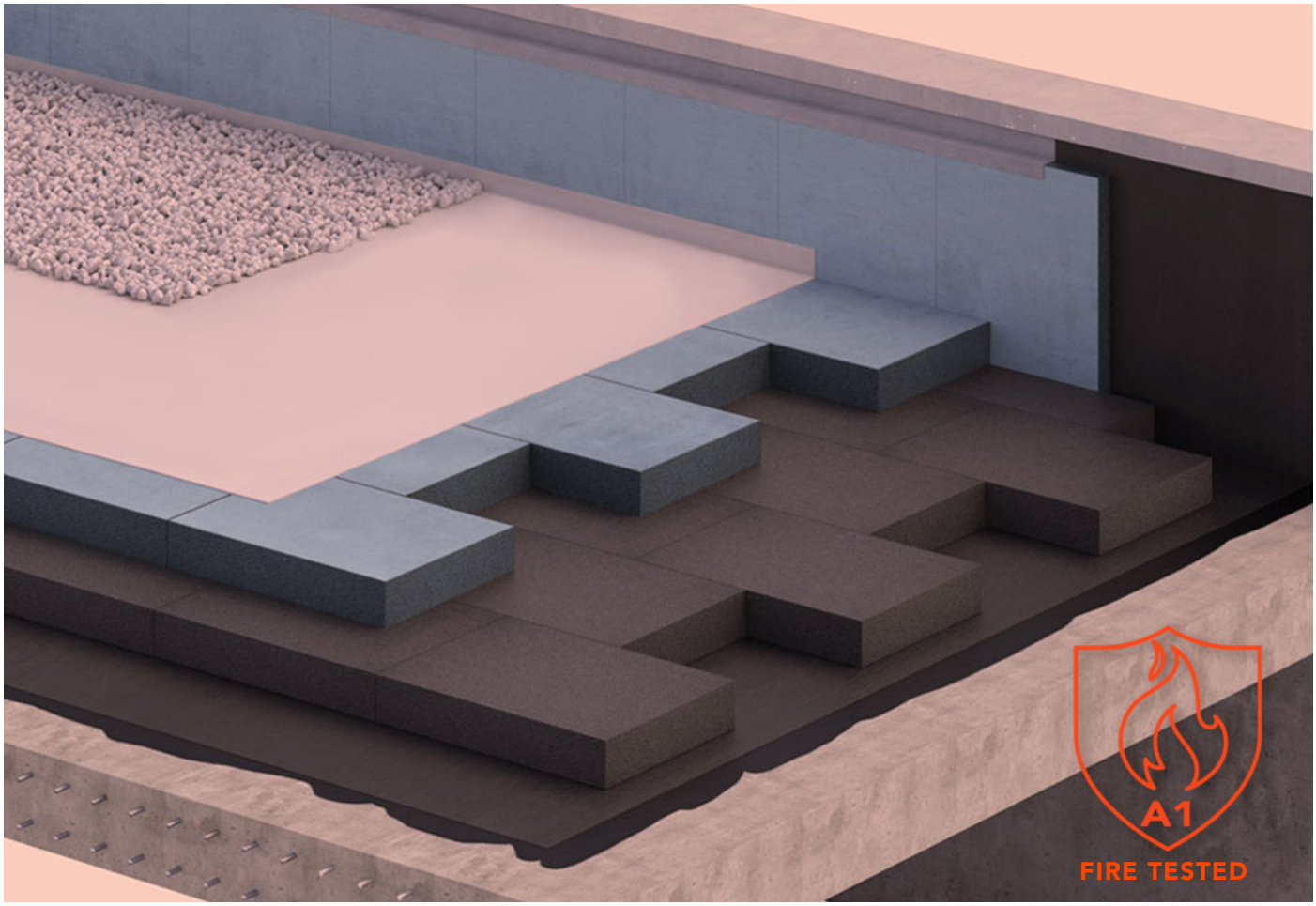
QUANTUM INSULATION

Product Data Sheet

FOAMGLAS® INVATHERM™



Class A1* Non-combustible Inverted Roof insulation suitable for roofs, roof terraces and balconies

Manufactured by FOAMGLAS®

FOAMGLAS® INVATHERM™

General Information

FOAMGLAS® INVATHERM™ has been engineered to meet the demand for a Class A1* inverted roof insulation board for use on roofs, roof terraces and balconies. Suitable for use with any inverted roof waterproofing membrane including hot melt, liquid applied or reinforced bitumen membrane.

