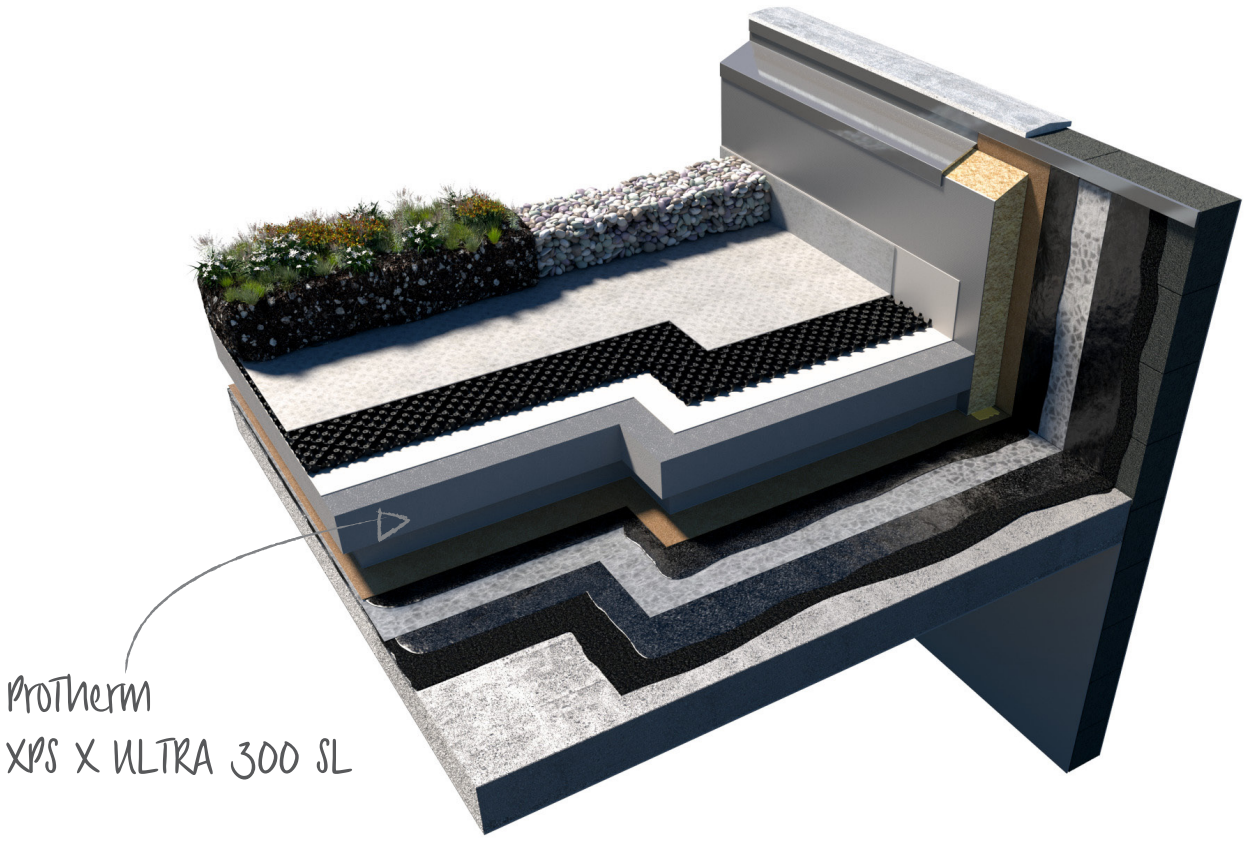
Radmat building products

Specialists in Roofing and Waterproofing

ProTherm XPS X ULTRA 300 SL

Product Data Sheet



Inverted Roof Insulation with a unique rigid, closed cell type extruded polystyrene board with integral high density skin.

ProTherm XPS X ULTRA 300 SL Inverted Roof Insulation

General Information

ProTherm XPS X ULTRA 300 SL Inverted Roof Insulation is a unique rigid, closed cell type extruded polystyrene board with integral high density skin. ProTherm XPS X ULTRA 300 SL Inverted Roof Insulation utilises infra-red blocking particles to scatter and reflect heat radiation.

ProTherm XPS X ULTRA 300 SL Inverted Roof Insulation has a Zero Ozone Depletion Potential (ODP), a Global Warming Potential (GWP) of less than 5.

For use with Inverted Roof Waterproofing such as PermaQuik PQ6100, EshaFlex, EshaUniversal, ParaFlex FD and ReadySeal.

Use with ProTherm XPS X MK Filter/Water Flow Reducing Layer prior to the installation of paving, ballast or green roof.

Suitable Applications

ProTherm XPS X ULTRA 300 SL is suitable for use in roofs, roof terraces, enclosed terraces over heated space and insulated walkways in an inverted roof construction. When used in the inverted roof applications listed in the Fire Performance section below roof assemblies incorporating ProTherm XPS X ULTRA 300 SL achieve B_{roof}(t4) Classification to BS EN 13501-5 as required by Approved Document B 2019 edition, Section B4, Limitations on roof coverings.

