

Engineered Jointing

Thermal Conductivity

Extensive Range

High Performance PIR Wall Insulation Board

Walls

XT/CW (T&G)
Insulation for Partial
Fill Cavity Walls

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



www.xtratherm.com

Xtratherm[®]

More than insulation

Thin-R | XT/CW Insulation for Partial Fill Cavity Walls

Xtratherm Thin-R XT/CW (T&G) is the best solution when building external walls to the highest thermal standards whilst maintaining a residual cavity. Xtratherm Thin-R boards achieve high standards of insulation with a certified thermal conductivity of 0.022W/mK with the optional benefit of fully engineered jointing and pre-formed corners to ensure insulation continuity and avoid thermal bridging.

Robust tongued and grooved jointing

Extra thermal performance

Clear cavity maintained

No exposure restrictions

Low emissivity foil facings

1
The Xtratherm Cavity Wall System includes an optional pre-formed insulation panel that forms a 90 degree corner to effectively insulate a junction that is normally vulnerable to thermal bridging and cold spots.



2

Xtratherm provides a Tongued and Grooved jointing system that results in a more robust, continuous layer of cavity wall insulation that minimises the threat of thermal bridging through inaccurate installation.

A residual cavity is the air space retained when Xtratherm Partial fill Cavity Wall insulation is placed against the inner leaf of the cavity of a wall. The minimum residual cavity width allowed is 25mm in accordance with the XT/CW BBA certificate 07/4407 however 50mm may be required by the designer.



3

The Low emissivity foil facing on Xtratherm boards improve the thermal performance of the wall.

The residual cavity is the most effective method of preventing rain penetrating a wall from the outside.

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)
26-30 (Kg/m³)

Compressive Strength
>120 (kPa)

Water Vapour Resistivity
>100 (MNs/gm)

Thermal Conductivity
0.022 (W/mK)

Service Temperature
-20 to 100 (°C)

Surface Spread of Flame
Class 1

Xtratherm XT/CW

Length (mm)
1200

Width (mm)
450

Thickness (mm)

Edge profile: Square Edge
25, 30, 35, 40

Edge profile: T&G
40, 50, 60, 65, 70, 75,
80, 100 (SE Available)

Specification Clause

The partial fill cavity wall insulation shall be Xtratherm Thin-R XT/CW ___ mm thick manufactured to EN ISO 9001:2008 by Xtratherm, comprising a CFC/HCFC free rigid Polyisocyanurate (PIR) core between low emissivity foil facings. The wall insulation shall be installed in accordance with instructions issued by Xtratherm. Refer to NBS clause F30 151, F30 12

Installation Guidelines

Cavity Wall Installation

Insert wall ties max 600mm cs one block course below DPC.

Secure cavity boards tight against inner leaf with retaining clip on approved wall ties.

Maintain a 50mm residual cavity to suit all exposure zones.

Ensure a minimum 25mm residual cavity is maintained. This may have to be increased to suit conditions. (e.g. NHBC)

Place wall ties at max 900x450 centres each board secured with a minimum of 3 wall ties.

Ensure block joints are fully bonded with unbroken mortar.

Fix wall ties 225mm vertically and 150mm horizontally from face of unbonded jambs.

Ensure wall ties (Cavity) are kept clean of mortar and are sloped towards outer leaf.

A cavity board should be used to keep the cavity clean.

Xtratherm corner boards and preformed reveal panels may be fitted to provide robust detailing.

Xtratherm Hyclips can be used to secure boards tightly against inner leaf at sills and wall plate etc. where wall ties are inappropriate.



Improvements in U-values and accredited detailing can be achieved with an additional layer of an Xtratherm Thermal Liner. (See table for U-values)

U-Value calculations to BS EN ISO:6946

Cavity Wall (XT/CW T&G) Partial Fill

Xtratherm Thickness (mm)

	30	35	40	45	50	55	60	65	70	80	100
0.10	0.30	0.28	0.27	0.25	0.24	0.22	0.21	0.20	0.19	0.18	0.15
0.11	0.31	0.29	0.27	0.25	0.24	0.23	0.22	0.21	0.20	0.18	0.16
0.14	0.32	0.30	0.28	0.26	0.25	0.24	0.22	0.21	0.20	0.19	0.16
0.17	0.33	0.31	0.29	0.27	0.25	0.24	0.23	0.22	0.21	0.19	0.16
0.19	0.34	0.31	0.29	0.27	0.26	0.24	0.23	0.22	0.21	0.19	0.16
0.22	0.34	0.32	0.30	0.28	0.26	0.25	0.23	0.22	0.21	0.19	0.17
0.25	0.35	0.32	0.30	0.28	0.27	0.25	0.24	0.22	0.21	0.19	0.17
0.34	—	0.33	0.31	0.29	0.27	0.26	0.24	0.23	0.22	0.20	0.17
0.51	—	0.34	0.32	0.30	0.28	0.26	0.25	0.23	0.22	0.20	0.17
0.99	—	0.35	0.33	0.30	0.28	0.27	0.25	0.24	0.23	0.20	0.17
1.15	—	0.35	0.33	0.31	0.29	0.27	0.25	0.24	0.23	0.21	0.17

Block Lambda

U-values achieved using Xtratherm XT/CW (T&G) to ISO:6946. Dot & Dab finish - 0.665 Cavity Resistance. Wall ties taken as S/S wire @ 3 ties/m² Wet Plaster Finish - increase insulation thickness by 5mm.

U-values achieved with an additional Thermal Liner

Thickness	Block Value	U-Value	With XT/TL*
60mm	1.15	0.25	0.18
70mm	0.51	0.22	0.16
80mm	0.14	0.19	0.14

Calculation includes 40mm residual cavity, with 5 S/S wall ties per m². *38mm PIR insulation on adhesive dabs. Accredited details should be followed to ensure calculated performance.

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 agrément declared lambda value 0.022 W/mk. eg 50mm = 0.050/0.022 = R2.27.

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.

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:

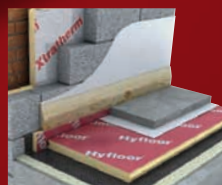
Insulation for Ground Supported and Suspended Floors



XT/TL

Walls:

Insulation for Drylining walls Fixed with Adhesive Dabs



XT/HYF

Floors:

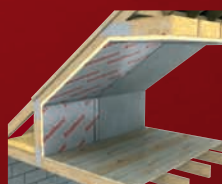
Insulation for Ground Supported and Suspended Floors with Engineered Jointing.



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.