Consisting of cellular glass with a pre-applied inorganic coating# on the topside both the core material FOAMGLAS® INVATHERM™ is manufactured from specially graded recycled glass (≥ 60%) and natural raw materials which are available in abundant supply (sand, dolomite, lime). Totally inorganic FOAMGLAS® INVATHERM™ contains no ozone depleting propellants, flame resistant additives or binders, VOC or other volatile substances.

* Class A1 to BS EN 13501-1, sometimes referred to as 'non-combustible'

As product is made from natural materials the colour cannot be guaranteed and can vary in batches.

FOAMGLAS® INVATHERM™ is suitable for use in all forms of inverted roof applications including on Specified Attachments. Suitable applications include projecting open balconies, projecting enclosed balconies, recessed open balconies, recessed enclosed balconies, roofs, roof terraces, enclosed balconies over heated space and insulated walkways.

NHBC Requirements

For Inverted Warm Roof systems, the FOAMGLAS® INVATHERM™ system is acceptable providing the below criteria are achieved:

- FOAMGLAS® INVATHERM™ is installed over the waterproofing layer with tight butted joints
- FOAMGLAS® INVATHERM™ is covered by a Water Flow Reducing Layer (WFRL)
- The pedestals must be certified for reaction to fire performance as either Euroclass 'A1' or A2' in conformance with EN 13501
- The pedestal products must have a circular base with a diameter of at least 170mm and be supported by a rubber underlayment as prescribed in the FOAMGLAS Technical Data Sheet, such as Buzon A-PED-107-142 Adjustable Pedestal installed on Buzon U-pad 200 x 200 x 6mm.
- The maximum load indicated in the Product Data sheets is not exceeded.

Certificates

ISO 9001:2008 Quality Management System, ISO 14001:2004 Environmental Management System, ISO 14025/EN 15804 Environmental Product Declaration, BS EN 13501-1 Reaction to Fire Classification.

Fire Performance

As a roofing system for roofs, roof terraces, enclosed balconies over heated space and insulated walkways

In accordance with Annex of Commission Decision 2000/553/EC, when used in an inverted roof specification including an inorganic covering of either loose laid gravel with a thickness of at least 50mm or a mass ≥ 80 kg/m², sand/cement screed to a thickness of at least 30mm, or cast stone or mineral slabs of at least 40mm thickness a roof system incorporating FOAMGLAS® INVATHERM™ can be considered to be unrestricted under the national Requirements (Classification Broof(t4) to BS EN 13501-5:2016).

As a roofing system component for Specified Attachments such as projecting open balconies, projecting enclosed balconies, recessed open balconies and recessed enclosed balconies

