

Thin-R

High Performance PIR

Engineered Jointing

Thermal Conductivity

Extensive Range

High Performance PIR Roof Insulation Board

Roofs

XT/SK

Insulation for Sarking
(Warm Roof) Constructions
with Engineered Jointing

Key Features

High Thermal Performance

Certified Thermal Conductivity
as Low as 0.022W/mK

Robust Engineered Jointing

Low Emissivity Foil Facings

HCFC/CFC free, GWP <5

BRE Green Guide A+ Rated



AS LOW AS
X022
Xtratherm



www.xtratherm.com

Xtratherm[®]

More than insulation

Thin-R | XT/SK

T&G Roof Insulation

Xtratherm Sarking XT/SK is the most effective solution to insulating roofs to reach the very efficient U-values required to achieve zero carbon targets. Creating a 'Warm Roof' allows complex roofs to be more effectively insulated with a reduced risk of thermal bridging and condensation problems as the roofing timbers are kept at or near internal environmental conditions.

Sarking Warm Roof Insulation

High Thermal Performance

Super efficient U-value in roofs

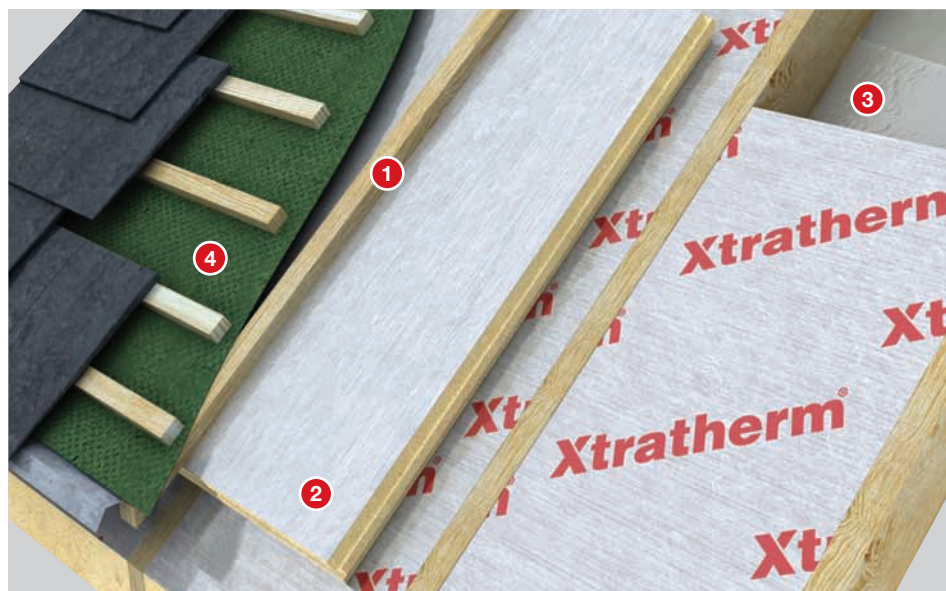
Effective Thermal bridging detailing

Fully engineered jointing system

Avoids thermal stress in roofs

Design

Using Xtratherm on sloped roof areas can provide the most efficient U-values with minimal intrusion into valuable living space. Warm Roof construction is a particularly effective way of insulating complex roofs. Insulating above the roof timbers ensures that the structure is kept at, or near the internal environmental conditions, reducing thermal stress and condensation risk. The Xtratherm Sarking Board XT/SK is a robust T&G engineered jointed board that achieves excellent U-values at minimal thicknesses. An additional layer of Xtratherm between the counter battens minimizes fixing length.



1 The counterbatten is placed over the Xtratherm XT/SK and secured with approved helical fixings to manufacturers recommendations. The counterbatten carries the tiling battens.

2 Xtratherm XT/SK Tongued and Grooved sarking board is specifically engineered to provide a robust solution to insulating over rafters.

3 It is recommended that all roofs using a breather type membrane have an efficient vapour control layer to the under side in accordance with GBG 37 Insulating roofs at rafter level: sarking insulation.

