



TaperedPlus Limited

Flat Roof Tapered Warm Deck Insulation

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Description

Jablite Flat Roof insulation is a closed cell expanded polystyrene (EPS) insulation panel suitable for use in warm flat roof constructions.

- High compressive strengths available as standard – 100, 150, 200, 300. Higher grades available on request.
- Global Warming Potential <5
- Ozone Depletion Potential = Zero

The boards are available as un-faced EPS for use with fleece backed single ply PVC membranes or with an overlay to suit alternative weather proofing specifications.

Jablite Flat Roof Board is lightweight and easy to install. There are no requirements for special PPE when installing or cutting the insulation panels. (full installation details are shown later)
 Jablite Flat Roof Insulation is manufactured in accordance with BS EN ISO 13163 under a Quality Assurance System approved to BS EN ISO 9001 and Environmental Management System to ISO 14001.

Dimensions

Standard Board Sizes	1200 x 1200mm 1200 x 600mm
Thickness	10mm up to 600mm



Compressive Strength

Due to the high compressive strength capability of Jablite Flat Roof Board there is a grade suitable for all flat roof applications.

General guidance on application, as noted within our BBA Certificates, is that Jablite Flat Roof Board 100 is used on flat roofs subject to maintenance traffic. Jablite Flat Roof Board 150 is used for balconies and roof terraces.

For roofs where heavy objects such as planters or air handling units are imposing high point loads the higher grades may be specified. The choice of grade will be dependent on the calculated imposed load. Where the heavy objects are supported on spacer pads the point load exerted on the insulation should be calculated to an equivalent uniformly distributed load. Example calculation for an air handling unit on spacer pads is shown later.

To help in the assessment of which grade to specify or use the compressive strengths for all grades are given in the table on the next page.



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Properties

Grade	Thermal Conductivity (Lambda) (W/mK)	Design load at 1% nominal compression (kPa)	Design load at 10% nominal compression (kPa)
Flat Roof Board 100	0.036	45	100
Flat Roof Board 150	0.035	70	150
Flat Roof Board 200	0.034	90	200
Flat Roof Board 300	0.033	120	300

Designing for Long Term Compressive Creep

The 1% compressive strength value should be used when designing for roofs with pedestrian traffic or other temporary imposed loads.

Where air handling units, water tanks or similar heavy items are to be permanently imposing extra load on the insulation the calculation should allow for compressive creep.

Jablite Insulation has been tested and assessed for long term compression in accordance with BS EN ISO 1606 – Thermal insulating products for building applications. Determination of compressive creep.

The design load allowing for creep is 30% of the 10% compressive strength figure.

Under this design load the Jablite Flat Roof Board will compress less than 2% of its original thickness over 50 years.

Design Loads for Long Term Compressive Creep (kN/m²)

Flat Roof Board 100	30
Flat Roof Board 150	45
Flat Roof Board 200	60
Flat Roof Board 250	75
Flat Roof Board 300	90
Flat Roof Board 350	105
Flat Roof Board 400	120
Flat Roof Board 500	150
Flat Roof Board HP150	45



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Weatherproofing

The choice of Jablite Flat Roof Insulation product is largely dependent on the weatherproofing membrane to be used on the site.

Jablite Flat Roof Board is available unfaced and faced with a range of overlay materials to make a high performance insulation panel suitable for most applications.

For advice on weatherproofing membrane compatibility please contact design@taperedplus.co.uk.

Application

Deck

Jablite Flat Roof insulation is suitable for installation over all deck types.

The roof deck must be level and even and as dry as is practically possible. Ensuring a dry deck reduces the risk of high levels of condensation once the insulation and weatherproofing is installed.

For refurbishment projects the existing deck or weatherproofing must be free of loose chippings and any defects made good.

Vapour Control Layer

A suitable vapour control layer (VCL) such as bitumen felt or reinforced polythene sheet is placed on the roof deck.

