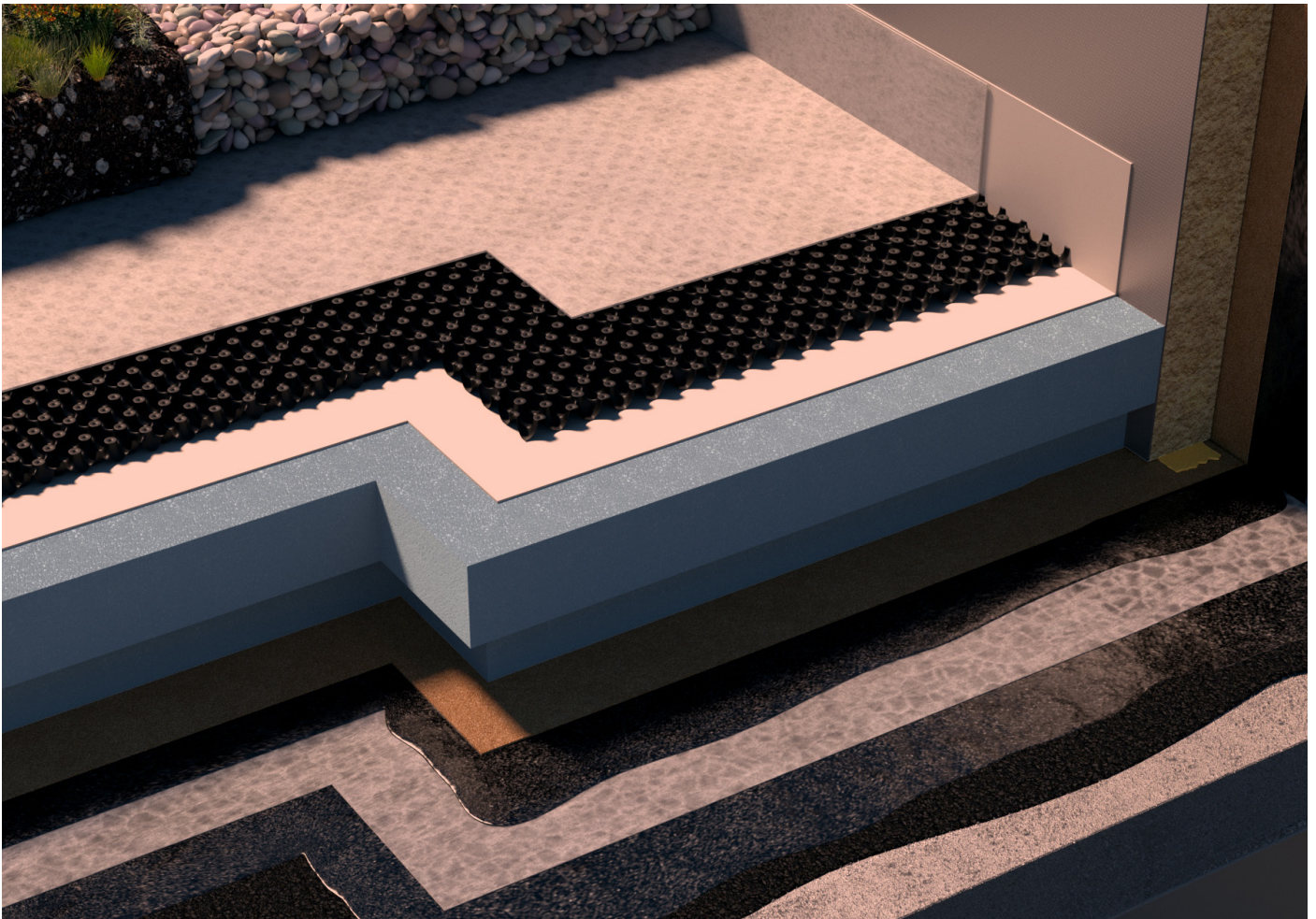


RAVATHERM XPS X 300 SL



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

Manufactured by



RAVATHERM XPS X 300 SL

General Information

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

RAVATHERM XPS X 300 SL has a Zero Ozone Depletion Potential (ODP), a Global Warming Potential (GWP) of less than 5 and a Green Guide to Specification A+ rating.

For use with appropriate Waterproofing Systems.

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

Suitable Applications

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

RAVATHERM XPS X 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.

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

Certificates

ISO 9001:2008 Quality Management System, ISO 14001:2004 Environmental Management System, EPD as per ISO 14025 and EN 15804, Green Guide to Specification Certificate No. 508c, BBA Certificate 19/5648.

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 $\geq 80 \text{ kg/m}^2$, 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 RAVATHERM XPS X 300 SL can be considered to be unrestricted under the national Requirements (Classification Broof(t4) to BS EN 13501-5:2016).

BS EN 13501-5:2016 – When tested with a covering of 50mm thick concrete paving on 50mm high InStar plastic pedestal supports a roof construction incorporating RAVATHERM XPS X 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 concrete paving on 20mm high InStar plastic pedestal supports a roof construction incorporating RAVATHERM XPS X 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 – RAVATHERM XPS X 300 SL Inverted Roof Insulation contains PolyFR, a REACH compliant flame retardant, that ensures Euro Class E performance.

