

GENERAL GUIDANCE

1 STANDARDS

New European and revised British masonry product standards have been published.

Where standards coexist, clauses have been provided to allow the use of either standard. Most European Standards contain a national annex explaining the changed product performance requirements, some give equivalent values. Most coexisting British Standards are due for withdrawal in December 2005, check at <http://www.bsonline.bsi-global.com/>.

2 CLAY BRICKS

BS 3921 coexists with BS EN 771-1, the new European standard for clay masonry units. The two standards evaluate and designate durability differently.

BS 3921 designates clay bricks according to frost resistance and soluble salts content.

BS EN 771-1 solely acknowledges the relationship between durability and freeze/ thaw resistance using three categories, F0 (passive), F1 (moderate) and F2 (severe) relating to the maximum level of exposure to which the masonry can be subjected. The national annex re-establishes the role soluble salts content can play. The table below based on the national annex table NA5 shows the BS 3921 and BS EN 771-1 equivalent durability designations.

Practical equivalents of durability designation				
BS 3921			BS EN 771-1	
Durability designation	Frost resistance	Soluble salts content	Freeze/ thaw resistance	Active soluble salts content
FL	Resistant	Low	F2	S2
FN	Resistant	Normal	F2	S1
ML	Moderately resistant	Low	F	S2
MN	Moderately resistant	Normal	F1	S1
OL	Not resistant	Low	F0	S2
ON	Not resistant	Normal	F0	S1

3 CONCRETE BRICKS AND BLOCK

BS 6073-1 covers aggregate concrete bricks, blocks and aircrete blocks and coexists with the new European product standards BS EN 771-3 covering dense and lightweight aggregate masonry units and BS EN 771-4 covering aircrete masonry units. None of the standards give recommendations as to suitability for particular purposes. Aircrete masonry products are renamed in BS EN 771-4 as autoclaved aerated concrete (AAC) masonry units.

Concrete bricks and blocks should not be used in contact with ground from which there is danger of sulfate attack unless they have been specifically made for this purpose.

For detailed guidance on durability see BS 5628-3, table 13.

4 MORTAR

BS EN 998-2 is the new European standard that covers all masonry mortar types including thin layer mortar. Mortar with materials gauged/ batched and mixed on site is excluded. BS 4721 and BS 5838-2 dealing with ready mixed mortar and dry prepackaged mortar mixes have been withdrawn.

The following table, derived from BS EN 998-2, shows the full range of mortar classes under this standard and the equivalent BS 4721 groups.

BS EN 998-2 classes and BS 4721 group equivalents											
Class to BS EN 998-2	M1	M2	M2.5	M4	M5	M6	M10	M12	M15	M20	Md
Comp. strength N/mm ²	1	2	2.5	4	5	6	10	12	15	20	D
Mortar group to BS 4721		4 (iv)		3 (iii)		2 (ii)		1 (i)			

For guidance on selection of Portland cement mortars see BS 5628-3, table 13 or BRE Digest 362. In general, stronger bricks and blocks and more severe exposure conditions require mortars of higher strength, i.e. with a greater cement content. Richer mortars are desirable for exposed brickwork built using bricks that contain appreciable quantities of soluble sulfates (see BRE Digest 362 and Defect Action Sheet 128).

Brick sills and cappings are particularly vulnerable to frost action and a stronger mortar is required. Specify as a separate type of brickwork with stronger mortar.

BS EN 459-1 covers definitions, specifications and conformity criteria for building lime. Its type classification has been generally adopted by manufacturers. BRE Digest 362 states that lime:sand mortars are considered suitable only where group 4 mortars could be used. Refer to lime manufacturer for recommendations on mix and suitable sand types.

When coloured mortar is required, it is better to specify coloured ready mixed cement gauged mortars. Site mixing using pigments is rarely satisfactory, adequate control of colour consistency being very difficult.

GUIDANCE NOTES

05

See general guidance 1, 2 and 4 for help on completing the clause. Repeat and renumber as necessary.