Existing weatherproofing may only be considered as a suitable VCL where it is known to be watertight. It is recommended and considered good practice to apply an additional membrane over existing roofs to ensure adequate water vapour control.

In a fully adhered weatherproof system the VCL membrane must be adhered to the deck.

With mechanically fixed systems an appropriate 'self-sealing' membrane should be used as the VCL. This may be temporarily fixed to the roof deck with dabs or strips of adhesive.

The vapour control layer is turned up to the full thickness of the insulation at all perimeters and upstands.

Further information on condensation control and vapour control layers can be found in BS 6229 : 2018.

Insulation

For a tapered scheme the boards are laid from the start points shown on the design drawing provided.

With fully adhered weatherproofing systems the Jablite Flat Roof Boards are fully adhered to the VCL with a polyurethane type adhesive or other solvent free adhesive. For further advice please contact TaperedPlus.

For mechanically fixed systems the insulation may be temporarily adhered to the deck using dabs of adhesive, this is to prevent wind uplift or movement during installation. The mechanical fastenings for the waterproof membrane are then fixed through the insulation into the deck below.

Weatherproofing

Where a proprietary weatherproofing system is to be installed the recommendations and instructions of the system supplier should be followed.



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U Values

The table below shows the thickness of Jablite Flat Roof Board required to achieve the specific U values shown.

The U value calculations have been carried out in accordance with BS EN ISO 6946.

U value	Thickness (mm) - Flat Roof Board			
	100*	150*	200*	300*
0.25	125	125	120	115
0.20	160	155	150	150
0.18	180	175	170	165
0.15	220	210	205	200
0.10	330	320	310	300

The thicknesses from the table may be taken for the following roof constructions.

Concrete roof deck

12.5mm Plasterboard with 3mm skim, 25mm Batten Void, 150mm Concrete Deck, Vapour Control Layer, Jablite Flat Roof Board, Single Ply Membrane.

Accreditation

The table below shows the thickness of Jablite Flat Roof Board required to achieve the specific U values shown.

The U value calculations have been carried out in accordance with BS EN ISO 6946.

BBA	For BBA info please contact TaperedPlus.
CE Marketing	Jablite have taken the responsibility of CE marking the product in accordance with harmonised European Standard BS EN 13163 : 2012. Declaration of Performance is available on Request.
Quality	All Jablite products are manufactured in production facilities which are certified to ISO 9001 Quality Management
Environmental Responsibility	All Jablite manufacturing facilities are ISO 14001 certified. We operate an Environmental Management System which includes our supply chain (see BREEAM section for more information)
Compliance	Jablite Flat Roof Insulation conforms to the required properties as defined in BS EN 13163:2012 – Thermal insulation products for buildings – Factory made expanded polystyrene (EPS) products – Specification. This standard supersedes the previous manufacturing standard BS 3837 Part 1

Environment and Sustainability

Mat 03: Responsible Sourcing of Construction Products	BREEAM Summary Score – 2 for EMS (Certified) Key process and Supply Chain for EPS Insulation.
	Jablite insulation products are manufactured using low energy processes in factories which are ISO 14001 and ISO 9001 certified. Jablite only purchases raw material from suppliers who are ISO 14001 certified. The ISO certificates are in the Technical Resource Centre on the Jablite website www.Jablite.co.uk
	Key Process (Insulation Manufacture) ISO 14001: Certificate Number EMS 559414 Key Supply Chain Process (Main Polymer Production) ISO 14001: Certificate Number 80130-2010-AE-FRA-COFRAC Rev. 4

	FLAT ROOF BOARDS 100 - 150	FLAT ROOF BOARDS 200 - 300
BRE Green Guide Rating	A+ Element number 815320023 - 815320025	A Element number 1315320001
Climate Change	Ozone Depletion Potential (ODP) = zero Global Warming Potential (GWP) < 5	
100%	Ozone Depletion Potential (ODP) = zero Global Warming Potential (GWP) < 5	



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