

STAR PERFORMER®

Multi-purpose aggregate blocks
with outstanding thermal and
acoustic performance.



**THE
ECOLOGICAL
CHOICE**

STAR PERFORMER®

Star Performer® is a multi-purpose, cellular block for the domestic housing market that provides excellent thermal and acoustic performance.

The cellular construction delivers superior thermal properties that contribute to the requirements of the Future Homes Standard. It's the only cellular aggregate block with Part E Robust Details (RD) accreditation for use in party walls.



LIVE
ENVIRONMENTAL
PRODUCT
DECLARATIONS
AVAILABLE

A versatile, one block solution, Star Performer can be used below damp proof course (DPC) in sulphate soils classified as up to and including DS-3*.

Star Performer has lower embedded carbon compared to aerated blocks due to the manufacturing process.

*Speak to our sales team for details.



Three splitter cores make cutting easy.

Plaster direct – No special precautions or surface preparations required.

Five “bridges” give transverse strength of 4.5 kN.

Solid mortar bed – Blocks should be laid void down.

Available in standard and paint grade textures.

Dense aggregate composition provides an exceptional strength-to-weight ratio of up to 10.4 N/mm² at 15kg.

Still air trapped in voids dramatically improves thermal and acoustic performance.

ECO CREDENTIALS

- 24% of the block is voids to deliver a more sustainable solution with:**
- **24% less aggregate**
 - **24% less water**
 - **Less cement than an equivalent solid block**
 - **10% recycled material.**

THERMAL PROPERTIES

These units share the thermal characteristics of solid medium-dense blocks. By using Star Performer’s bespoke Ψ and Kappa values in SAP calculations, you can minimise heat loss at thermal junctions and meet Future Homes Standard requirements. Contact your sales representative for technical information, including junction detail drawings and bespoke Ψ and Kappa values.

APPLICATIONS

- Can be used for:**
- **Internal and external leaves of walls**
 - **Party walls**
 - **Below DPC**
 - **Infill for block and beam floors**
 - **Internal partition walls.**

TECHNICAL INFORMATION

Unit weight @ 3% moisture (approx.)	14.5 kg
Weight laid /m ² (approx.)	154 kg/m ²
Gross density of unit (approx.)	1550 kg/m ³
Net concrete density (approx.)	1528 kg/m ³
Effective lambda value	0.649 W/mK
Thermal resistance	0.154 m ² K/W
Compressive strength*	3.6 N/mm ² ; 7.3 N/mm ² ; 10.4 N/mm ²
Void percentage (approx.)	24%
External wall plasterboard finish	78 k J(m ² K)
Ditto gypsum finish	126 k J(m ² K)
Internal partition wall plasterboard finish both faces	63.2 k J(m ² K)
Void percentage (approx.)	24%
Moisture movement	0.5mm/m
Number per pack	9m ² (90 blocks)
Thickness of concrete shell	27.5mm
Manufacturing category	BS EN 771-3:2011 Category 1 BS EN 1996-1-1 Group 1
Finishes available	Standard finish

*Note: The compression test is taken over the whole bed area of the block including the void areas.

SOUND RESISTING
SEPARATING WALLS:
APPROVED DOCUMENT E
BUILDING REGULATIONS
PART E1

RD Compliance proves compliance with the relevant Building Regulations in England and Wales (BREW), without the need for pre-completion sound testing. This saves time and money for builders.

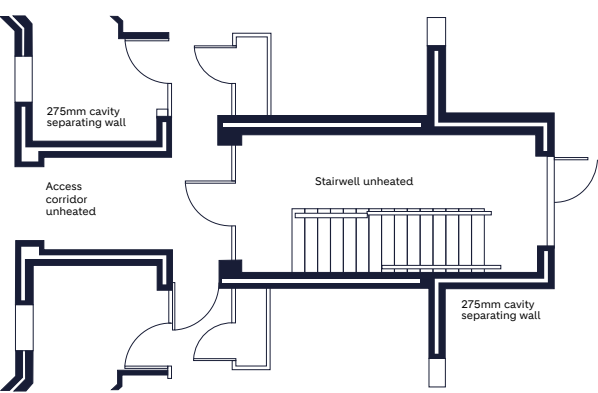
RD scheme constructions must be capable of consistently exceeding the performance standards given in Approved Document E to the BREW, at the same time as being reasonably tolerant to workmanship.

The table below lists the RD’s currently applicable to the Star Performer block when used in England and Wales.

