

A close-up photograph of aggregate blocks, showing their rough, textured surfaces and the mortar joints between them. The lighting creates strong shadows, highlighting the granular nature of the material.

# aggregate blocks

## product technical datasheets



## Introduction

Hanson manufacture and supply concrete aggregate blocks. Using naturally occurring dense and lightweight aggregates, Hanson's aggregate blocks are a robust product, offering high compressive strength and excellent sound insulation to help meet the requirements of Building Regulations.

Hanson provides a unique wealth of knowledge, choice and resources, offering customers a wide range of products for the Housing, Commercial and DIY sectors, all backed by the sales support and technical service that is the strength of this division.

All products are manufactured to the requirements of BS EN 771-3 and are available in a variety of densities, strengths, sizes, configurations and finishes to suit most applications.

For instant U-value calculations visit [www.askhanson.co.uk](http://www.askhanson.co.uk)



### Standards and regulations

The British/European Standards and Building Regulations that apply to the manufacture and use of aggregate blocks are always subject to revision and improvement. Certain documents that are either in the process of change, or whose publication is imminent, cannot be fully accommodated at the time of publication, although, wherever possible, reference has been made in the text.

Hanson's website, [www.askhanson.co.uk](http://www.askhanson.co.uk) will be updated as important changes occur, but for specific queries relating to the manufacture or application of the product please contact our Walling Solutions Technical Centre on 0330 123 1018.

### Sustainability and the environment

Managing environmental issues is an integral part of Hanson's business strategy and the company is committed to minimising the impact of its operations on local communities and the natural environment.

Hanson's aggregate blocks are manufactured by the most efficient methods available and where possible, using specially selected recycled aggregates and secondary aggregate materials. A strict waste minimisation scheme is also operated to ensure that waste materials from the production process are either reused or recycled.

### Quality

Hanson's aggregate blocks are manufactured to the requirements of BS EN 771-3, ensuring compliance with all relevant standards and codes of practice.

### Services

Hanson continually researches the needs of customers in order to develop the range of products available. Additionally, a comprehensive range of literature is available with technical advice on all aspects of the application and use of aggregate block products in construction.

Sales: 0330 123 1015  
Technical: 0330 123 1018



# Evalast Paint Grade

**Mean compressive strength: 7.3 - 22.5N/mm<sup>2</sup>**

**Thermal conductivity: 1.22W/m.K internal, 1.31W/m.K external**

**Dry density: 1900 kg/m<sup>3</sup>**



### Material properties

Thermal conductivity W/m.K	internal	1.22
	external	1.31
Dry density kg/m <sup>3</sup>		1900
Total moisture movement mm m <sup>-1</sup>		< 0.50
Vapour resistivity MN.s/g.m		100
Mean compressive strength N/mm <sup>2</sup>	solid	7.3, 10.4, 17.5, 22.5
Water absorption by capillary g/m <sup>2</sup> .s <sup>0.5</sup>		< 375
Shear bond strength N/mm <sup>2</sup>		0.15
Fire classification		A1
Flatness mm		< 0.5
Water vapour permeability		5/15
Dimension tolerance classification		D1
Configuration		†Group 1



Evalast Paint Grade

### Evalast Paint Grade

Evalast blocks are produced from selected aggregates complying with BS EN 12620, and Portland cement. They are manufactured to BS EN 771-3 and are subject to rigorous quality control. These superior quality dense blocks are produced with a mix design formulated to produce a close face texture.

Evalast Paint Grade blocks are manufactured from selected aggregates, producing a consistent smooth texture, which is ideal for receiving a painted finish.\*

\*The finish on Evalast Paint Grade products is guaranteed on one header and one stretcher only.

### Applications

Evalast Paint Grade blocks can be used in all situations where durable, robust or painted blockwork is required. They are an economic solution for applications such as:

- factory units
- workshops
- sports centres
- offices

The strength and type of aggregate used allows these blocks to be built in external or internal applications with sustained long term durability.

The close texture of the Evalast Paint Grade product, coupled with their high strengths, provides an excellent base for a variety of standard fixing systems.

### Dimensions, weights and properties

Work size mm	Width mm	Configuration	Thermal resistance m <sup>2</sup> K/W		Dry block weight kg	Weight laid kg/m <sup>2</sup>	Sound reduction dB	Fire resistance (hours)			
			internal	external				Single leaf - non loadbearing	no applied finish	loadbearing	Class 2
440 x 215	100	Solid †	0.082	0.076	18.0	195	43	Class 1 agg	Class 2 agg	Class 1 agg	Class 2 agg
	140	Solid †	0.115	0.107	25.2	273	45	2	2	2	2
								4	3	3	2

### Specification and performance

Being manufactured from natural aggregates, Hanson's aggregate blocks provide a high standard of sound insulation. They also provide the highest possible levels of fire resistance and are often used where fire resistance is an important characteristic of the structure.

Fire resistance will however, depend on the type of aggregate used. It is therefore important that the class is specified in order to obtain the correct block for the required application.



All Hanson aggregate blocks incorporate Regen<sup>®</sup> in their manufacture which reduces their CO<sub>2</sub> emissions by up to 30%. Regen<sup>®</sup> is Ground Granulated Blast furnace Slag (GGBS), which is a cement substitute manufactured from a by-product of the iron-making industry. Each tonne of Regen<sup>®</sup> used reduces the embodied CO<sub>2</sub> by around 850kg, compared to using Portland Cement, and also increases its durability.

# Evalite Paint Grade

**Mean compressive strength: 7.3N/mm<sup>2</sup>**  
**Thermal conductivity: 0.47W/m.K internal**  
**Dry density: 1450kg/m<sup>3</sup>**



## Evalite Paint Grade

Evalite blocks are a medium density product, intended for internal applications where weight is critical. Manufactured to the requirements of BS EN 771-3, from selected aggregates and Portland cement, Evalite products are subject to rigorous quality control. The blocks are manufactured with a mix design formulated to produce a close face texture.

Evalite Paint Grade blocks are manufactured from selected aggregates, producing a consistent smooth texture, which is ideal for receiving a painted finish.\*

\*The finish on Evalite Paint Grade products is guaranteed on one header and one stretcher only.

## Applications

Evalite Paint Grade blocks are ideal for use where appearance and weight are of prime consideration. They are intended for internal applications where a lightweight, economic paintable block is required for aesthetically important projects such as:

- shopping precincts
- offices
- sports centres
- factory units
- workshops

The close texture of Evalite Paint Grade products, coupled with high strengths, provides an excellent base for a variety of standard fixing systems.

## Material properties

Thermal conductivity W/m.K	internal only	0.47
Dry density kg/m <sup>3</sup>		1450
Total moisture movement mm m <sup>-1</sup>		< 0.80
Vapour resistivity MN.s/g.m		50
Mean compressive strength N/mm <sup>2</sup>	solid	7.3
Water absorption by capillary g/m <sup>2</sup> .s <sup>0.5</sup>		< 350
Shear bond strength N/mm <sup>2</sup>		0.15
Fire classification		A1
Flatness mm		< 0.5
Water vapour permeability		5/15
Dimension tolerance classification		D1
Configuration		†Group 1



Evalite Paint Grade

## Dimensions, weights and properties


Work size mm	Width mm	Configuration	Thermal resistance m <sup>2</sup> K/W internal	Dry block weight kg	Weight laid kg/m <sup>2</sup>	Sound reduction dB	Fire resistance (hours)	
							Single leaf - no applied finish	loadbearing Class 1 agg
440 x 215	100	Solid †	0.213	13.7	151	42	2	2
	140	Solid †	0.298	19.2	212	44	4	3

## Specification and performance

Evalite Paint Grade blocks are manufactured using Class 1 aggregates and often used where the highest possible levels of fire resistance are required together with good sound insulation properties.



**For instant U-value calculations**  
 visit [www.askhanson.co.uk](http://www.askhanson.co.uk)

**All Hanson aggregate blocks incorporate Regen® in their manufacture which reduces their CO<sub>2</sub> emissions by up to 30%.** Regen® is Ground Granulated Blast furnace Slag (GGBS), which is a cement substitute manufactured from a by-product of the iron-making industry. Each tonne of Regen® used reduces the embodied CO<sub>2</sub> by around 850kg, compared to using Portland Cement, and also increases its durability.

# Evalast Background

**Mean compressive strength: 7.3 - 30.0N/mm<sup>2</sup>**

**Thermal conductivity: 1.32W/m.K internal, 1.42W/m.K external**

**Dry density: 1990 kg/m<sup>3</sup>**



## Evalast Background

Manufactured to BS EN 771-3 from crushed rock or gravel aggregates to BS EN 12620 and Portland cement.

Evalast Background blocks are dense aggregate blocks which can be used in virtually any part of a project above or below ground, in normal conditions. Their performance makes them especially applicable to partition and separating walls where good sound insulating qualities and high strengths are required. They can also be used as infill blocks in beam and block flooring systems.

## Applications

### Acoustics

The high density of Evalast Background blocks gives them excellent sound insulation properties. When laid to form a sound separating wall, they achieve the required mass as given in the Building Regulations and Robust Details.



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visit [www.askhanson.co.uk](http://www.askhanson.co.uk)

## Flooring

Evalast Background blocks are suitable as infill blocks for beam and block flooring systems. They should be specified as 'for flooring', in order that the correct manufacturing base is sourced.

## Strength

Having high density, with associated strengths, Evalast Background blocks easily achieve the durability requirements for use above and below ground. They can be used in normal and sulphate soil conditions equivalent to classification DS-3.

## Thermal

Evalast Background blocks, in conjunction with suitable thicknesses of insulation are able to provide high levels of thermal insulation.

## Fire

Concrete is an excellent fire resistant material. Evalast Background products are manufactured from either Class 1 (limestone) or Class 2 (gravel and crushed stone) aggregates. Where fire resistance is important it is essential that the class of aggregate is specified.

## Coursing blocks

To complement the range, 22.5N/mm<sup>2</sup> coursing units (brick size) are available for use in conjunction with 7.3N/mm<sup>2</sup> 100mm Evalast Background blocks, and 22.5N/mm<sup>2</sup> full length units are available for 140mm thick products.

## Finishes

The nature of Evalast Background blocks classes them, for the purpose of rendering and plastering, as a relatively low suction background. They can be either smooth or rough in texture, depending upon manufacturing location. As such, the correct specification for the applied finishes should be provided. In the case of dense sand cement plasters applied to smooth blocks, it is recommended that, in addition to raking out of the joints, an adhesive slurry, spatterdash or stipple coat is applied to the block surface prior to the application of the first undercoat. The high strengths and close internal texture of Evalast Background blocks mean that excellent fixing can be achieved using a variety of patent fixings.

Note: Evalast blocks are not intended to be left fair faced or painted and should have a finish (plaster, render, plasterboard, cladding, etc.) applied where the wall is to have visual importance.

## Material properties

Thermal conductivity W/m.K	internal	1.32
	external	1.42
Dry density kg/m <sup>3</sup>		1990
Total moisture movement mm m <sup>-1</sup>		< 0.55
Vapour resistivity MN.s/g.m		100
Mean compressive strength N/mm <sup>2</sup>	solid	7.3, 10.4, 17.5, 22.5, 30
	hollow	7.3, 10.4
	100mm coursing unit	22.5
	140mm coursing unit	22.5
Shear bond strength N/mm <sup>2</sup>		0.15
Fire classification		A1
Flatness mm		< 1.0
Water vapour permeability		5/15
Dimension tolerance classification		D1
Configuration	†Group 1	‡Group 2



Evalast Background

## Dimensions, weights and properties

Work size mm	Width mm	Configuration	Thermal Resistance m <sup>2</sup> K/W		Dry block weight kg	Weight laid kg/m <sup>2</sup>	Sound reduction dB	Fire resistance (hours)				
			internal	external				Single leaf - no applied finish		loadbearing		
								non loadbearing	Class 1	Class 2	Class 1	Class 2
								agg	agg	agg	agg	agg
440 x 215	100	Solid †	0.076	0.070	18.8	203	43	2	2	2	2	
	140	Solid †	0.106	0.099	26.4	285	46	4	3	3	2	
	215	Hollow ‡	0.209	0.200	24.5	268	45	6	6	2	-	
290 x 215	140	Easilift Solid †	0.106	0.099	17.4	285	46	4	3	3	2	
290 x 140	215	Easilift Solid †	0.163	0.151	17.4	436	48	6	6	6	2	
215 x 65	100	Coursing unit †	0.078	0.073	2.9	207	43	2	2	2	2	
440 x 65	140	Coursing unit †	0.106	0.099	8.0	283	46	4	3	3	2	
440 x 100	215	100mm laid flat†	0.163	0.151	18.8	435	48	6	6	6	2	
440 x 140	215	140mm laid flat †	0.163	0.151	26.4	436	48	6	6	6	2	



**All Hanson aggregate blocks incorporate Regen<sup>®</sup> in their manufacture which reduces their CO<sub>2</sub> emissions by up to 30%.** Regen<sup>®</sup> is Ground Granulated Blast furnace Slag (GGBS), which is a cement substitute manufactured from a by-product of the iron-making industry. Each tonne of Regen<sup>®</sup> used reduces the embodied CO<sub>2</sub> by around 850kg, compared to using Portland Cement, and also increases its durability.

# Fenlite and Fenlite 1500 Background

**Mean compressive strength: 3.6 - 10.4N/mm<sup>2</sup>**  
**Thermal conductivity: 0.45 - 0.48W/m.K**  
**Dry density: Fenlite - 1350kg/m<sup>3</sup>,**  
**Fenlite 1500 - 1500kg/m<sup>3</sup>**

## Fenlite blocks

Fenlite and Fenlite 1500 blocks are manufactured to BS EN 771-3 from natural aggregates to BS EN 12620, pyro processed lightweight aggregates to BS EN 13055-1, and Portland cement. These medium density blocks are suitable for use in the majority of standard applications i.e. the inner leaf of cavity walls when used with secondary insulation, separating or partition walls, infill blocks in beam and block flooring systems and externally where a finish is applied.

Fenlite blocks can be used in all parts of the project above and below ground (7.3N/mm<sup>2</sup> strength if used on the outer leaf below dpc and unprotected)\*. Their performance makes them eminently suitable for general load bearing conditions, sound insulation, internal partitions and where ease of handling and weight are of importance.

## Applications

### Acoustic

The density of Fenlite and Fenlite 1500 blocks gives them excellent sound insulation properties. When laid to form a cavity sound separating wall they will achieve the required mass as given in the Building Regulations and Robust Details.

### Flooring

Fenlite and Fenlite 1500 7.3N/mm<sup>2</sup> blocks are suitable as in-fill blocks for beam and block flooring systems. They should be specified as 'for flooring', in order that the correct manufacturing base is sourced.

Note: Fenlite and Fenlite 1500 blocks are not intended to be left fair or painted and should have a finish (plaster, render plasterboard, cladding, etc.) applied where the wall is to have visual importance.

\* The use of 7.3N/mm<sup>2</sup> Fenlite and Fenlite 1500 blocks is possible in aggressive soil conditions. Please consult Hanson's Walling Solutions Technical Centre on 0330 123 1018 for further details.




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 visit [www.askhanson.co.uk](http://www.askhanson.co.uk)

## Strength

The strength of all Fenlite blocks dictates their application in exposed conditions. Block strengths of 7.3N/mm<sup>2</sup> and greater should be specified if they are to be used on the outer leaf of a cavity wall below dpc level and left unprotected. In all other normal situations 3.6N/mm<sup>2</sup> blocks would be suitable.

Fenlite and Fenlite 1500 blocks, in conjunction with suitable thicknesses of insulation are able to reach high levels of thermal insulation.

Concrete is an excellent fire resistant material. Fenlite and Fenlite 1500 blocks are manufactured using Class 1 aggregates which provides the highest level of fire resistance for a given size.

Having good strengths, excellent fixing can be achieved using a variety of patent fixings.

To complement the Fenlite range, 10.4N/mm<sup>2</sup> coursing units (brick size) are available for use in conjunction with 3.6N/mm<sup>2</sup> 100mm blocks and full length units are available for 140mm width products.

Fenlite and Fenlite 1500 blocks offer a medium suction background which is ideal for the direct application of sand cement renders and plasters, together with proprietary lightweight plasters.

## Material properties

Material properties for Fenlite and Fenlite 1500 are shown in the data tables.

## Dimensions, weights and properties

Dimensions, weights and properties for Fenlite and Fenlite 1500 are shown in the data tables.




**All Hanson aggregate blocks incorporate Regen® in their manufacture which reduces their CO<sub>2</sub> emissions by up to 30%.** Regen® is Ground Granulated Blast furnace Slag (GGBS), which is a cement substitute manufactured from a by-product of the iron-making industry. Each tonne of Regen® used reduces the embodied CO<sub>2</sub> by around 850kg, compared to using Portland Cement, and also increases its durability.

# Fenlite and Fenlite 1500 Background continued

**Fenlite material properties**

Thermal conductivity W/m.K	internal	0.45
	external	0.48
Dry density kg/m <sup>3</sup>		1350
Total moisture movement mm m <sup>-1</sup>		< 0.95
Vapour resistivity MN.s/g.m		50
Mean compressive strength N/mm <sup>2</sup>	solid	3.6, 7.3, 10.4
	100mm coursing unit	10.4
	140mm coursing unit	10.4
Shear bond strength N/mm <sup>2</sup>		0.15
Fire classification		A1
Flatness mm		< 1.0
Water vapour permeability		5/15
Dimension tolerance classification		D1
Configuration		†Group 1



Fenlite Background

**Fenlite 1500 material properties**

Thermal conductivity W/m.K	internal	0.48
	external	0.52
Dry density kg/m <sup>3</sup>		1500
Total moisture movement mm m <sup>-1</sup>		< 0.95
Vapour resistivity MN.s/g.m		50
Mean compressive strength N/mm <sup>2</sup>	solid	3.6, 7.3, 10.4
Shear bond strength N/mm <sup>2</sup>		0.15
Fire classification		A1
Flatness mm		< 1.0
Water vapour permeability		5/15
Dimension tolerance classification		D1
Configuration		†Group 1



Fenlite 1500 Background

**Fenlite dimensions, weights and properties**

Work size mm	Width mm	Configuration	Thermal resistance m <sup>2</sup> K/W		Dry block weight kg	Weight laid kg/m <sup>2</sup>	Sound reduction dB	Fire resistance (hours)	
			internal	external				Single leaf - no applied finish non loadbearing Class 1 agg	loadbearing Class 1 agg
440 x 215	100	Solid †	0.222	0.208	12.8	142	41	2	2
	140	Solid †	0.311	0.292	17.9	199	43	4	3
215 x 65	100	Coursing unit †	0.229	0.215	1.9	150	42	2	2
440 x 65	140	Coursing unit †	0.311	0.292	5.4	209	44	4	3

**Fenlite 1500 dimensions, weights and properties**

Work size mm	Width mm	Configuration	Thermal resistance m <sup>2</sup> K/W		Dry block weight kg	Weight laid kg/m <sup>2</sup>	Sound reduction dB	Fire resistance (hours)	
			internal	external				Single leaf - no applied finish non loadbearing Class 1 agg	loadbearing Class 1 agg
440 x 215	100	Solid †	0.208	0.192	14.2	156	42	2	2
	140	Solid †	0.292	0.269	19.9	219	44	4	3



All Hanson aggregate blocks incorporate Regen® in their manufacture which reduces their CO<sub>2</sub> emissions by up to 30%. Regen® is Ground Granulated Blast furnace Slag (GGBS), which is a cement substitute manufactured from a by-product of the iron-making industry. Each tonne of Regen® used reduces the embodied CO<sub>2</sub> by around 850kg, compared to using Portland Cement, and also increases its durability.

# Aggregate blocks - sustainability

Hanson aggregate blocks are sustainable building products: they are durable, low maintenance and provide good thermal and sound insulation. They can also be recycled after use.



All Hanson aggregate blocks are certified to the Responsible Sourcing of Materials (RSM) standard, BES 6001. RSM provides a way of managing a product from the point at which the raw materials are quarried (aggregates) through manufacture and processing (cement), including use, re-use and recycling, until its end of use and potential recycling as a raw material. RSM is demonstrated through supply chain management and product stewardship and encompasses social, economic and environmental dimensions.

Our Fenlite product range also includes up to 70% recycled raw materials. We are continually improving the sustainability credentials of our products through our environmental management and product development programmes.



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To find out more about how Hanson embeds sustainability throughout its manufacturing processes in the UK, please visit [www.hanson.com/uk/sustainability](http://www.hanson.com/uk/sustainability) and download our most recent sustainability report.



# Hanson UK

## Our companies and products

Hanson UK is part of the HeidelbergCement Group, which employs 52,500 people across five continents. HeidelbergCement is a global leader in aggregates, cement and concrete, and also produces heavy building products (brick, block and precast concrete).

Hanson UK is split into five business lines – Hanson Aggregates, Hanson Concrete, Hanson Asphalt and Contracting, Hanson Cement and Hanson Building Products.

Hanson UK offers the broadest range of products and services in the heavy building products market. For more detailed information visit: [www.hanson.com/uk](http://www.hanson.com/uk)

<b>Concrete</b> <ul style="list-style-type: none"> <li>• Ready-mixed concrete</li> <li>• Ready-mixed mortar</li> <li>• Dry silo mortar</li> <li>• Screed</li> </ul>	<b>Aggregates</b> <ul style="list-style-type: none"> <li>• Sand</li> <li>• Gravel</li> <li>• Crushed rock</li> <li>• Recycled aggregates</li> </ul>	<b>Asphalt</b> <ul style="list-style-type: none"> <li>• Hot rolled asphalt</li> <li>• Stone mastic asphalt</li> <li>• Asphalt macadams</li> </ul>	<b>Contracting</b> <ul style="list-style-type: none"> <li>• Highway maintenance</li> <li>• Road surfacing</li> <li>• Civil engineering</li> <li>• Wind farm construction</li> <li>• Waste to energy facilities</li> <li>• MOD works</li> </ul>
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<b>Bulk cement products</b> <ul style="list-style-type: none"> <li>• Grey</li> <li>• White</li> <li>• Blends</li> <li>• Regen (GGBS)</li> </ul>	<b>Packed products</b> <ul style="list-style-type: none"> <li>• Cement</li> <li>• Ready to use concrete, mortars, asphalt, aggregate and sand</li> </ul>
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<b>Bricks</b> <ul style="list-style-type: none"> <li>• Clay bricks and brick specials</li> <li>• Clay pavers</li> <li>• Bespoke clay products</li> </ul>	<b>Blocks</b> <ul style="list-style-type: none"> <li>• Aircrete</li> <li>• Aggregate</li> </ul>	<b>Precast concrete</b> <ul style="list-style-type: none"> <li>• Floors</li> <li>• Stairs</li> <li>• Structural walls</li> <li>• Basements</li> <li>• Off-site solutions</li> </ul>	<b>Cladding and render systems</b> <ul style="list-style-type: none"> <li>• Cladding and render systems</li> <li>• External Wall Insulation (EWI)</li> <li>• Structural EWI</li> <li>• Fastbrick</li> </ul>	<b>Other products and services</b> <ul style="list-style-type: none"> <li>• SUDS</li> <li>• Geothermal</li> </ul> <ul style="list-style-type: none"> <li>• Roofing</li> <li>• Chimneys</li> </ul> <ul style="list-style-type: none"> <li>• Brick and block laying contractors</li> </ul>
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