Polyfoam Raftersqueeze

For thermal insulation between rafters in hybrid warm roofs

Strong | **Water resistant** | **Versatile** | **Lightweight** | **Ozone friendly** | **Recyclable**

Description

Polyfoam Raftersqueeze is a high performance, 100% ozone friendly, extruded polystyrene, rigid board insulation. It is lightweight and consists of a flexible infill piece of insulation to fit between rafters, even allowing for some timber variation.

Polyfoam Raftersqueeze is supplied straight edged with grooved sections designed to compress to simplify installation.

Application

Polyfoam Raftersqueeze is used for thermal insulation of pitched roofs between rafters in new build or refurbishment.

A common problem in pitched roofing is variation in timber and the difficulty in accommodating this with a rigid insulation. Polyfoam Raftersqueeze is:

- thermally efficient
- stable in the long term
- rigid
- lightweight
- easy to install
- compressible to make installation simple
- practical, allowing for some measuring tolerance
- self-retaining in position before permanent fix is carried out

The following range of applications are some of the key areas of use of Polyfoam Raftersqueeze:

- In warm pitched roofs in new build and refurbishment in:
  - Housing
  - Schools
  - Hospitals
  - Offices

Polyfoam Raftersqueeze is suitable for almost any warm pitched roof construction including:

- In new build between rafters at 600 centres (See Sarking Board System)
- In new build and refurbishment of roofs between rafters where the roof is replaced (See Pitched Roofboard)
- In refurbishment change of use to a room in the roof.

Performance

Compression resistance

The rigidity of Polyfoam Raftersqueeze makes the board easy to handle and less prone to site damage than less robust materials.

Moisture resistance

Polyfoam Raftersqueeze is highly resistant to moisture absorption and will perform as stated if exposed to condensation or other moisture in use.

Thermal insulation

Polyfoam Raftersqueeze is a high performance insulant, with aged quoted thermal performance values.

The actual performance in use of each grade of Polyfoam Raftersqueeze is outlined in the attached application section.

Fire Performance

When Polyfoam Raftersqueeze is installed in a roof construction it will not contribute to the development stages of a fire.

Handling and storage

Polyfoam Raftersqueeze is supplied in polythene packs, labelled with identifying product and manufacturing data.

The boards are easy to handle and non-irritant, no special protective clothing is required to install them.

Polyfoam products should not be left exposed to prolonged sunlight as this will result in surface degradation. Where outside storage for extended periods is required cover with opaque / light coloured sheeting.

Ensure the boards are not stored close to open flame or other ignition source, also avoiding volatile compounds and chemicals such as solvents.

Product Data

Thickness (mm)	Length (mm)	Width (mm)	Nominal density (kg/m³)	Thermal performance to BS 874[1] Conductivity (W/mK)	Thermal performance to BS 874[1] Resistance (m²K/W)	Thermal performance to BS EN 13164[1] Conductivity (W/mK)	Thermal performance to BS EN 13164[1] Resistance (m²K/W)	Compressive strength (KPa)	Water Vapour Resistance (MNs/gm)	Moisture Absorption (by vol.)	Continuous Service temp limits (°C)
Polyfoam Raftersqueeze											
75	1200	600	30	0.028	2.679	0.030	2.50	200	500	0.2%	-50 to +75
65	1200	600	30	0.028	2.321	0.030	2.15	200	500	0.2%	-50 to +75
50	1200	600	30	0.028	1.786	0.030	1.65	200	500	0.2%	-50 to +75

(1) Values to BS 874 are given for reference purposes only. Thermal performance should now be measured to the new European standard. For new designs, Knauf Insulation recommend use of values to EN standards (BS EN 13164). All guidance U-value tables in this document are based on BS EN 13164.

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Installation

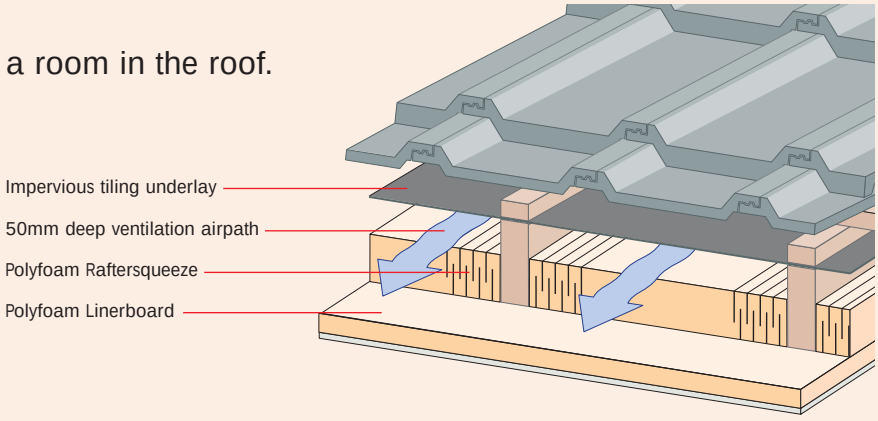
Refurbishment change of use to a room in the roof.

Starting from the eaves, the board is push fit between rafters. If rafter centres are other than 600mm (eg. 450mm, 300mm,etc) cut the board slightly oversize to fit and use the remaining squeeze on one edge to push fit between rafters. There should be little wastage as off cuts can be joined together with dowels (or similar) and used to fill other rafter spaces.

Each new board must be tightly butted to the previous one. Where the roofing underlay is impervious, a 50mm air gap behind the insulation must be maintained. If any doubt exists about the retention of this during installation fix a batten behind the Polyfoam Raftersqueeze at the required depth. Where there is a breathable underlay, the boards may be pushed up to the underside of the underlay.

At the ridge, cut the final board with a knife or saw to fit tightly, ensuring that the ventilation is maintained behind.

When completed, fix Polyfoam Linerboard or plasterboard, as appropriate, to underside of the rafters at maximum 300mm centres and finish using standard dry-lining techniques.



Typical U-Values (W/m²K) **for refurbished hybrid warm roofs insulated with Polyfoam Raftersqueeze between rafters**

Rafter depth (mm)	Polyfoam Raftersqueeze thickness (mm)	Polyfoam Linerboard Insulation/plasterboard thickness (mm)	U-Value (W/m²K)
100	50	50/9.5	0.30
115	65	42.5/9.5	0.29
125	75	30/9.5	0.29
150	50 + 50	17.5/9.5	0.27
175	65 + 50	n/a	0.27
200	65 + 50	n/a	0.29

Note: Rafters assumed to be 38mm wide at 600 centres. The U-Values have been calculated to BS EN ISO 6946: 1997

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