on drawing .
 - Other requirements: As shown on drawing .
- 743 FINISHED MASONRY WORK REFERENCE PANELS
- General: Before proceeding to construct the following walling types, construct panels as specified. Give notice when panels are dry.
 - Selection of masonry units: Randomly to BS EN 771-1 .
 - Panel types:
 - Walling type: Internal masonry walls F10 - 225 .
 - Location: Internal masonry .
 - Size: As detailed on drawing .
 - Other requirements: As shown on drawing .
- 745A MASONRY SAMPLE PANELS
- Refer to (99) series
- 750 COLOUR CONSISTENCY OF MASONRY UNITS
- Colour range: Submit proposals of methods taken to ensure that units are of consistent and even appearance within deliveries.
 - 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
- Brick/ block selection: Do not use units with damaged faces or arrises.
 - Cut masonry units: Where cut faces or edges are exposed cut with table masonry saw.
 - 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.
 - 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

- Use: Not permitted in facework.

830 CLEANLINESS

- Facework: Keep clean.
- Mortar on facework: Allow to dry before removing with stiff bristled brush.
- Removal of marks and stains: Rubbing not permitted.