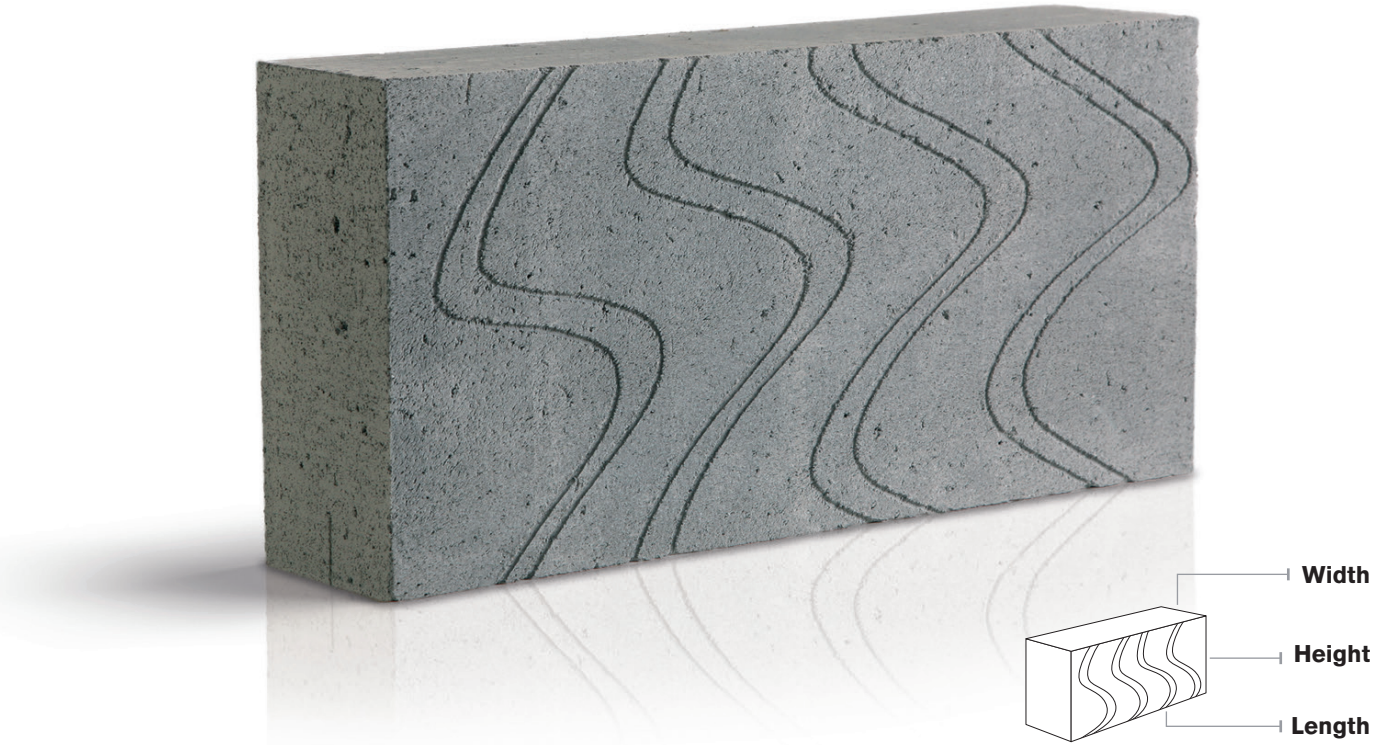
TECHNICAL DATA SHEET

SHIELD BLOCK 3.6

THERMALITE

a Forterra brand



LIGHTWEIGHT THERMAL PERFORMANCE BY DESIGN

Thermalite Shield Block 3.6 is suitable for a wide range of construction applications including internal walls, external walls (with a final finish), foundations, and separating walls. Their versatility can help reduce the need for multiple block types across a project.

Combining thermal performance with structural capability, these blocks deliver a design thermal conductivity (protected, 3%) of 0.15 W/m²K alongside a compressive strength of 3.6 N/mm², helping support project performance requirements.

Manufactured to BS EN 771-4, compliant with Masonry Wall Robust Details, and supporting Approved Documents Part A, B, E and L, **Thermalite** supports efficient project delivery and compliant wall construction.