Clause heading: Describe the use and/ or location, e.g. *ABOVE DPC*

Bricks: Insert *To BS 3921* or *To BS EN 771-1*.

– **Special shapes:** Insert, e.g.

45° external and internal angles as BS 4729, AN2.5, AN3.8.

To BS 4729: 1990, type as shown on drawings.

As detailed on drawing number C02.

Mortar:

– **Standard:** Insert, *To BS EN 998-2* or *Not applicable* if site batched and mixed mortar is to be used.

– **Mix:** Insert, e.g.

1:1:6 cement:lime:sand.

1:1:6 cement:lime:sand, 4 N/mm² (mortar class 4).

For site batched and mixed mortar include any special requirements for cement type, sand, colour, etc. For mortar to BS EN 998-2 include additional relevant properties, compressive strength, chloride content, workable life, etc.

Bond: Insert, e.g. *English*.

Joints: Insert, e.g. *Bucket handle*.

10

See general guidance 4 for help on completing the clause. Repeat and renumber as necessary.

Old bricks can vary greatly in quality and strength. Those previously laid in lime mortar are generally easier to reclaim than those bricks laid in cement mortar.

Clause heading: Describe the use and/ or location, e.g. *TO EXTENSION*

Reclaimed bricks: Insert generic type, e.g.

Clay red multi handmade.

To match existing.

Mortar:

– **Standard:** Insert, *To BS EN 998-2* or *Not applicable* if site made mortar is to be used.

– **Mix:** Insert, e.g.

1:1:6 cement:lime:sand.

1:1:6 cement:lime:sand, 4 N/mm² (mortar class 4).

For site batched and mixed mortar include any special requirements for cement type, sand, colour, etc. For mortar to BS EN 998-2 include additional relevant properties, compressive strength, chloride content, workable life, etc.

Bond: Insert, e.g. *To match existing*.

Joints: Insert, e.g. *Flush*.

15, 18

See general guidance 1, 3 and 4 for help on completing the clauses. Repeat and renumber as necessary.

Use clause 15 for blocks manufactured to BS 6073-1. Use clause 18 for blocks manufactured to BS EN 771-3.

Note that health and safety legislation limits singlehanded manual handling to blocks weighing less than 20 kg.

Clause heading: Describe the use and/ or location, e.g. *IN CORRIDORS*

Blocks:

– **Type (clause 15):** Insert *Solid*, *Cellular* or *Hollow*.

– **Configuration (clause 18):** Insert, e.g. *Solid*, *Vertically perforated* *25% voids*.

– **Compressive strength (clause 18):** Refer to the manufacturer and insert either the mean or characteristic value or *Not applicable*.

Category: Insert *I* or *II*.

– **Freeze/ thaw resistance (clause 18):** Insert the manufacturer's evaluation, e.g. *Suitable for exposed external use below d.p.c. or Frost resistant*.

– **Work sizes (length x height x thickness) (clause 15):** Specify face dimensions and the range of thicknesses required, e.g.

440 x 215 x 100, 140 and 190 mm. ➔

SPECIFICATION CLAUSES

F10 BRICK/ BLOCK WALLING

05 FACING BRICKWORK

- Bricks:
 - Manufacturer:
 - Product reference:
 - Special shapes:
- Mortar: As section Z21.
 - Standard:
 - Mix:
- Bond:
- Joints:

10 RECLAIMED FACING BRICKWORK

- Reclaimed bricks:
 - Condition: Sound, free from mortar and deleterious matter.
 - Supplier/ source:
 - Format:
- Mortar: As section Z21.
 - Standard:
 - Mix:
- Bond:
- Joints:

15 CONCRETE FACING BLOCKWORK

- Blocks: To BS 6073-1.
 - Type:
 - Manufacturer:
 - Product reference:
 - Average compressive strength (minimum):
 - Work sizes (length x height x thickness):
 - Finish/ colour:
 - Special shapes:
- Mortar: As section Z21.
 - Standard:
 - Mix:
- Bond:
- Joints:

– **Work sizes (length x width x height) (clause 18):** BS EN 771-3 diverges from the traditional UK dimension nomenclature and order. Specify length, if appropriate the range of widths and height, e.g. *440 x 100, 140 and 150 x 215 mm.*

– **Finish/ colour:** Insert, e.g. *Exposed limestone aggregate.*

– **Special shapes:** The special blocks required should be listed, e.g. *Half sizes Plinth blocks*

Reveal blocks Sill blocks

Coursing bricks Lintel trough blocks.

