Radmat building products

Specialists in Roofing and Waterproofing

ProTherm PIR PLY

Product Data Sheet



A rigid Polyisocyanurate (PIR) foam insulation and OSB composite for use in new build and refurbishment projects.

ProTherm

PIR PLY

General Information

Suitable for use in both new build and refurbishment projects **ProTherm PIR PLY** is a rigid Polyisocyanurate (PIR) foam insulation board factory laminated to 6mm Oriented Strand Board (OSB).

ProTherm PIR PLY is a rigid Polyisocyanurate (PIR) foam core faced with an OSB composite and an aluminum foil backing. The PIR foam core is temperature tolerant and withstands the application of hot bitumen to the surface temperature of 240°C.

Certificates

ProTherm PIR PLY is covered by BBA Certificate No. 16/5341.

Installation Instructions

ProTherm PIR PLY should be laid so that each long edge coincides with the centre of a joist. Noggings should be used to support all edges of ProTherm PIR OSB Comp which are not fully supported by the joists and at points where the board is cut to fit openings etc.

ProTherm PIR PLY should be fixed to joists set at a maximum of 600mm centres, with the timber side uppermost and the board laid with the long edge running along the joist. Where an overall vapour control layer is required, this should be achieved by applying a continuous bead of mastic (i.e. Neutral curing silicone sealant) to the upper surface of all supporting timber. ProTherm PIR PLY should be laid onto the mastic and fixed with round-headed screws, spaced at 300mm centres down the line of each joist and / or noggin.

The screws should be long enough to allow a minimum 35mm penetration of the supporting timber and be positioned not less than 10mm from the edge of the board or 50mm from the corner. Where two ProTherm PIR PLY panels are fixed to the same joist or noggin, the fixing centres should be staggered. The ProTherm PIR PLY panels should be lightly butted and all edges must be supported by a minimum of 20mm bearing onto the face of the supporting timber.

All installation to be according to guidelines and specifications supplied by Radmat.

Delivery conditions

Delivery form

ProTherm PIR PLY packs area supplied wrapped in recyclable poylthene with various board quantities per one-way pallet depending on thickness

Storage and transport

ProTherm PIR PLY boards should be stored in a flat, dry area off the ground away from mechanical damage and sources of ignition. Boards should be completely covered with weatherproof sheeting. The boards must be kept dry at all times, boards wetted accidentally must be replaced or allowed to dry fully before application of the waterproof layer. The boards must be protected from prolonged exposure to sunlight and should be stored either under cover or covered with opaque polyethylene sheets

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PRODUCT DESCRIPTION	
Appearance top side	Grade 3 OSB Composite
Core	Polyisocyanurate (PIR) foam
Appearance bottom side	Aluminum foil
DECLARED PERFORMANCE	
Ozone Depletion Potential	Zero
Global Warming Potential	3
BRE Green Guide Rating	A
Compressive Strength	Typical compressive strength for the foam exceeds 150KPa when tested to BS EN 826: 1996 Thermal Insulating Products for Building Applications-Determination of compressive behaviour.
Density	PIR foam has a typical density of 31 Kg/m^3
Durability	The product is stable, rot proof and durable and will remain effective as an insulation system at least as long as that of the waterproof covering. Durability depends on the method of application, the supporting structure and conditions of use. The insulation core and facings resist attack by mould and microbial growth, and do not provide any food value to vermin.
Mositure Tolerance	Exterior grade OSB Grade 3 has inherent moisture resistant qualities.
Resistance To Solvents - Foam	ProTherm PIR PLY resists attack from dilute alkalis and acids, mineral oil and petrol. The foam is not resistant to ketonic solvents. Damaged boards should not be used.
Thermal Conductivity	The low emissivity of the reflective foil can cut radiation heat transfer across an adjoining air-space The thermal conductivity (λvalue) of the foam is 0.022 W/mK. The thermal conductivity (λvalue) of the OSB is 0.14 W/mK Thermal resistances of the range within given constructions are shown in Table 1.
Water Vapour Resistance	Foil facings have a high water vapour resistance and will, therefore, provide significant resistance to water vapour transmission. This will minimise both surface and interstitial condensation. The necessity for the inclusion of a water vapour control layer in the roof construction should be assessed in accordance with BS 6229: 2003 Code of Practice for flat roofs with continuously supported coverings. Consideration should also be given to BS5250: 2002 Code of Practice to control condensation in buildings.
Dimensions	Width: 1200mm Length: 2400mm Thickness: As per table 1 (96 to 156mm)
Typical Weight	Typical weight of a 120mm thick PIR + 9mm OSB is 28 Kg. See table 1.
Environmental	PIR foam is CFC/HCFC free and has a Zero Ozone Depletion Potential (ODP) with a Global Warming Potential (GWP) of 3, less than the target value of 5. It has a BRE Green Guide rating of A. ProTherm PIR PLY is manufactured from OSB composite Grade 3.
Fire	Achieves BS476-7: 1997 Class 1 rating for surface spread of flame. Finished with 3 layer built-up felt and chippings, the roof will attain an FAA rating when tested to BS 476: 1988 External Fire Exposure Test. Further details on the fire performance may be obtained from Radmat Technical Services.
Roof Loading	Depending on the chosen waterproofing system, ProTherm PIR PLY is suitable for use on roof decks that are subject to limited maintenance foot traffic. Walkways should be provided on roofs requiring regular pedestrian access. The roof should be boarded out with protective boarding whenever site work is to take place after the roof board has been laid and the roof made watertight.

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TABLE 1, TYPICAL U VALUES FOR THE RANGE WITHIN GIVEN CONSTRUCTIONS					
Overall Thickness (mm)	**Length (mm)**	**Width (mm)**	**Weight (kg)**	**R Value (m^2k/W)**	**Typical U value on metal deck (W/m^2k)**
96	2400	1200	20.20	4.15	0.21
106	2400	1200	21.10	4.60	0.19
116	2400	1200	22.00	5.05	0.17
126	2400	1200	22.90	5.50	0.16
136	2400	1200	23.80	5.95	0.15
146	2400	1200	24.70	6.40	0.14
156	2400	1200	25.50	6.85	0.13

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** **JULY 22**

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