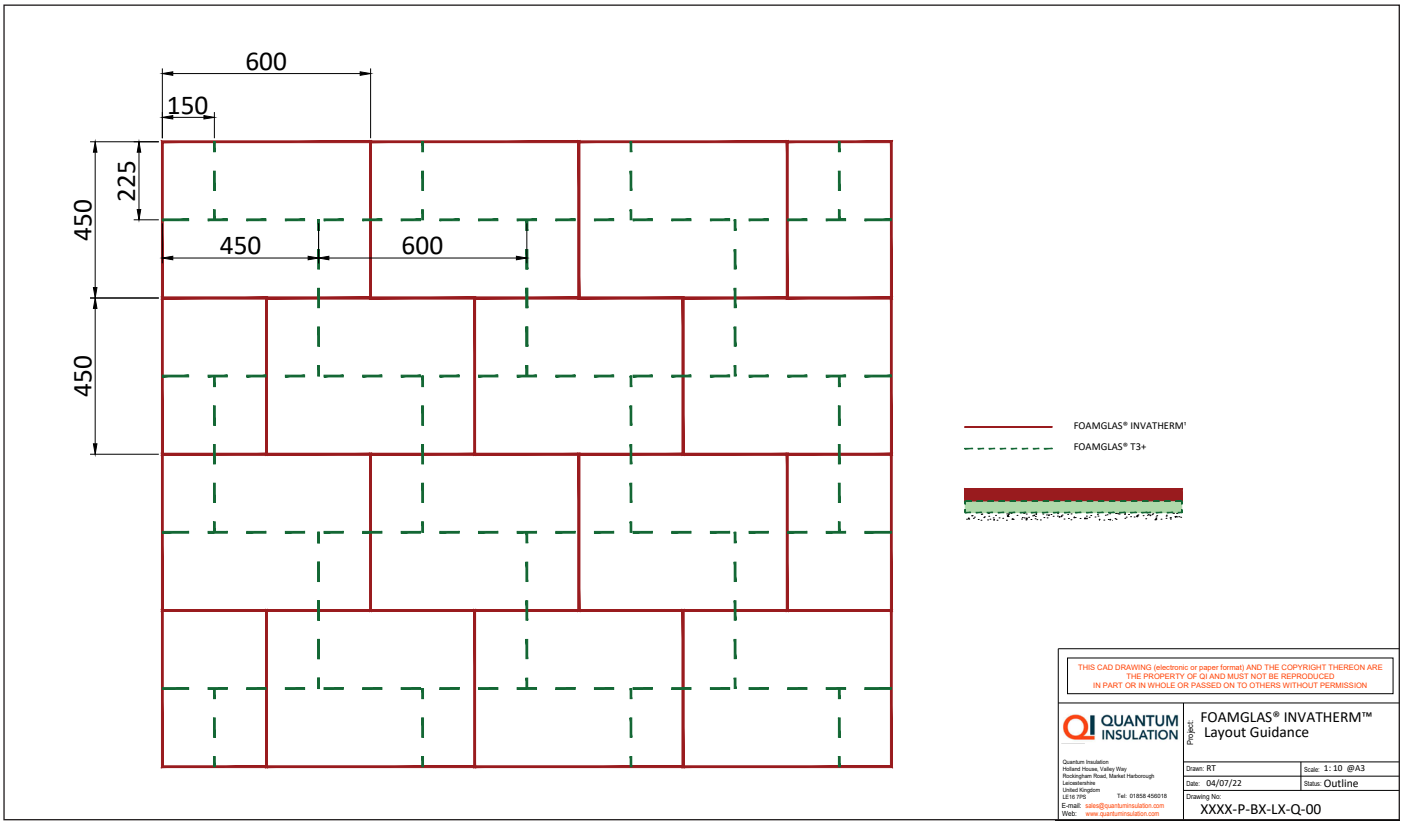
BS EN 13501-1:2016 – FOAMGLAS® INVATHERM™ is certified as achieving Euro Class A1 fire performance by Warringtonfire under reaction to fire classification report No. 19984E.

QUANTUM INSULATION

Quantum Insulation, Holland House, Valley Way, Rockingham Road, Market Harborough, Leicestershire LE16 7PS. T: 01858 456018 E: sales@quantuminsulation.com
www.quantuminsulation.com

FOAMGLAS® INVATHERM™

Guidance Layout



When the Insulation system is in 2 Layers, Base Layer + Top Layer
Top Layer = FOAMGLAS® INVATHERM™
Base Layer = FOAMGLAS® T3+ Slab

Each insulation layer is offset relative to the other (see above) with a minimum overlap / stagger of 15cm.

The insulation Base Layer FOAMGLAS® T3+ Slab should always be installed with staggered joints, with an overlap / stagger of minimum 15cm (dotted line).

The Top Layer FOAMGLAS® INVATHERM™ should always be installed with with staggered joints, with an overlap / stagger of minimum 15cm (red line).

To maximise insulating performance ALL abutments and insulation joints MUST be tightly butted up. If necessary re-measure replace or cut / sand down and re-install any insulation which is not fitting correctly.

This simple method ensures a robust and stable construction.

FOAMGLAS® INVATHERM™ must be installed in accordance with FOAMGLAS® Technical Guidance 05, copy available on request.