RD number	C.S.H. credits	Min cavity width (mm)	Cavity insulation	Parge coat required	Internal finish	Floor (flats)
E-WM-5	1	75	*75mm mineral wool. Max density 40kg/m³ (optional)	Yes	Gypsum based board 8kg/m²	E-FC-1 E-FC-12
E-WM-8	1	75	35mm Isover RD 35	No	Gypsum board 9.8kg/m²	E-FC-13 E-FC-14 E-FC-4
E-WM-11	3	100	*100mm mineral wool. Max density 40kg/m³ (optional)	Yes	Gypsum based board 8kg/m²	E-FC-5 E-FC-8
E-WM-17	3	100	100mm Isover RD Party Wall Roll or Isover Round The House Roll	No	Gypsum based board 9.8kg/m²	E-FC-9 E-FC-10
E-WM-26	1	100	100mm mineral wool roll quilt or batts of density range 12kg/ m³-25kg/m³	No	Gypsum based board 10kg/m²	E-FC-11 E-FC-15 E-FC-16
E-WM-19 MONARFLOOR BRIDGESTOP system. (Adjoining houses only)	4	100	*100mm mineral wool roll quilt or batts of max density 40kg/m³ (optional)	Yes	Gypsum based board on dabs (8kg/m³) on sand and cement render coat.	This system is for adjoining houses only. Not suitable for use in flats.

1. The inner leaf of the external wall may be constructed of Star Performer blocks in all of the above RDs. 2. The insulation within the separating (party) wall cavity is used to reduce convection of heat into the roof spaces which improves the dwelling emission rate (DER). 3. Where the detail is marked*, the cavity insulation IS OPTIONAL. However if it is excluded the DER will increase. 4. RD specifications refer to separating (party walls) between dwellings.

Flat/apartment heated



Internal walls separating a dwelling from communal building areas (e.g., stairwells and corridors) are not covered by RD protocols.

Under Regulation E1, these walls must achieve a DnTw + Ctr rating of 45dB. Although Approved Document E does not mandate on-site testing for these specific partitions, the DnTw + Ctr terminology specifically denotes an on-site performance standard.

To satisfy Building Control, developers must demonstrate compliance, often by adhering to RD specifications, even if official RD certification is not applicable.

E2(a) refers to dwelling houses, flats, and rooms for residential purposes. It requires that internal walls between bedrooms and toilets and other rooms provide reasonable resistance to sound. Note: There is an exclusion for walls that separate an en suite toilet from the associated bedroom.

Wall designation	Approved Document wall reference	Requirement	
Internal wall between a bedroom, or a room containing a toilet and any other rooms.	Internal Wall Type C: Concrete block wall, with plaster or plasterboard finish on both sides.	Rw 40dB	Single skin Star Performer plastered or dry-lined on both faces.

THERMAL INSULATION
EXTERNAL WALL

Typical external wall U-values with brick outer leaf and internal finish of plasterboard on dabs.

Type of insulation	Lambda value of insulation (W/mK)	Cavity width (mm)	U-value (W/m²K)
Full fill blown bead	0.033	125	0.23
	0.033	150	0.19
Full fill mineral wool slab	0.032	125	0.22
	0.032	150	0.19
Full fill blown mineral wool	0.037	150	0.21
	0.034	125	0.23
	0.034	150	0.20
PU / PIR board 75mm partial fill	0.022	125	0.22
PU / PIR board 100mm partial fill	0.022	150	0.18
Full fill “CavityTherm” 95mm PIR board	0.021	100	0.19
Full fill “CavityTherm” 120mm PIR board	0.021	125	0.16



USE BELOW DPC

Star Performer blocks have proven to be durable, efficient, and economical when used below DPC. They accelerate lay rates, since each block is equivalent to six bricks.

They're suitable for use below DPC in soils up to and including DS-3 as defined in BRE Special Digest 1*

- Made from dense aggregates to BS EN 12620
- Strength of 7.3 N/mm²
- Complies with BS EN 1996 (EC6) Part 3 2006 PD 6697:2019.

Mortar

A mortar containing 1:1:5-6 cement: lime: sand (or equivalent) or a general purpose mortar is commonly used below ground level.

Points to watch

- ALWAYS lay blocks void down.
- Do not lay blocks flat.

*Speak to your sales representative or call our technical department for details.



For other U-values not covered in the table, please contact our Technical Services Department via building.products@holcim.co.uk.

BEAM & BLOCK FLOORS

The [Precast Flooring Federation](#) specifies that blocks for use within floor beams should be of 7.3 N/mm² compressive strength or capable of sustaining a central load applied via a 100mm² steel plate of 3.5 kN on a span of 420mm.

The 7.3 N/mm² Star Performer meets both of these requirements.

We are able to supply infill slip and cavity closer blocks to maintain coursing height if required. See diagrams for guidance in use.

