



### 3.1.3 Floor Internal - Concrete with Levelling Mix, Insulation and Screed

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#### Detailed description

##### Properties:

- Waterproof.
- High compressive strength without deflection or movement.
- Non-combustible.
- Impervious to water and water vapour.
- Sealed cellular structure.
- Dimensionally stable.
- Acid resistant.
- Easily cut to shape.
- Resistant to vermin.
- Recycled content scrap glass: Minimum 60%.
- Ozone Depletion Potential (ODP): <1%.
- Global Warming Potential (GWP): Zero.
- GreenSpec rating, see 'Cellular Glass' or 'Foamed Glass'.
- Green Guide rating, see 'Cellular Glass'.

##### Advantages:

- Quality: Systems with high quality materials; management by systematic site inspections and professional consulting.
- Cost efficiency: The high durability preserves maximum value and ensures minimal maintenance costs.
- Sustainability: Optimum insulation performance and protection against moisture for future generations. Scrap can be reclaimed and re-cycled to make new Foamglas.
- Insulation performance: Insulation performance is permanent; ageing does not take place. Use above and below ground, unaffected by moisture, humidity and compressive loads. Proven to retain its thermal and vapour control characteristics for > 50 years.
- No thermal bridging: Fully bonded insulation systems, zero fixings prevent thermal bridging and eliminate the risk of fixings corrosion.
- Non-toxic: Foamglas cellular glass contains no toxic substances, does not contaminate water or the ground, in cases of fire, does not develop fumes or toxic gases.
- Sealed structure and non-hydroscopic: Each cell has a glass wall, giving the unique structural strength, vapour tight and non-hydroscopic properties.
- A separate vapour barrier is not required: With its purpose manufactured adhesives, Foamglas is suitable for extreme humidity environments and gives control of the vapour drive in any direction.



**FOAMGLAS®**  
31-35 Kirby Street  
Hatton Garden  
London  
EC1N 8TE

Tel: +44 (0)20 7492 1731

[www.foamglas.co.uk](http://www.foamglas.co.uk)  
[info@foamglas.co.uk](mailto:info@foamglas.co.uk)



Foamglas is an insulation and vapour barrier in one single material.

- High compressive strength: Capability to withstand high compressive loads without deflection or movement.
- Dimensional stability: Very low rates of thermal movement, mechanical fixings are not required to prevent delamination from the parent structure.

## Product guidance - As Standard

### Characteristics:

- Thermal performance is permanent and never changes.
- Manufactured from recycled glass (minimum 60%) and natural raw materials which are available in abundant supply - sand.
- The insulation is totally inorganic, contains no ozone depleting propellants (CFCs, HCFCs etc), flame resistant additives or binders; VOC or other volatile substances.
- For substrate quality and suitability, see Technical Guide TG1.

### - Foamglas® Floor Board (F):

- Density (EN 1602,  $\pm 10\%$ ): 165 kg/m<sup>3</sup>.
- Length (EN 822,  $\pm 5$  mm): 1200 mm.
- Width (EN 822,  $\pm 2$  mm): 600 mm.
- Thermal conductivity (EN ISO 10456):  $\leq 0.050$  W/m·K.
- Reaction to fire (EN 13501-1): Core material Euroclass A1.
- Compressive strength (EN 826 annexe A):  $\geq 1600$  kPa.
- Flexural modulus of elasticity (EN12089): 1500 MN/m<sup>2</sup>.
- Bending strength (EN 12089):  $\geq 550$  kPa.
- Tensile strength (EN 1607):  $\geq 150$  kPa.
- Thermal expansion coefficient (EN13471):  $9 \times 10^{-6}$  K.
- Impervious to water vapour (EN ISO 10456):  $\mu = \infty$  infinity.
- Green Guide rating B.
- CEN Keymark: 001-BK-516-001-0018-T057.
- CPR DOP: 120200050.