Upstands
The external face of the upstand can be exposed to the weather.
The top edge of the upstand **must** be protected from the weather.

QUANTUM INSULATION

Quantum Insulation, Holland House, Valley Way, Rockingham Road, Market Harborough, Leicestershire LE16 7PS. T: 01858 456018 E: sales@quantuminsulation.com
www.quantuminsulation.com

FOAMGLAS® INVATHERM™

Delivery conditions

Delivery form

Shrunk wrapped on a pallet, quantity depending on board thickness.

Storage and transport

During shipment, storage and installation handle with care so as to avoid physical damage.

DELIVERY FORM (CONTENT PER PACKAGE)							
Length (mm)	600	600	600	600	600	600	600
Width (mm)	450	450	450	450	450	450	450
Thickness (mm)	50*	100	120**	140	160	180***	200
Blocks per pack	10	1	1	1	1	1	1
Packs per pallet	12	48	40	32	28	24	24
Square metre [m^2] per pallet	32.4	12.96	10.8	8.64	7.56	6.48	6.48

* 50mm is used for upstands only

**120mm made to order minimum quantity, 371 blocks = 100 m^2 = 10 pallets

***180mm made to order minimum quantity, 371 blocks = 100 m^2 = 16 pallets

QUANTUM INSULATION

Quantum Insulation, Holland House, Valley Way, Rockingham Road, Market Harborough, Leicestershire LE16 7PS. T: 01858 456018 E: sales@quantuminsulation.com
www.quantuminsulation.com

FOAMGLAS® INVATHERM™

DESCRIPTION			
Colour	Grey*		
Material	Specially graded recycled glass** and natural raw materials		
DECLARED PERFORMANCE	design value λu or λcor ≤ 0.043 W/(m·K)		
Essential Characteristics	Performance	Unit	Standard
Density (± 15%)	100	kg/m³	EN 1602
Thickness ± 2 mm	from 50*** up to 200	mm	EN 823
Length ± 2 mm	600 ± 3	mm	EN 822
Width ± 2 mm	450 ± 3	mm	EN 822
Thermal conductivity	D ≤ 0.043	W/(m·K)	EN ISO 10456
Reaction to fire	Euroclass A1	-	EN 13501-1
Point load	PL ≤ 1.5	mm	EN 12430
Point load top	PL ≤ 1.5 (≤ 0.5)	kPa	EN 826 annexe A
Compressive strength	CS ≥ 400	kPa	EN 826 annexe A
Bending strength	BS ≥ 400	kPa	EN 12089
Tensile strength	TR ≥ 100	kPa	EN 1607
Dimensional stability after 48h @70°C & 90% RH	DS (70.90)	$\Delta\varepsilon_{l,b}$ ≤0.5,% $\Delta\varepsilon_d$ ≤1%	EN 1604
Water absorption on short term	WS ≤ 0.5	kg/m²	-
Water vapour transmission	∞	-	-
Freeze/Thaw	resistant	-	-
Service temperature limits	-265°C to +430°C	-	ISO 14025 and EN 15804
Water vapour resistance	∞	μ	EN ISO 10456
Hygroscopicity	zero	-	-
Capillarity	zero	-	-
Melting point	>1000	°C	cf DIN 4102-17
Thermal expansion coefficient	9 x 10^{-6} K^{-1}	-	EN 13471
Specific heat	1000	J/(kg·K)	EN ISO 10456

[1] CE-marking ensures conformity with the mandatory essential requirements of CPD as mentioned in EN 13167; within the CEN Keymark certification all mentioned characteristics are certified by an empowered, notified and accredited 3rd party.

* As product is made from natural materials the colour cannot be guaranteed and can vary in batches.

** ≥ 60% recycled glass consists of highly selected postconsumer glass and highly selected production scrap/co-products

*** 50mm is used for upstands only

For further information on Quantum Insulation products and services please call **01858 456018** or email **sales@quantuminsulation.com** **FEB 24**

QUANTUM INSULATION

Quantum Insulation, Holland House, Valley Way, Rockingham Road, Market Harborough, Leicestershire LE16 7PS. T: 01858 456018 E: sales@quantuminsulation.com
www.quantuminsulation.com