ProTherm XPS X ULTRA 300 SL is not suitable for use in inverted roof applications on specified attachments such as projecting open balconies, projecting enclosed balconies, recessed open balconies or recessed enclosed balconies.

ProTherm XPS X ULTRA 300 SL is not suitable for use in warm roof applications (where the waterproofing is installed above the insulation board).

Certificates

BBA Certificate No. 21/5952, ISO 9001@2015 Quality Management System, ISO 14001:2015 Environmental Management System, EPD as per ISO 14025 and EN 15804.

Fire Performance

As a roofing system for roofs, roof terraces, enclosed terraces 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 ProTherm XPS X ULTRA 300 SL can be considered to be unrestricted under the national Requirements (Classification B_{roof}(t4) to BS EN 13501-5:2016).

BS EN 13501-5:2016 – When tested with a covering of 50mm thick paving on InStar plastic pedestal supports, or 50/75mm ballast, or Profildeck aluminium framing on supports with 20mm Porcelain Paving a roof construction incorporating ProTherm XPS X ULTRA 300 SL achieved a classification of Broof(t4) and as such is unrestricted by the National Building Regulations.

BS 476 Part 3: 2004 – When tested with a covering of 50mm thick paving on InStar plastic pedestal supports, 50/75mm ballast, Profildeck aluminium framing with 20mm Porcelain Paving, or Dura Deck Resist Composite Deck on supports with 50mm 20/40mm ballast a roof construction incorporating ProTherm XPS X ULTRA 300 SL achieved a classification of EXT.FAA and as such is unrestricted by the National Building Regulations.

As a product in isolation

BS EN 13501-1:2016 – ProTherm XPS X ULTRA 300 SL Inverted Roof Insulation contains PolyFR, a REACH compliant flame retardant, that ensures Euro Class E performance.

ProTherm XPS X ULTRA 300 SL Inverted Roof Insulation contains PolyFR, a REACH compliant flame retardant, that ensures Euro Class E performance to EN13501-1.

Hexabromocyclododecane (HBCD) was phased out prior to the 21st August 2015.

ProTherm XPS X ULTRA 300 SL
Inverted Roof Insulation

PRODUCT DESCRIPTION	
Appearance top side	Grey Skin
Core	Grey color, HFC free, Extruded polystyrene foam XPS (EN13164).
Edge profile	Shiplap

DECLARED PERFORMANCE				
Essential characteristics	**Performance**	**Unit**	**EN Code EN 13164**	**Standard**
Density (aim, foam only)	32	kg/m³	-	BS EN 1602
Dimensions and tolerances				
- Thickness	70*, 80*, 105, 130, 145, 175, 205	mm	T1	BS EN 823
- Width	600	mm	-	BS EN 822
- Length	1250	mm	-	BS EN 822
Thermal conductivity				
Declared value (1)				
- Thickness 70 - 205 mm	0.027	W/mK	λ_D	BS EN 13164
Design value (1)				
- Thickness 70 - 205 mm	0.028	W/mK	λ_U	BS EN 13164
Reaction to fire	Class E	-	Euroclass	BS EN 13105-1
Mechanical properties				
- Compressive strength at 10% deformation	300	kPa	CS(10\Y)	BS EN 826
- Design load 2% max. deflection (50 years)	110	kPa	CC(2/1.5/50)σc	BS EN 1606
- E-Modulus (typical)	12-20	MPa	-	BS EN 826
Hygrometric properties				
- Long term water absorption by immersion (28 days)	≤ 0.7	vol %	WL(T)	BS EN 12087
- Long term water absorption by diffusion				BS EN 12088
- dN ≥50 mm to <80 mm	≤ 2	vol %	WD(V)	BS EN 12088
- dN ≥80 mm	≤ 1	vol %	WD(V)	BS EN 12088
- Water vapour diffusion resistance factor (μ), typical	150	-	MU	BS EN 12086
- Freeze/thaw, after 300 cycles	≤ 1	vol %	FTCD	BS EN 12091
- Dimensional stability under specified temperature and humidity conditions	≤ 5	%	DS(70,90)	BS EN 1604
- Deformation under specified compressive load and temperature conditions	≤ 5	%	DLT(2)5	BS EN 1605
Environmental properties				
- Ozone depletion potential	Zero	-	-	-
- Global warming potential	< 5			
Other properties				
- Linear thermal expansion coefficient	0.07	mm/m·K	-	-
- Maximum service temperature	-50/+75	°C		
- Capiliarity	0	-		

(1) Declared thermal conductivity λ_D according to BS EN 13164 (§ 4.2.1; Annex A; Annex C.2 and C.4.1)