Guidance notes

Always specify blocks with 7.3 N/mm² for this application.

Where it's necessary to cut blocks to size, always cut to, and not beyond, a bridge (see fig 6). If this isn't possible, cut the portion size required from a solid 440 x 215 x 100 block.

Where the block bears on, and forms part of the foundation wall, the laid flat compressive strength of the areas that are likely to be subject to load, assuming the bearing wall to be of 100mm thickness, is:

- 440 x 100 = 5.0 N/mm² (see fig 7)
- 215 x 100 = 4.0 N/mm² (see fig 8)

Ensure that the floor is constructed and finished in accordance with the manufacturer's instructions.

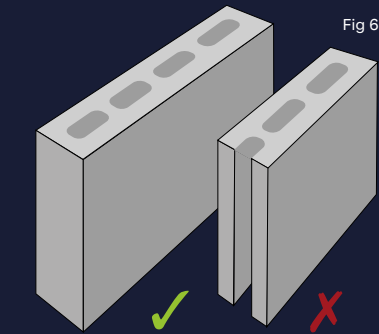


Fig 6

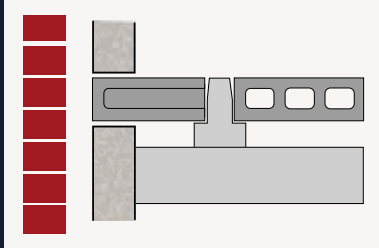


Fig 7

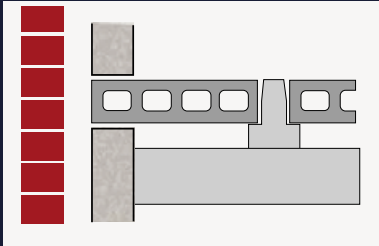


Fig 8

CUTTING & CHASING

Star Performer blocks feature three in-built splitter cores for easy cutting to achieve 1/4, 1/2 or 3/4 of a block.

Where cutting and chasing is required, we always recommend the use of a mechanical cutter.

35mm holes can be cut to feed utilities.

TECHNICAL SERVICES

Detailed guidance and assistance with the preparation of specification and use of the Holcim range of products is available through the sales office.

Holcim's technical team offers full SAP assessments through to EPC stage, and we have two fully accredited air leakage testing teams available. Speak to your sales representative for more information.

Full COSHH data and Environmental Product Declarations certified by Institut Bauen und Umwelt e.V. (IBU) are available upon request.

For technical support, contact our technical services team at building.products@holcim.co.uk or on **01285 646900**, or speak to your local sales representative.

MANUFACTURING STANDARD

Star Performer blocks are manufactured using a semi-dry process. They're compliant with:

- Assessment and Verification of Constancy of Performance system 4, category II masonry units
- BS EN 771-3
 - BS EN 1996-3:2006
 - BS EN 12620
 - PD 6697:2019.



FIXING TO CELLULAR BLOCKS

Star Performer has been tested for tensile and shear strengths by Lucideon Ltd. a UKAS accredited laboratory. Standard M8 Anchor fixings were inserted into 440mm x 215mm blocks. The fixing passed through the 27.5mm shell, penetrating approx. 25.5mm into the void.

Tensile tests were conducted in accordance with the requirements of BS5080: Part 1: 1993.

Shear tests were conducted in accordance with the requirements of BS5080: Part 2: 1986.

Block type	Max Load (kN)	Max load (kg)
Summary of test results		
Tensile strengths of fixings installed into blocks (mean of 5)		
100mm Star Performer	6.39	652
Summary of test results		
Shear strengths of fixings installed into blocks (mean of 5)		
100mm Star Performer	15.33	1556

A full test report is available on request from your sales representative.



SMARTER Multi-purpose, one-block, on-site solution.

GREATER Thermal insulation to comply with Future Homes Standard.

BETTER Acoustic performance with Robust Details compliance.

GREENER 24% less aggregate.
24% less water.
Less cement than in an equivalent solid block.
10% recycled material.

Holcim is a global leader in innovative and sustainable building solutions, committed to enabling greener cities, smarter infrastructure, and improved living standards worldwide. Sustainability is at the core of our strategy, and we are actively working towards becoming a net zero company.

In the UK, our mission is to make sustainable construction a reality. With over 200 sites and 4,000 colleagues, we provide a wide range of products and solutions, from foundation to rooftop across cement, readymix concrete, asphalt, aggregates, building products, CDM, mortar and contracting.

Bardon Hill Office
Bardon Hill
Leicestershire
Coalville
LE67 1TL

building.products@holcim.co.uk
holcim.co.uk
01285 646900

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