

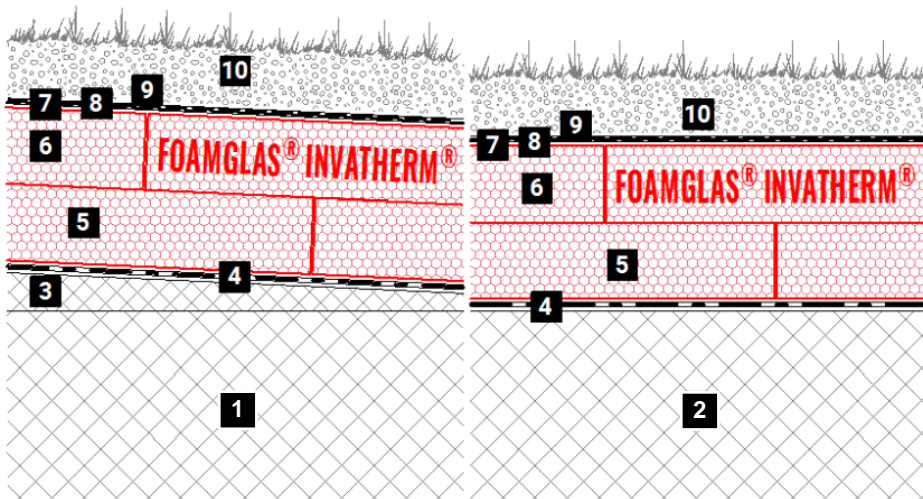
Inverted Roof with Non-Combustible Insulation on a Continuous Support

FOAMGLAS® INVATHERM™ Loose Laid (double layer system)

Extensive Green roof system

Schematic Drawing

System 4.8.5



1. Concrete roof deck,
2. Concrete roof deck, level in compliance with BS6229:2018
3. Screed to fall
4. Waterproofing System
5. FOAMGLAS® T3+ Slabs
6. FOAMGLAS® INVATHERM™
7. Water Flow Reduction Layer
8. Reservoir / Drainage Board
9. Filter sheet
10. Extensive green roof system

FOAMGLAS® Product Properties

Non-combustible – Non-toxic – Euroclass A1 – Waterproof – Resistant to vermin – High compressive strength – Impervious to water vapour – Dimensionally stable – Easily cut to shape – Ecological

Advantages of the FOAMGLAS® System

- **Quality** : Systems with high quality materials. Quality management through systematic site inspections and professional consulting.
- **Cost-efficiency** : The high durability preserves system value and guarantees minimal maintenance costs.
- **Sustainability** : Optimum insulation with proven long term performance.
- **Safety** : Cellular glass FOAMGLAS® INVATHERM™ contains no toxic substances and, in case of fire, does not develop fumes or toxic gases, nor does it contribute to fire spread.
- **Functionality** : Easy and efficient installation, adaptable to each roof substrates.

Recommendations for Architects

Typical Setup

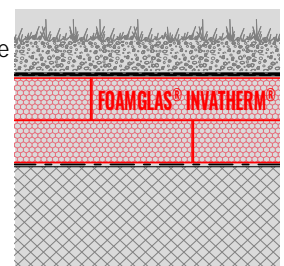
Base layer: FOAMGLAS® T3+ Slabs (60 x 45 cm)

Top layer: FOAMGLAS® INVATHERM™ (60 x 45 cm)

- FOAMGLAS® INVATHERM™ and FOAMGLAS® T3+ Slabs are non-combustible, non-toxic, Euroclass A1 insulation material.
- This inverted roof system can only be used on buildings where the internal temperature is always 5°C or more.
- This inverted roof system can also be used for zero fall roofs in compliance with BS6229:2018 with limited access, balconies and terraced roofs subject to pedestrian access only.
- All layers of the build-up have to be in accordance with the local regulations.
- Insulation thickness is to meet mandated building regulations or the project-specific U-value requirements.
- FOAMGLAS® product overview shall be consulted for further information on all products, specific properties, and their respective applications.
- The FOAMGLAS® INVATHERM™ should not be trimmed down at site to less than 150 x 150 mm.
- The tolerance and general conditions of the substrate are important criteria when using FOAMGLAS® INVATHERM™ (refer to document TG5 for further information). FOAMGLAS® Technical Department can be consulted for further guidance on the suitability of substrates.
- The relevant standards and guidelines must be observed.
- The ballast used must comprise of rounded pebbles.
- Negative deflections or back falls, which can lead to non-draining areas and ponding, are not acceptable and should be corrected in compliance with BS6229:2018.
- Extensive green roofs are lightweight roofs covered with low-maintenance vegetation, such as succulents like sedum, herbs and grasses that are specially adapted to the extreme weather conditions on roofs.

Solutions for Technical Details and Specification Clauses can be provided on request. Project specific proposals or solutions are available upon request from Pittsburgh Corning Technical Consultants. Updated: 2020-09-08.

