



3.1.2 Floor Internal - Concrete with 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.



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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® Slab (F):

- Density (EN 1602, $\pm 10\%$): 165 kg/m³.
- Length (EN 822, ± 5 mm): 600 mm.
- Width (EN 822, ± 2 mm): 450 mm.
- Thermal conductivity (EN ISO 10456): ≤ 0.050 W/m·K.
- Reaction to fire (EN 13501-1): Euroclass A1.
- Compressive strength (EN 826 annexe A): ≥ 1600 kPa.
- Flexural modulus of elasticity (EN12089): 1500 MN/m².
- Bending strength (EN 12089): ≥ 550 kPa.
- Tensile strength (EN 1607): ≥ 150 kPa.
- Thermal expansion coefficient (EN13471): 9×10^{-6} K.
- Impervious to water vapour (EN ISO 10456): $\mu=\infty$ infinity.
- Green Guide rating B.
- CEN Keymark: 001-BK-516-001-0016-T057.
- CPR DOP: 100010050.

- Foamglas® Slab (S3):

- Density (EN 1602, $\pm 10\%$): 130 kg/m³.
- Length (EN 822, ± 5 mm): 600 mm.
- Width (EN 822, ± 2 mm): 450 mm.
- Thermal conductivity (EN ISO 10456): ≤ 0.045 W/m·K.
- Reaction to fire (EN 13501-1): Euroclass A1.
- Compressive strength (EN 826 annexe A): ≥ 900 kPa.
- Flexural modulus of elasticity (EN12089): 1200 MN/m².
- Bending strength (EN 12089): ≥ 500 kPa.
- Tensile strength (EN 1607): ≥ 100 kPa.



- Thermal expansion coefficient (EN13471): 9×10^{-6} K.
- Impervious to water vapour (EN ISO 10456): $\mu = \infty$ infinity.
- Green Guide rating A.
- CEN Keymark: 001-BK-516-001-0012-T00A.
- CPR DOP: 100010030.

- Foamglas® Slab (T4+):

- Density (EN 1602, $\pm 10\%$): 115 kg/m³.
- Length (EN 822, ± 5 mm): 600 mm
- Width (EN 822, ± 2 mm): 450 mm.
- Thermal conductivity (EN ISO 10456): ≤ 0.041 W/m·K.
- Reaction to fire (EN 13501-1): Euroclass A1.
- Compressive strength (EN 826 annexe A): ≥ 600 kPa.
- Flexural modulus of elasticity (EN12089): 700 MN/m².
- Bending strength (EN 12089): ≥ 450 kPa.
- Tensile strength (EN 1607): ≥ 100 kPa.
- Thermal expansion coefficient (EN13471): 9×10^{-6} K.
- Impervious to water vapour (EN ISO 10456): $\mu = \infty$ infinity.
- Green Guide rating A.
- CEN Keymark: 001-BK-516-001-0026-T00A.
- CPR DOP: 100010015.

Options

Insulation:

- Thickness:

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

Product specification

Manufacturer

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Primer	PC®-EM
Insulation	
- Type	Foamglas® Slab (S3) Foamglas® Slab (T4+) Foamglas® Slab (F)
- 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® Slab (F). 180 mm - Not available in Foamglas® Slab (F).
Adhesive	PC® 58
Top coat	PC® 58
Separating layer	As sections M10 or M13
Cement/ anhydrite screed	As sections M10 or M13
Floor finish	As sections M40–M51