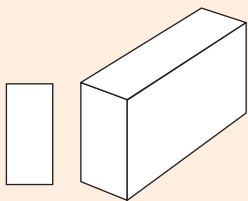


A Guide to Selection & Specification

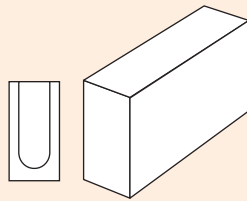
Data Sheet 1 October 2017

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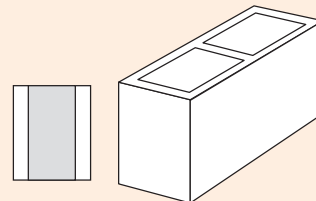
Block Types



Solid blocks – Blocks which contain no formed voids. (Group 1)



Cellular blocks – Blocks which contain one or more formed voids which do not fully penetrate the block. (Group 1 or Group 2 according to void percentage.)



Hollow blocks – Blocks which contain one or more formed voids which fully penetrate the block (Group 1 or Group 2 according to void percentage.) Blocks are available in various strengths and surface textures.

Introduction

This guide has been produced to assist designers and specifiers with the selection and specification of building blocks, which are manufactured in accordance with BS EN 771-3. The appropriate CBA Data Sheets should be consulted for more detailed information, including the selection of the UHB (Universal Housing Block) for housing projects. BS EN 771-3

Block Specification

For convenience blocks may be categorized using the following block details for all specifications:

- Block description (e.g. standard common blocks)
- Dimensions (e.g. 440mm x 100mm x 215mm)
- Tolerance category (e.g. D1)
- Strength (e.g. 7.3 N/mm²)
- Net dry density (e.g. 2000kg/m³)
- Configuration (e.g. solid/Group 1)

Within these categories there are three configurations, solid, cellular and hollow: see diagrams above.

Block Description

Block types are available in various ranges produced by CBA manufacturers, which may be generally described as follows:

Standard common blocks

Blocks suitable for general building work, offering excellent all round performance and normally available in 440 x 215mm face size. In addition to their loadbearing capabilities, they provide an excellent background for plastering and rendering as well as for fixings. This type of block is not normally intended for use in facing applications as variations in colour and texture may occur.

Close textured/Paint grade common blocks

Blocks manufactured with a close texture and suitable for direct painting.

Standard facing blocks

Blocks manufactured for applications where shape and texture consistency are of prime importance. Slight variations in colour may be discernible.

contains many more properties than its predecessor BS 6073-1 but not all these are required for use in the UK. Therefore only those properties specifically needed for an application should be specified.

Care should be taken to ensure that the mix of properties specified are mutually compatible and therefore available in a single block type.

Architectural masonry facing blocks

Blocks manufactured to high standards of dimensional accuracy and consistency of colour and texture. The blocks are intended for use in situations where the visual appearance of the wall is of primary concern. The blocks are available in a range of colours, textures, finishes and shapes.

See back for Special Block shapes

Dimensions

Face sizes/co-ordinating dimensions

Aggregate concrete blocks are typically available in two standard face sizes (length x height) of 440 x 215mm and 390 x 190mm. Other face sizes are available to aid manual handling. To obtain the co-ordinating dimensions add the specified joint thickness (normally

10mm) to the height and length of the block.

Block dimensions should be specified in the order length x width x height.

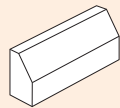
Intermediate widths may be available from some manufacturers.

Dimensions of commonly available blocks are:

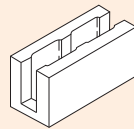
		Face size (mm)	
Width		440 x 215	390 x 190
	75	-	-
	90	90	-
	100	100	-
	140	140	-
	190	190	-
	215	-	-

Aggregate Concrete Blocks

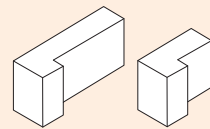
A Guide to Selection & Specification



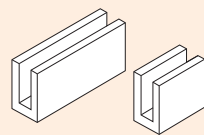
Sill



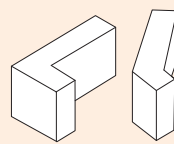
Bond Beam



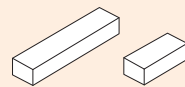
Cavity closers



Lintel



Quoin/Return



Fixing/Coursing

Special blocks –

Blocks produced to form an extensive 'kit-of-parts' which gives the designer-specifier greater flexibility.

Dimensional tolerances

Tolerances permitted by BS EN 771-3 are:

Limiting deviations in millimetres.

Blocks will generally be supplied to D1 tolerance category unless otherwise specified.

Manufacturers are permitted to supply to tighter tolerances on any dimension within a tolerance category.

Tolerance Category	D1	D2
Length	+3	+1
	-5	-3
Width	+3	+1
	-5	-3
Height	+3	+2
	-5	-2

Block Strengths

Blocks are available in compressive strengths from 2.9N/mm² to 40N/mm² (Solid) and 2.9N/mm² to 22.5N/mm² (cellular and hollow). Common strengths are 3.6N/mm² and 7.3N/mm².

Density

Aggregate concrete blocks are available in the net dry density range of 650 – 2400kg/m³ with a tolerance of ± 10%.

The full range of densities will not necessarily be available from all manufacturers.

Gross dry densities are typically used for cellular and hollow units and for the same products will be lower than net dry densities.

Configuration

Units to BS EN 771-3: Aggregate concrete masonry units will fall within one of the 4 groups specified in BS EN 1996-1-1: Eurocode 6 – Design of masonry structures.

Group 1 < 25% formed voids

Group 2 > 25% < 60% formed vertical voids

Group 3 > 25% < 70% formed vertical voids

Group 4 > 25% < 50% formed horizontal voids

Generally units will fall within Group 1 and Group 2 configurations.

Additional Details (when relevant)

- Block description
- Density or unit weights
- Flatness of surface (only applicable to facing units)
- Thermal resistance
- Durability
- Water absorption (not required for specification in the UK)

- Moisture movement (not required for specification in the UK)
- Water vapour permeability (not required for specification in the UK)
- Reaction to fire (designated non-combustible by UK Building Regulations)
- Shear bond strength (not required for specification in the UK)
- Flexural bond strength (not required for specification in the UK)

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Visit www.cba-blocks.org.uk for the latest information, news and views from the CBA. **CBA Technical Helpline: 0116 232 5165**

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