– **Additional requirements (clause 18):** Consider application and insert other requirements covered by the standard or *None.*

Mortar:

– **Standard:** Insert, *To BS EN 998-2 or Not applicable* if site batched and mixed mortar is to be used.

– **Mix:** Insert, e.g.

1:1:6 cement:lime:sand.

1:1:6 cement:lime:sand, 4 N/mm² (mortar class 4).

For site batched and mixed mortar include any special requirements for cement type, sand, colour, etc. For mortar to BS EN 998-2 include additional relevant properties, compressive strength, chloride content, workable life, etc.

Bond: Insert *Half lap stretcher* or *Off centre stretcher.*

Joints: Insert, e.g. *Flush*

20, 25

These clauses are for proprietary blocks, which simulate natural stone rubble or ashlar walling. See general guidance 1, 3 and 4 for help on completing the clauses. Repeat and renumber as necessary.

Use clause 20 for blocks manufactured to BS 1217, BS 6073-1 or BS 6457. Use clause 25 for blocks manufactured to BS EN 771-5.

Note that health and safety legislation limits singlehanded manual handling to blocks weighing less than 20 kg.

Clause heading: Describe the use and/ or location, e.g. *TO CONSERVATORY*

Blocks (clause 20): Insert *To BS 1217, BS 6073 or BS 6457.*

– **Walling type (clause 20):** Insert, e.g. *Rough hewn brought to courses.*

– **Block type (clause 20):** Insert *Solid, Cellular or Hollow.*

– **Configuration (clause 25):** Insert *Homogenous or Two-part.*

– **Compressive strength (clause 25):** Refer to manufacturer and insert either the mean or characteristic value or *Not applicable.* Two-part units require values for both the facing and backing mix.

Category: Insert *I or II.*

– **Freeze/ thaw resistance (clause 25):** Insert the manufacturer's evaluation, e.g. *Suitable for exposed external use below d.p.c. or Frost resistant.*

– **Work sizes (length x height x thickness) (clause 20):** For broken bonded masonry units the length and height within each batch will vary. Refer to manufacturer and specify if appropriate the range of lengths, widths and heights required. For rectangular face forms specify face dimensions and the range of thicknesses required, e.g. *440 x 215 x 100, 140 and 190 mm.*

– **Work sizes (length x width x height) (clause 25):** BS EN 771-5 diverges from the traditional UK dimension nomenclature and order. For broken bonded masonry units the length and height within reach batch will vary. Refer to manufacturer and specify if appropriate the range of lengths, widths and heights required, e.g. *440 x 100, 140 and 150 x 215 mm.*

– **Finish/ colour (clause 20):** Insert, e.g. *Weathered York.*

– **Finish/ colour (clause 25):** The standard indicates the surface as plain, textured or profiled. Insert, e.g. *Textured, weathered York.*

– **Special shapes:** These include jumper blocks (to break up regular coursing), quoins, battered blocks, end blocks, capping blocks, sills, lintels, etc.

– **Additional requirements (clause 25):** Consider application and insert other requirements covered by the standard or *None.*

Mortar:

– **Standard:** Insert, *To BS EN 998-2 or Not applicable* if site batched and mixed mortar is to be used.

– **Mix:** Normally the same as for concrete blockwork, but check with manufacturer. For site batched and mixed mortar include any special requirements for cement type, sand, colour, etc. For mortar to BS EN 998-2 include additional relevant properties, compressive

18 CONCRETE FACING BLOCKWORK

• Blocks: To BS EN 771-3.

– Manufacturer:

Product reference:

– Configuration:

– Compressive strength:

Category:

– Freeze/ thaw resistance:

– Work sizes (length x width x height):

– Finish/ colour:

– Special shapes:

– Additional requirements:

• Mortar: As section Z21.