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

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

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Installation Instructions

- Apply RAVATHERM XPS X 300 SL Inverted Roof Insulation boards parallel to roof perimeter long edges. Stagger end joints.
- Lay RAVATHERM XPS X 300 SL Inverted Roof Insulation boards with edges in moderate contact without forcing.
- Cut RAVATHERM XPS X 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 RAVATHERM XPS X MK Water Flow Reducing Layer over the RAVATHERM XPS X 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 RAVATHERM XPS X MK Water Flow Reducing Layer should be turned up to finish above the surface of the ballast layer.
- Apply no more RAVATHERM XPS X 300 SL Inverted Roof Insulation than can be covered with aggregate ballast/concrete roof pavers/green roofing in the same day.
- Keep RAVATHERM XPS X 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 15m³ and is approximate are 2400 x 2400 x 2500mm. A full articulated truck load contains 5 supercubes or approximately 70m³. See dimensions table overleaf).

RAVATHERM XPS X 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 RAVATHERM XPS X 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.

RAVATHERM XPS X 300 SL

PRODUCT DESCRIPTION

Appearance top/bottom side	Grey Skin
Core	Grey color, HFC free, Extruded polystyrene foam XPS (EN13164).

DECLARED PERFORMANCE

Essential characteristics	Performance	Unit	EN Code	Standard
Ozone Depletion Potential	Zero	-	-	-
Global Warming Potential	< 5	-	-	-
Density (aim, foam only)	34	kg/m ³	-	BS EN 1602
Dimensions and tolerances				
- Thickness	50*, 80, 100, 115*, 120, 130, 140, 145* 160, 165*, 175*, 180, 190*, 195*, 200	mm	-	BS EN 823
- Width	600	mm	-	BS EN 822
- Length	1250	mm	-	BS EN 822
Thermal conductivity				
Declared value (1)				
- Thickness 40-50 mm*	0.030	W/mK	λ_D	BS EN 13164
- Thickness 80-220mm	0.031	W/mK		
Design value (1)				
- Thickness 40-50 mm*	0.031		λ_U	BS EN 13164
- Thickness 80-220mm	0.032			
Mechanical properties				
- Compressive strength at 10% deformation	300	kPa	CS(10\Y)300 CC(2/1.5/50) oc	BS EN 826 B S EN 1606
- Compressive creep max. after (50 years) < 2% deformation under stress σ_c	130	kPa		
R _D values				
- 50mm*	1.65	m ² .K/W	-	-
- 80mm	2.60		-	-
- 100mm	3.20		-	-
- 115mm*	3.70		-	-
- 120mm	3.85		-	-
- 130mm	4.20		-	-
- 140mm	4.50		-	-
- 145mm*	4.70		-	-
- 160mm	5.15		-	-
- 165mm*	5.35		-	-
- 175mm*	5.65		-	-
- 180mm	5.80		-	-
- 190mm*	6.15		-	-
- 195mm*	6.30		-	-
- 200mm	6.45		-	-
Hygrometric properties				
- Long term water absorption by immersion (28 days)	<0.7	vol %	-	BS EN 12087
- Long term water absorption by diffusion	<3	vol %	-	BS EN 12088
- Water vapour diffusion resistance factor (μ), typical	80-200	vol %	-	BS EN 12086
- Freeze/thaw, after 300 cycles	<1	vol %	FTi	BS EN 12091
Reaction to fire	Class E	-	Euroclass	BS EN 13501-1 2016
Linear thermal expansion coefficient	0.07	mm/m.K	-	-
Maximum service temperature	+75	°C	-	-
Capillarity	0	-	-	-
Surface	Skin	-	-	-
Edge profile	shiplap	-	-	-

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

*Sizes not assessed by BBA Certificate 21/5874

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

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DELIVERY FORM

Board Dimensions			Board quantity	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	Weight kg
50	600	1250	8	48	0.300	6	2600	2400	2500	547.20
80	600	1250	5	48	0.300	3.75	2600	2400	2500	547.20
100	600	1250	4	48	0.300	3	2600	2400	2500	547.20
115	600	1250	3	56	0.259	2.25	2615	2400	2500	550.62
120	600	1250	3	56	0.270	2.25	2720	2400	2500	574.56
130	600	1250	3	56	0.293	2.25	2930	2400	2500	623.50
140	600	1250	3	48	0.315	2.25	2720	2400	2500	574.56
145	600	1250	3	48	0.326	2.25	2810	2400	2500	595.08
160	600	1250	2	64	0.240	1.5	2760	2400	2500	583.68
165	600	1250	2	64	0.248	1.5	2840	2400	2500	601.92
175	600	1250	2	56	0.263	1.5	2650	2400	2500	558.60
180	600	1250	2	56	0.270	1.5	2720	2400	2500	547.56
190	600	1250	2	48	0.285	1.5	2480	2400	2500	519.84
195	600	1250	2	48	0.293	1.5	2540	2400	2500	533.52
200	600	1250	2	48	0.300	1.5	2600	2400	2500	547.20

This information given in good faith and is based on the latest knowledge available to Quantum Insulation 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.

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