4 Warm roof constructions require the use of a vapour permeable underlay (Breather Membrane). Refer to manufacturers BBA certificate.

Xtratherm Thin-R is a high performance foil faced Polyisocyanurate (PIR) insulation with a certified thermal conductivity as low as 0.022W/mK. Manufactured to strict EN 13165 standards, the closed cell structure and gas tight facings provides excellent thermal performance and moisture resistance. Thin-R is available with engineered jointing to provide improved continuity and unparalleled thermal bridging performance. Xtratherm Thin-R products deliver genuine thermally robust performances and are supported with full third party assurances throughout the range.

Property & Units

Density (Foam Core)
30 - 32kg/m³

Compressive Strength
150kPa @ 10%

Thermal Conductivity
0.022 W/mK

Service Temperature
-20°C - +100°C

Xtratherm XT/SK

Length (mm)
2400

Width (mm)
1200

Thickness*
50, 75, 100

Other sizes are available subject to quantity and lead time.

Description

Xtratherm Sarking Boards XT/SK are for use in constructions where the ceiling follows the pitch of the roof and encloses a habitable space, or where the ceiling is horizontal and encloses a loft space.

Xtratherm Sarking Boards are placed over rafters with additional insulation added between rafters and/or between the counter battens, in a double or triple layer system. The system is used in conjunction with an approved vapour permeable roof tile underlay, treated timber counter battens and vapour control layer on pitched and mansard roofs, which have been designed in accordance with the relevant clauses of BS 5534 Part 1.

Installation Guidelines



1. A timber stop rail is fixed to the bottom of the rafters

A treated timber stop rail, the same thickness as the Xtratherm Sarking Insulation, is fixed to the rafters close to the eaves to provide a firm fixing point for the counter battens. The Xtratherm Sarking boards are laid over the rafters commencing at the stop rail, the Tongued and Grooved edges of the boards should be fully engaged and positioned in a staggered pattern over the rafters. Repeat the procedure using crawling boards until the entire area from eaves to ridge has been covered. The insulation will not support operatives. Any gaps in the insulation (e.g. at the eaves, ridge, valleys and around any roof lights etc.) must be sealed with flexible sealant or expanding foam. Accredited Detailing must be followed. Use large headed clout nails to hold boards temporarily in place until they are secured by the counter battens.

Treated counterbattens are fixed through the insulation into the rafter with Helifix Inskew (or other approved) fixings at the appropriate centres, taking account of the specific roof design e.g. pitch, weight of slates/tiles and location of the building etc- contact supplier for specification/calculations.

A vapour permeable roof tile underlay should be installed (fully supported or over the counterbattens) depending on the type and in accordance with the certification. Using the underlay over the counterbattens ensures better thermal performance from the Xtratherm Thin-R insulation.

Slating or tiling is installed in accordance with the relevant clauses of BS 5534 Part 1: 1997. When the roof space is to be used as a living area, the Xtratherm Thin-R boards should be covered with 12.5mm plasterboard.

Additional Layers

Xtratherm Thin-R pitched roof insulation can be used to create a double or triple layer system when the U-value requirement creates an excessive thickness for a single layer application, or overall thickness needs to be reduced at the eaves detail. Ideally the thicknesses between and over the rafters should be of similar depth.



1. XT/PR is cut to fit tightly between rafters

2 Layer System

A second layer of Xtratherm XT/PR insulation is cut to size and placed between the rafters on timber batten carriers or sarking clips that are nailed up the slope of the roof. The upper face of the board should be kept flush with the top of the rafter.



1. Additional XT/PR is cut to fit tightly between counter battens

2. XT/PR is cut to fit tightly between rafters

3 Layer System

Placing Xtratherm XT/PR insulation (Typically 40mm) between the counterbattens further improves the U-value achieved and minimizes the length of fixings that are required to fix the counterbattens.

Standards

Xtratherm Thin-R range is manufactured to EN ISO 13165 under Quality Systems approved to EN ISO 9001:2008 quality management, EN ISO 14001:2004 environmental management and BS OHSAS 18001 Health and Safety Management System.