– Standard:

– Mix:

• Bond:

• Joints:

• Features:

20 MANUFACTURED STONE BLOCKWORK

• Blocks:

– Walling type:

– Manufacturer:

Product reference:

– Block type:

– Work sizes (length x height x thickness):

– Finish/ colour:

– Special shapes:

• Mortar: As section Z21.

– Standard:

– Mix:

• Bond:

• Joints:

25 MANUFACTURED STONE BLOCKWORK

• Blocks: To BS EN 771-5.

– Manufacturer:

Product reference:

– Configuration:

– Voids: None

– Compressive strength:

Category:

– Freeze/ thaw resistance:

– Work sizes (length x width x height):

– Finish/ colour:

– Special shapes:

– Additional requirements:

• Mortar: As section Z21.

– Standard:

– Mix:

• Bond:

• Joints:

strength, chloride content, workable life, etc.

Joints: Flush or concave (bucket handle) joints are the most suitable. Raked joints should not be used.

30, 33

See general guidance 1, 2 and 4 for help on completing the clauses. Repeat and renumber as necessary.

Use clause 30 for clay common bricks manufactured to BS 3921. Use clause 33 for clay common bricks manufactured to BS EN 771-1.

If a brick marketed as a common is to be used as a facing or in fair faced work, specify in clause 05.

Clause heading: Describe the use and/ or location, e.g. *TO GARDEN WALL*

Bricks:

– **Type (clause 33):** Insert *LD* or *HD*.

– **Mean compressive strength (clause 33):** For calculated brickwork, insert value otherwise insert *Not applicable*.

Category: Insert *I* or *II*.

– **Density (clause 33):** Insert required minimum value for units used in walling subject to acoustic, fire, thermal or loading requirements. Otherwise insert *Not applicable*.

– **Water absorption (clause 30):** For brickwork calculated to BS 5628-1 insert *Less than 7% or Between 7% and 12%*, otherwise insert *Not applicable*.

– **Water absorption (clause 33):** For brickwork calculated to BS 5628-1 insert *Less than 7% to BS 3921 Appendix E or Between 7% and 12% to BS 3921 Appendix E*, otherwise insert *Less than 20%, Between 15% and 19% or Not required*.

– **Configuration:** Specify if necessary to achieve a particular performance – structural, acoustic, thermal, etc. For clause 30 insert, *Solid, Cellular, Perforated* or *Frogged*. For clause 33 insert, *Solid, Frogged* or *Vertically perforated*.

Mortar:

– **Standard:** Insert, *To BS EN 998-2* or *Not applicable* if site batched and mixed mortar is to be used.

Mix: Insert, e.g.

1:1:6 cement:lime:sand.

1:1:6 cement:lime:sand, 4 N/mm² (mortar class 4).

For site batched and mixed mortar include any special requirements for cement type, sand, colour, etc. For mortar to BS EN 998-2 include additional relevant properties, compressive strength, chloride content, workable life, etc.

35, 36, 37, 38, 39

See general guidance 1, 3 and 4 for help on completing these clauses for aggregate or autoclaved aerated concrete blocks manufactured to coexisting standards and using either cement gauged mortar, hydraulic lime mortar or thin layer mortar to coexisting standards. Repeat and renumber clauses as necessary.

Use clause 35 when cement gauged or hydraulic lime mortar is to be used with blocks manufactured to BS 6073-1. Use clause 36 when cement gauged or hydraulic lime mortar is to be used with blocks manufactured to BS EN 771-3. Use clause 37 when cement gauged or hydraulic lime mortar is to be used with aircrete blocks manufactured to BS EN 771-4.

For thin joint systems using thin layer mortar use clause 38 for blocks manufactured to BS 6073-1 and clause 39 for aircrete blocks manufactured to BS EN 771-4.

Note health and safety legislation limits singlehanded manual handling to blocks weighing less than 20 kg.

Clause heading: Describe the use and/ or location, e.g. *TO INTERNAL WALLS*

Blocks:

– **Type (clause 35):** Insert *Solid, Cellular* or *Hollow*.