### - Foamglas® Floor Board (S3):

- Density (EN 1602,  $\pm 10\%$ ): 130 kg/m<sup>3</sup>.
- Length (EN 822,  $\pm 5$  mm): 1200 mm.
- Width (EN 822,  $\pm 2$  mm): 600 mm.
- Thermal conductivity (EN ISO 10456):  $\leq 0.045$  W/m·K.
- Reaction to fire (EN 13501-1): Core material Euroclass A1.
- Compressive strength (EN 826 annexe A):  $\geq 900$  kPa.
- Flexural modulus of elasticity (EN12089): 1200 MN/m<sup>2</sup>.
- Bending strength (EN 12089):  $\geq 500$  kPa.
- Tensile strength (EN 1607):  $\geq 100$  kPa.



- Thermal expansion coefficient (EN13471):  $9 \times 10^{-6}$  K.
- Impervious to water vapour (EN ISO 10456):  $\mu = \infty$  infinity.
- Ozone depletion potential (ODP) <1%.
- Global warming potential (GWP) Zero.
- Green Guide rating A.
- GreenSpec listing see 'Cellular Glass' or 'Foamed Glass'.
- Manufactured to Environmental Management System ISO14001.
- CEN Keymark: 001-BK-516-001-0014-T00A.
- CPR DOP: 120200050.

#### - Foamglas® Floor Board (T4+):

- Density (EN 1602,  $\pm 10\%$ ): 115 kg/m<sup>3</sup>.
- Length (EN 822,  $\pm 5$  mm): 1200 mm.
- Width (EN 822,  $\pm 2$  mm): 600 mm.
- Thermal conductivity (EN ISO 10456):  $\leq 0.041$  W/m·K.
- Reaction to fire (EN 13501-1): Core material Euroclass A1.
- Compressive strength (EN 826 annexe A):  $\geq 600$  kPa.
- Flexural modulus of elasticity (EN12089): 700 MN/m<sup>2</sup>.
- Bending strength (EN 12089):  $\geq 450$  kPa.
- Tensile strength (EN 1607):  $\geq 100$  kPa.
- Thermal expansion coefficient (EN13471):  $9 \times 10^{-6}$  K.
- Impervious to water vapour (EN ISO 10456):  $\mu = \infty$  infinity,
- Green Guide rating A.
- CEN Keymark: 001-BK-516-001-0031-T00A.
- CPR DOP: 120200015.

### Options

#### Insulation:

#### - Thickness:

Where required for thickness >180 mm, use double layers of minimum 90 mm per layer. Where required for Floorboard (F) thickness > 160 mm, use double layers of minimum 80 mm per layer.

### Product specification

#### Manufacturer

- Name: FOAMGLAS®
- Web: [www.foamglas.co.uk](http://www.foamglas.co.uk)
- Email: [info@foamglas.co.uk](mailto:info@foamglas.co.uk)
- Tel: +44 (0)20 7492 1731
- Fax: +44 (0)20 7492 1730

FOAMGLAS®



- Address: 31-35 Kirby Street, Hatton Garden, London EC1N 8TE

**Product reference** 3.1.3 Floor Internal - Concrete with  
Levelling Mix, Insulation and Screed

**Initial layer** Liquid mortar, as section E10  
Sand levelling, as section E10

**Insulation**

- Type Foamglas® Floor Board (F)  
Foamglas® Floor Board (S3)  
Foamglas® Floor Board (T4+)

- Thickness 40 mm  
50 mm  
60 mm  
70 mm  
80 mm  
90 mm  
100 mm  
110 mm  
120 mm  
130 mm  
140 mm  
150 mm  
160 mm  
170 mm - Not available in  
Foamglas® Floor Board (F).  
180 mm - Not available in  
Foamglas® Floor Board (F).

**Separating layer** As sections M10 or M13

**Cement/ anhydrite screed** As sections M10 or M13

**Floor finish** As sections M40–M51