Storage

Xtratherm Thin-R should be stored off the ground, on a clean, flat surface and must be stored under cover. The polythene wrapping is not considered adequate protection for outside exposure.

Cutting

Xtratherm Thin-R can be readily cut using a sharp knife or fine toothed saw. Ensure tight fitting of the insulation boards to achieve continuity of insulation as asked for in accredited details.

Packaging

Xtratherm Thin-R is wrapped in polythene packs and each pack is labelled with details of grade/type, size and number of pieces per pack.

Availability

Xtratherm products are available through builder's merchants and specialist distributors throughout the UK and Ireland. For the location of your nearest stockist please contact Xtratherm.

Environmental

Xtratherm Thin-R is manufactured under ISO 14001:2004 Environmental Management with all major components sourced under 14001 accredited suppliers. It is manufactured without the use of CFC's or HCFC's and has Zero Ozone Depletion Potential with a GWP of less than 5. Thin-R has been awarded an A+ Rating under the BRE Green Guide.

Durability

Xtratherm Thin-R products are stable, rot proof and will remain effective for the life span of the building, dependent on specification and installation. Care should be taken to avoid contact with acids, petrol, alkalis and mineral oil, when contact is made, clean materials in a safe manner before installation. Solvent based adhesive containing methyl ethyl ketone, should not be used.

Resistance 'R' values

The resistance value of any thickness of Xtratherm PIR can be ascertained by simply dividing the thickness of the material (in metres) by its agreed declared lambda value 0.022 W/mk. eg 50mm = 0.050/0.022 = R2.27.

Sarking (Warm) Roof XT/SK U-values achieved

Sarking Over (mm)

	60mm Between Rafters	75mm Between Rafters	100mm Between Rafters
50	0.19	0.18	0.15
3rd Layer @40mm	0.15	0.14	0.12
60	0.18	0.16	0.14
3rd Layer @40mm	0.14	0.13	0.12
70	0.17	0.15	0.13
3rd Layer @40mm	0.13	0.12	0.11

Rafters taken at 600mm centres

Thin-R

High Performance PIR

Xtratherm Technical Services

All the members of our technical team are individually BBA accredited to help you reach your low energy goals. BBA qualified in U-value calculation, condensation risk and also Thermal Bridging 3D analysis backed by BRE accreditation – when you call Xtratherm, you can be assured you're speaking to a qualified person.



XT/CW (T&G)

Walls:

Insulation for Partial Fill Cavity Wall



CT/PIR

Walls:

Full Fill Built-in Insulation for Traditional Build



XT/CWP

Walls:

Insulation with enhanced performance for Partial Fill Cavity Walls



XT/UF

Floors:

Insulation for Ground Supported and Suspended Floors



XT/TL

Walls:

Insulation for Drylining walls Fixed with Adhesive Dabs



XT/HYF

Floors:

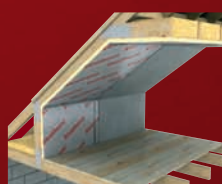
Insulation for Ground Supported and Suspended Floors with Engineered Jointing.



XT/TL-MF

Walls:

Insulation for Drylining walls Mechanically Fixed to Battens



XT/PR

Roofs:

Insulation for Pitched Roofs



XT/TF

Walls:

Insulation for Timber Framed Walls



XT/SK

Roofs:

Insulation for Sarking (Warm Roof) Constructions with Engineered Jointing

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Good workmanship and appropriate site procedures are necessary to achieve expected thermal and airtightness performance. The example calculations are indicative only. Default values for components and cavities have been used, for specific U-value calculations contact Xtratherm Technical Support. Comprehensive guidance on installation should be consulted. Xtratherm technical literature and Agrément certifications are available for download on the Xtratherm website. The information contained in this publication is, to the best of our knowledge, true and accurate but any recommendations or suggestions which may be made are without guarantee since the conditions of use are beyond our control.