– **Configuration (clause 36):** Insert, e.g.

Solid.

Vertically perforated 25% voids.

– **Configuration (clause 37):** UK production is predominantly solid cuboids.

– **Compressive strength (clause 36):** Refer to manufacturer and insert either the mean or characteristic value or *Not applicable*.

Category: Insert *I* or *II*.

– **Mean compressive strength (clauses 37, 39):** Refer to manufacturer and insert appropriate value or *Not applicable*. →

30 CLAY COMMON BRICKWORK

- Bricks: To BS 3921.
 - Average compressive strength (minimum):
 - Durability designation:
 - Water absorption:
 - Configuration:
- Mortar: As section Z21.
 - Standard:
 - Mix:
- Bond:

33 CLAY COMMON BRICKWORK

- Bricks: To BS EN 771-1.
 - Type:
 - Size: 215 x 102.5 x 65 mm.
 - Mean compressive strength (minimum):
 - Category:
- Durability designation:
- Density:
- Water absorption:
- Configuration:
- Additional requirements:
- Mortar: As section Z21.
 - Standard:
 - Mix:
- Bond:

35 CONCRETE COMMON BLOCKWORK

- Blocks: To BS 6073-1.
 - Manufacturer:
 - Product reference:
 - Type:
 - Average compressive strength (minimum):
 - Thermal conductivity (maximum) certified by UKAS accredited laboratory at moisture content to BS EN 12664:
 - Work sizes (length x height x thickness):
 - Special shapes:
- Mortar: As section Z21.
 - Standard:
 - Mix:
- Bond:

36 CONCRETE COMMON BLOCKWORK

- Blocks: To BS EN 771-3.
 - Manufacturer:
 - Product reference:
 - Configuration:
 - Compressive strength:
 - Category:
 - Freeze/ thaw resistance:
 - Thermal properties:
 - Work sizes (length x width x height):
 - Special shapes:
 - Additional requirements:
- Mortar: As section Z21.
 - Standard:
 - Mix:
- Bond:

Category: Insert I or II.

– **Freeze/ thaw resistance (clause 36):** Refer to manufacturer and insert the manufacturer's evaluation, e.g. *Suitable for exposed external use below d.p.c. or Frost resistant.*

– **Thermal conductivity (clauses 35, 38):** Concrete blocks in the internal leaf of cavity walls typically have a moisture content of 3%. If the blocks are to be used, e.g. in the external leaf with a rendered coating the thermal conductivity should be specified at a moisture content of 5%.

Thermal conductivity need not be specified if blocks are not to be used as insulation, nor if a particular proprietary block is specified.

– **Thermal properties (clause 36):** Insert thermal conductivity value or *Not applicable.*

– **Thermal conductivity (clauses 37, 39):** Thermal conductivity need not be specified if blocks are not to be used as insulation, nor if a particular proprietary block is specified.

– **Work sizes (length x height x thickness) (clause 35):** E.g. *440 x 215 x 100 and 190 mm.*

– **Work sizes (length x width x height) (clauses 36, 37, 39):** BS EN 771-3 and -4 diverge from the traditional UK dimension nomenclature and order. Specify length, if appropriate the range of widths and height, e.g. *440 x 100, 140 and 150 x 215 mm.*

– **Special shapes:** The special blocks required should be listed, e.g. *Half sizes, Plinth blocks*

Reveal blocks, Sill blocks

Coursing bricks, Lintel trough blocks.

– **Additional requirements (clause 36):** Consider application and insert other requirements covered by the appropriate standard or *None.*

Mortar (clauses 35, 36, 37):

– **Standard:** Insert, *To BS EN 998-2 or Not applicable* if site made mortar is to be used.

– **Mix:** Insert, e.g.

1:1:6 cement:lime:sand.

1:1:6 cement:lime:sand, 4 N/mm² (mortar class 4).

For site batched and mixed mortar include any special requirements for cement type, sand, colour, etc. For mortar to BS EN 998-2 include additional relevant properties, compressive strength, chloride content, workable life, etc.