EN designation code T1-CS(10\Y)300-CC(2/1,5/50)110-WL(T)0,7-WD(V)3-FT2-DS(TH)-DLT(2)5

* Sizes not assessed by BBA Certificate 21/5952

Radmat building products

Radmat Building Products Ltd Holland House, Valley Way, Rockingham Road, Market Harborough, Leicestershire, LE16 7PS T : 01858 410 372 E : techenquiries@radmat.com

ProTherm XPS X ULTRA 300 SL Inverted Roof Insulation

Installation Instructions

- Apply ProTherm XPS X ULTRA 300 SL Inverted Roof Insulation boards parallel to roof perimeter long edges. Stagger end joints.
- Lay ProTherm XPS X ULTRA 300 SL Inverted Roof Insulation boards with edges in moderate contact without forcing.
- Cut ProTherm XPS X ULTRA 300 SL Inverted Roof Insulation to fit neatly to perimeter blocking and around penetrations through roof, when using a 2nd layer stagger joints of insulation from first layer.
- Unroll ProTherm XPS X MK Filter/Water Flow Reducing Layer over the ProTherm XPS X ULTRA 300 SL at right angles to the slope ensuring each sheet overlaps the next by 150mm (laps running down the slope). If finishing the roof with gravel ballast of a maximum depth of 50mm overlaps should be increased to 300mm. At upstands and penetrations ProTherm XPS X MK Filter/Water Flow Reducing Layer should be turned up to finish above the surface of the ballast layer.
- Apply no more ProTherm XPS X ULTRA 300 SL Inverted Roof Insulation than can be covered with aggregate ballast/concrete roof pavers/green roofing in the same day.
- Keep ProTherm XPS X ULTRA 300 SL Inverted Roof Insulation minimum 75mm from heat emitting devices, and minimum 50mm from sidewalls of chimneys and vents.

Delivery conditions

Delivery form

Standard delivery form is a 'supercube'. Deliveries are on a curtain-side or optional flat-bed articulated vehicle. One supercube containing approximately 15m^3 and is approximatly 2400 x 2400 x 2500mm. A full articulated truck load contains 5 supercubes or approximately 70m^3.

ProTherm XPS X ULTRA 300 SL Inverted Roof Insulation is available shrunk wrapped on pallets to special order, quantity depending on board thickness. Deliveries are on a rigid curtain-side or optional rigid flat-bed vehicle. A full rigid truck contains 12 pallets (the equivalent of 3 supercubes).

Unloading

Supercubes are intended to be unloaded and crane lifted using strops in 2 movements;
1. lift the supercube clear of the vehicle and allow to settle
2. lift the supercube to roof level

Fork extensions can also be used to unload a supercube, and can be supplied with the delivery if requested in advance.
Palletised ProTherm XPS X ULTRA 300 SL Inverted Roof Insulation can be unloaded using a pump truck.

Storage and transport

During shipment, storage, installation and use, this material should not be exposed to flame or other ignition sources. This material contains a halogenated flame retardant additive system to inhibit accidental ignition from small fire sources.

Product identification

Information on the pack: Product name. Dimensions. Approvals. Production date. Batch number.

DELIVERY FORM

Board Dimensions			Board quantitiy	Pack quantity	m^3	m^2	Supercube Dimensions		
Thickness mm	Width mm	Length mm	Per pack	Per Pallet	Per Pack	Per Pack	Height mm	Width mm	Length mm
70	600	1250	6	48	0.315	4.5	2720	2400	2500
80	600	1250	5	48	0.3	3.75	2600	2400	2500
105	600	1250	4	48	0.315	3	2720	2400	2500
130	600	1250	3	56	0.293	2.25	2930	2400	2500
145	600	1250	3	48	48	2.25	2810	2400	2500
175	600	1250	2	56	56	1.25	2650	2400	2500
205	600	1250	2	48	48	1.25	2660	2400	2500

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Inverted Roof Insulation

NBS Specification Clauses

Please view on NBS Source here:
https://source.thenbs.com/product/protherm-xps-x-ultra-300-sl-insulation

For a comprehensive NBS specification contact Radmat Building Products.

To access Radmat Discontinued Products information please visit: radmat.com/media/discontinued-products

This information given in good faith and is based on the latest knowledge available to Radmat Building products Ltd. Whilst every effort has been made to ensure that the contents of the publication are current while going to press, customers are advised that products, techniques and codes of practice are under constant review and liable to change without notice.

For further information on Radmat products and services please call **01858 410372**
email **techenquiries@radmat.com** or visit our website **www.radmat.com**

Previous Revision: 31/07/2024 v0 | Latest Revision: **25/02/2025 v0**

Radmat Building Products Ltd Holland House, Valley Way, Rockingham Road, Market Harborough, Leicestershire, LE16 7PS T : 01858 410 372 E : techenquiries@radmat.com