

# 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 Forterra on 0330 123 1018 for further details.



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### 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 Forterra 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 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 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 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 Forterra 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.