Bond: Insert *Half lap stretcher* or *Off centre stretcher.*

40, 45

See general guidance 1, 2 and 4 for help on completing the clauses. Repeat and renumber as necessary.

Use clause 40 for engineering bricks manufactured to BS 3921.

Use clause 45 for engineering bricks manufactured to BS EN 771-1.

Clause heading: Describe the use and/ or location, e.g. *FOR MANHOLES*

Engineering bricks (clause 40):

– **Class:** Two classes are specified in BS 3921:

A Compressive strength not less than 70 N/mm² (MPa) and water absorption not more than 4.5% by mass.

B Compressive strength not less than 50 N/mm² (MPa) and water absorption not more than 7% by mass.

Engineering bricks (clause 45): BS EN 771, unlike BS 3921, does not have a category for engineering bricks. Table 3 in the national annex to the standard, reproduced here defines the properties of an HD type brick to BS EN 771-1 that equate to the performance requirements for BS 3921 engineering bricks and damp proof course bricks.

→

37 AUTOCLAVED AERATED CONCRETE (AAC) COMMON BLOCKWORK

- Blocks: To BS EN 771-4.
 - Manufacturer:
 - Product reference:
 - Configuration:
 - Mean compressive strength (minimum):
 - Category:
 - Thermal conductivity (maximum):
 - Work sizes (length x width x height):
 - Special shapes:
 - Additional requirements:
- Mortar: As section Z21.
 - Standard:
 - Mix:
- Bond:

38 THIN JOINT CONCRETE COMMON BLOCKWORK

- Blocks: To BS 6073-1.
 - Manufacturer:
 - Product reference:
 - Average compressive strength (minimum):
 - Thermal conductivity (maximum) certified by UKAS accredited laboratory at moisture content to BS EN 12664:
 - Work sizes (length x height x thickness):
 - Special shapes:
- Thin layer mortar: To BS EN 998-2.
 - Manufacturer:
 - Product reference:
- Bond:

39 THIN JOINT AUTOCLAVED AERATED CONCRETE (AAC) COMMON BLOCKWORK

- Blocks: To BS EN 771-4.
 - Manufacturer:
 - Product reference:
 - Configuration:
 - Mean compressive strength (minimum):
 - Category:
 - Thermal conductivity (maximum):
 - Work sizes (length x width x height):
 - Special shapes:
 - Additional requirements:
- Thin layer mortar: To BS 998-2.
 - Manufacturer:
 - Product reference:
- Bond:

40 ENGINEERING BRICKWORK

- Engineering bricks: To BS 3921:
 - Class:
 - Manufacturer:
 - Product reference:
- Mortar: As section Z21.
 - Standard:
 - Mix:
 - Additional requirements:
- Bond:
- Joints: Flush.

Equivalent classifying properties of traditional UK engineering and DPC bricks in relation to EN 771-1

Performance characteristic	Reference	Clay engineering bricks	
		Class A	Class B
Compressive strength (N/mm ²)	BS EN 772-1	≥ 125	≥ 75
Water absorption (% by mass) and also when used as DPC units and Net dry density (kg/m ³)	BS EN 772-7 and BS EN 772-13	≤ 4.5 (and DPC1) and ≥ 2200	≤ 7.0 (and DPC2) and ≥ 2100
Freeze/ thaw resistance category	BS EN 771-1	F2	F2
Active soluble salts content category	BS EN 772-5	S2	S2s

– **Mean compressive strength:** See table and insert value.

Category: Refer to manufacturer and insert *I* or *II*.

– **Water absorption:** See table and insert value.

– **Additional requirements:** BS EN 771-1 lists properties to be declared by manufacturer where the masonry unit is to be used in an element with a defined performance. Insert requirements or *None*.

Mortar (clauses 40, 45):

– **Standard:** Insert, *To BS EN 998-2* or *Not applicable* if site batched and mixed mortar is to be used.

– **Mix:** Insert, e.g.

1:0.25:3 cement:lime:sand.