We explicitly reserve the right to change the technical specifications. The current values can be found on our website under: uk.foamglas.com/en/building



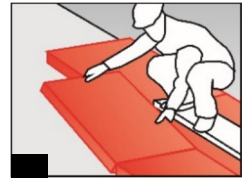
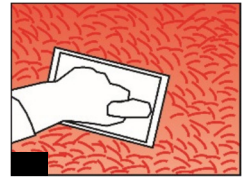
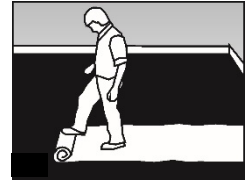
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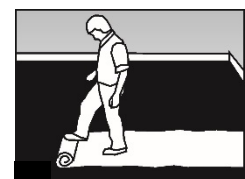
Extensive Green roof system

System 4.8.5**Installation Instructions**

- The waterproofing membrane has to be installed on the substrate with butted joints or with overlaps but always in accordance with recommendations of its manufacturer. [1]
1. Installation Instructions for FOAMGLAS® Slabs - Base Layer :
 - FOAMGLAS® Slabs must be entirely supported on the substrate. If this is not the case, the bottom side of the slab has to be trimmed and shaped, such that the FOAMGLAS® rests flat on the substrate. This procedure must always be done when the membrane is installed with overlaps. [2]
 - When laying the insulation any gaps between FOAMGLAS® slabs must be avoided. Apply FOAMGLAS® Slabs with staggered and tight-butted joints, as shown within the TG5 Technical Guidelines document ' FOAMGLAS® INVATHERM™ Inverted Roof with Non-Combustible Insulation ' (loose laid). [3]
 2. Installation Instructions for FOAMGLAS® INVATHERM™ - Top Layer :
 - Inspect the Base Layer to ensure the top surface of the Slabs is level and true. The FOAMGLAS® INVATHERM™ must be entirely supported by the base layer of FOAMGLAS® slabs. If necessary, the Slab top surface must be smoothed off, prior to installation of the FOAMGLAS® INVATHERM™. [4]
 - Any gaps between FOAMGLAS® INVATHERM™ must be avoided whilst laying out the insulation. Apply FOAMGLAS® INVATHERM™ with staggered and tight-butted joints, following the TG5 Technical Guidelines document ' FOAMGLAS® INVATHERM™ Inverted Roof with Non-combustible Insulation ' (loosely laid). The referenced document provides full information for the handling of the FOAMGLAS® INVATHERM™, including measuring and cutting the insulation, avoiding open joints or gaps; and optimizing the layout to avoid cutting to less than 15 cm width. [3]
 - Apply the Water Flow Reduction Layer over the FOAMGLAS® INVATHERM™, in accordance with the manufacturer's instructions (loose laid). [5]
 - To achieve the U-value performance, the Water Flow Reduction Layer shall be specified and installed as defined within the manufacturer's instruction and any relevant local certification.
 - Apply the reservoir / drainage board and the filter sheet, in accordance with the manufacturer's instructions (loose laid). [6]
 - Apply the extensive green roof system in accordance with the manufacturer's instructions.

**Recommendations for Contractors**

- FOAMGLAS® INVATHERM™ is a non-combustible, non-toxic, Euroclass A1 insulation material.
- This inverted roof system can only be used on buildings where the internal temperature is always 5°C or more.
- Prior to working with any product, the site personnel shall have read labels and the Safety Data Sheets (SDS). The Contractor shall be responsible for all necessary health and safety precautions.
- The system build-up and tolerances of the substrate have to be in accordance with relevant Standards and Guidelines for the FOAMGLAS® INVATHERM™.
- The flatness and the general conditions of the substrate are important criteria when using FOAMGLAS® INVATHERM™ (refer to TG5 document for further information).
- Site conditions shall be considered, including suitability of ambient and surface temperatures, as per manufacturer's instructions.
- The FOAMGLAS® INVATHERM™ should not be trimmed to less than 15 cm width, this ensures a robust installation.
- Staggered joints need to be placed with a minimum of 15 cm from each other to ensure a good performance.
- The drainage layer and ballast shall be applied immediately, upon installation of FOAMGLAS® INVATHERM™, to prevent accidental damage to the material.
- Adequate measures shall be taken in order to avoid any risks of damage to the materials, during construction. At any time point loads need to be avoided on the top surface of the Slabs or INVATHERM™, make sure to take adequate measures when walking and working upon the surface.
- Should the FOAMGLAS® INVATHERM™ coating be damaged, small areas can be repaired with our PC® SKYFIX A2.
- Larger damaged area's to the Slabs or INVATHERM™ must be replaced using FOAMGLAS® insulation.
- Technical Support and on-site assistance is offered by the FOAMGLAS® INVATHERM™ waterproofing manufacturing partner.



The technical guidelines for the application and the installation of FOAMGLAS® are based on historical experience and general site practice. They do not reflect individual examples. We therefore assume no liability as to the completeness and the suitability for a specific project. Furthermore, our liability and responsibility are subject to our general conditions of sale which are not extended either by this technical data sheet nor by the consulting of our technical sales representatives.

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