KEY FACTS

(based on 440x215x100mm block)

Compressive Strength:	3.6 N/mm²
Weight:	7.6kg/block
Design Thermal Conductivity: Protected (3%)	0.15 W/m.K
Reaction to fire: BS EN 13501	A1

VIEW PRODUCT ONLINE

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PRODUCT APPLICATION

BLOCK WIDTH	CAVITY WALLS EXTERNAL LEAF BELOW DPC	CAVITY WALLS EXTERNAL LEAF ABOVE DPC	CAVITY WALLS INNER LEAF BELOW DPC	CAVITY WALLS INNER LEAF ABOVE DPC	SOLID EXTERNAL WALLS BELOW DPC	SOLID EXTERNAL WALLS ABOVE DPC	SEPARATING WALLS	INTERNAL PARTITIONS	BEAM & BLOCK FLOORING INFILL
50mm	✓ Φϑ‡	✓ Ϫ ‡	✓ Φ‡	✓ ‡	✗	✗	✗	✗	✗ !!
75mm	✓ Φϑ‡	✓ Ϫ ‡	✓ Φ‡	✓ ‡	✗	✗	✗	✗	✗ !!
100mm	✓ Φϑ	✓ Ϫ	✓ Φ	✓	✗	✗	✓ ж	✓ ж	✗ !!
140mm	✓ Φϑ	✓ Ϫ	✓ Φ	✓	✗	✗	✓ ж	✓ ж	✗ !!
150mm	✓ Φϑ	✓ Ϫ	✓ Φ	✓	✗	✗	✓ ж	✓ ж	✗ !!
200mm	✓ Φϑ	✓ Ϫ	✓ Φ	✓	✗	✗	✓ ж	✓ ж	✗ !!
215mm	✓ Φϑ	✓ Ϫ	✓ Φ	✓	✓ Φ ϑ	✓ Ϫ	✓ ж	✓ ж	✗ !!

SPECIAL ORDER Lead times may be extended and subject to minimum order quantity.

NOTES:

Φ Product suitability in this application is subject to the block achieving the sites soil / groundwater DS classification requirements.

ϑ Blocks in the external leaf from DPC level to 150mm below ground level must not be left exposed, suitable products such as clay bricks of Class B Engineering properties or "F2" durability in accordance with BS EN 771-1 should be specified in this zone, alternatively blocks may be covered with a suitable protective finish.

Ϫ For all external leaf applications, the block requires a suitable impervious coating or finish applied, blocks must not be left exposed when used on the external leaf.

‡ This product is designed to be used in conjunction with another masonry unit which provides structural support to it i.e. behind a brick plinth. They should not be used to construct single leaf walls (load bearing or non-load bearing) on their own due to structural stability reasons.

ж Product suitability in this application is subject to the block achieving the walls specification requirements for sound reduction or those specification criteria set in the Robust Detail selected.

!! For beam and block infill applications, only the Thermalite Floor block can be used.

Products should be designed and constructed in accordance with all relevant Legislation, Building Regulations, European & British Standards, Acts, Codes of Practice and manufacturers recommendations.

Please refer to Building Regulations, Approved Document A and the Projects Structural Engineer for minimum wall thickness, block compressive strength and characteristic strength requirements - specification varies subject to numerous factors which include loading, block orientation, restraint, wall height and length.

If you are considering applying a render or cladding, please contact the finish supplier for block/brick suitability.

Block weights based on gross density @ 23% moisture content, moisture equilibrium approximately 3% (protected) and 5% (exposed)

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PRODUCT TECHNICAL DATA

SPECIAL ORDER
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Width (mm):	50	75	100	140	150	200	215
Face Sizes – L x H (mm):	440 x 215	440 x 215	440 x 215	440 x 215	440 x 215	440 x 215	440 x 215
Dimensional Tolerance Classification:	GPLM	GPLM	GPLM	GPLM	GPLM	GPLM	GPLM
Dimensional Tolerance – Length:	(+3mm -5mm)	(+3mm -5mm)	(+3mm -5mm)	(+3mm -5mm)	(+3mm -5mm)	(+3mm -5mm)	(+3mm -5mm)
Dimensional Tolerance – Height:	(+3mm -5mm)	(+3mm -5mm)	(+3mm -5mm)	(+3mm -5mm)	(+3mm -5mm)	(+3mm -5mm)	(+3mm -5mm)
Dimensional Tolerance – Width:	(+3mm -3mm)	(+3mm -3mm)	(+3mm -3mm)	(+3mm -3mm)	(+3mm -3mm)	(+3mm -3mm)	(+3mm -3mm)
Unit Weight, Gross Density @ 23% Moisture (kg):	3.5	5.2	7.0	9.8	10.5	14	15
Configuration:	Group 1 (Solid)	Group 1 (Solid)	Group 1 (Solid)	Group 1 (Solid)	Group 1 (Solid)	Group 1 (Solid)	Group 1 (Solid)
Category:	II	II	II	II	II	II	II
Mean Compressive Strength (N/mm^2): The declared properties are based on the block being laid in their intended orientation i.e. face size (L x H) and thickness stated on this technical data sheet. Please contact Forterra for further information before using the block in a different orientation.	3.6	3.6	3.6	3.6	3.6	3.6	3.6
Gross Dry Density (Kg/m^3):	600	600	600	600	600	600	600
Thermal Conductivity - λ10, dry unit, S2 (W/m.K)	0.130	0.130	0.130	0.130	0.130	0.130	0.130
Design Thermal Conductivity - Protected (3%) (W/m.K):	0.150	0.150	0.150	0.150	0.150	0.150	0.150
Design Thermal Conductivity - Exposed (5%) (W/m.K):	0.160	0.160	0.160	0.160	0.160	0.160	0.160
Design Thermal Conductivity - (15%) (W/m.K):	0.24	0.24	0.24	0.24	0.24	0.24	0.24
Thermal Resistance - Protected (3%) ($m^2.K/W$):	0.33	0.5	0.66	0.93	1	1.33	1.43
Thermal Resistance - Exposed (5%) ($m^2.K/W$):	0.31	0.46	0.62	0.87	0.93	1.25	1.34
Sound Reduction – Un-finished (RW dB): Sound Reduction - Calculated based on unfinished. On-site testing values may be lower.	30.9	35.7	39.2	43.2	44.1	47.5	48.4
Fire Resistance (Hours) (NA to BS EN 1996-1-2) – Non-load Bearing Single Leaf walls (Criteria EI):	0.5	3	4	4	4	4	4
Fire Resistance (Hours) (NA to BS EN 1996-1-2) – Load Bearing Single Leaf walls (Criteria REI) ≤ 0.7:	NPD	NPD	2	3	4	4	4
Load Bearing Single Leaf walls (Criteria REI) ≤ 0.42:	NPD	NPD	2	3	4	4	4
Reaction to Fire (BS EN 13501):	A1	A1	A1	A1	A1	A1	A1
Water Vapor Permeability:	5/10	5/10	5/10	5/10	5/10	5/10	5/10
Dimensional Stability - Moisture Movement (mm/m):	nominal 0.5	nominal 0.5	nominal 0.5	nominal 0.5	nominal 0.5	nominal 0.5	nominal 0.5
Vapour Resistivity (MN.s/g.m):	50	50	50	50	50	50	50
Soil or Groundwater DS Classification:	DS1-4	DS1-4	DS1-4	DS1-4	DS1-4	DS1-4	DS1-4
Shear Bond Strength (N/mm^2):	0.15	0.15	0.15	0.15	0.15	0.15	0.15
Third Party Certification:	Yes (BBA Certificate 00/3720 - Product Sheet 3)						
Movement Joint Detail	Vertical movement joints at 6m centres and not more than half that spacing from a corner						

Blocks are manufactured to BS EN 771-4. NPD denotes 'No Performance Declaration'; please contact Forterra for further information.

Forterra Design & Technical Services
Atherstone Road, Measham, Derbyshire DE12 7EL
Tel: +44 (0) 330 123 1018
Email: asktechnical@forterra.co.uk
forterra.co.uk

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Valid at the time of publication. Please check our website (www.forterra.co.uk) for the latest product information and documentation. For previous versions please contact us.

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