1:0.25:3 cement:lime:sand, 12 N/mm² (mortar class 12).

For site batched and mixed mortar include any special requirements for cement type, sand, colour, etc. For mortar to BS EN 998-2 include additional relevant properties, compressive strength, chloride content, workable life, etc.

Bond (clauses 40, 45): Insert, e.g. *English*.

51

Regular levelling of separate leaves will reduce the risk of injury from projecting wall ties. Vertical twist ties are regarded as hazardous.

45 ENGINEERING BRICKWORK

- Bricks: To BS EN 771-1.
 - Manufacturer:
 - Product reference:
 - Type: HD.
 - Mean compressive strength:
 - Category:
 - Water absorption:
 - Freeze/ thaw category: F2.
 - Active soluble salts content category: S2.
 - Additional requirements:
- Mortar: As section Z21.
 - Standard:
 - Mix:
 - Additional requirements:
- Bond:
- Joints: Flush.

51 BASIC WORKMANSHIP

- Bond where not specified: Half lap stretcher.
- Mortar joints: Fill all vertical joints. Lay bricks, solid and cellular blocks on a full bed.
- Quoins and advance work: Rack back.
- Locations for equal levelling of cavity wall leaves:
 - 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.
- 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.

55 FACEWORK

- Commencement of facework: Not less than 150 mm below finished level of adjoining ground or external works level.
- 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.
- Coursing: Evenly spaced using gauge rods. To produce satisfactory junctions and joints with built-in elements and components.

66

Use this clause for brick cladding to timber frame construction.

90, 91, 95

Clauses for the repair of masonry walling using cement gauged mortar or hydraulic lime:sand mortar. See also BRE Digest 359 and BS 8221-2. Mortar for bedding replacement masonry or repointing must not be stronger than the masonry units or existing mortar.

Crack width (clause 91): Insert, e.g. *Hairline cracks, less than 1 mm wide, excluded.*

Mortar (clauses 90, 91, 95):

– **Standard:** Insert *To BS EN 998-2 or Not applicable* if site batched and mixed mortar is to be used.

– **Mix:** Insert, e.g.

1:1:6 cement:lime:sand.

1:1:6 cement:lime:sand, 4 N/mm² (mortar class 4).

For site batched and mixed mortar include any special requirements for cement type, sand, colour, etc. For mortar to BS EN 998-2 include additional relevant properties, compressive strength, chloride content, workable life, etc.

60 ALTERATIONS/ EXTENSIONS

- Coursing: Line up with existing work.
- Block bonding new walls to existing: Unless agreed otherwise cut pocket requirements as follows:
 - Width: Full thickness of new wall.
 - Depth (minimum): 100 mm.
 - Vertical spacing: As follows:
 - Brick to brick: 4 courses high at 8 course centres.
 - Block to block: Every other course.
 - Pocket joints: Fully filled with mortar.
- New and existing facework in the same plane: Bonded together at every course to achieve continuity of bond and coursing.
- Support of existing work: Fully consolidate joint above inserted lintel or masonry with semidry mortar to support existing structure.

66 FIRE STOPPING

- Avoidance of fire and smoke penetration: Fit tightly between cavity barriers and masonry. Leave no gaps.

90 CRACKED BRICKS IN EXISTING FACEWORK

- Replacement: Prior to repointing adjacent cracked joints, cut out and replace with matching sound bricks to approval.
- Jointing mortar: As section Z21.
 - Standard:
 - Mix:

91 CRACKED JOINTS IN EXISTING FACEWORK WHICH IS NOT TO BE REPOINTED

- Crack width determining need for joint remedial work:
- Preparation: Cut out joints to form a rectangular recess of 15–20 mm depth. Clean and dampen joints sufficiently to control suction.
- Joint profile: To match existing.
- Repointing mortar: As section Z21.
 - Standard:
 - Mix:

95 REPOINTING

- Preparation: Cut out joints to form a rectangular recess of 15–20 mm depth. Clean and dampen joints sufficiently to control suction.
- Joint profile:
- Mortar: As section Z21.
 - Standard:
 - Mix: