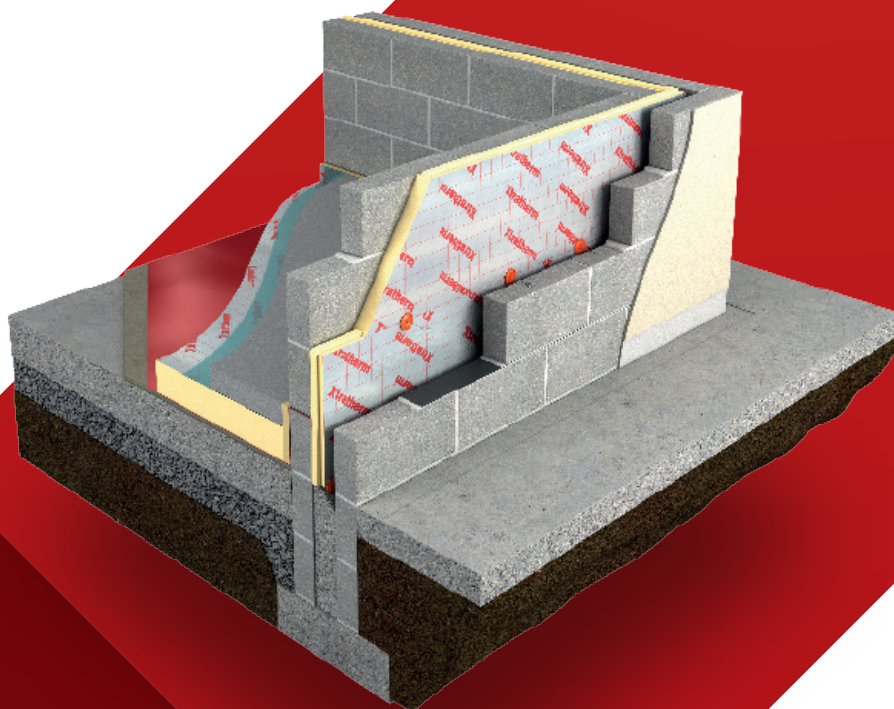
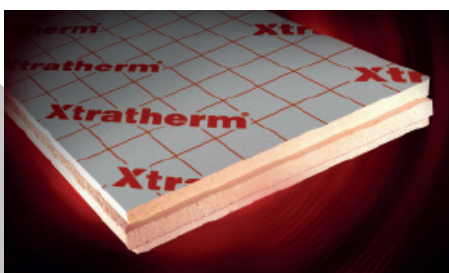


Thin-R

PIR Insulation

Walls

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



Xtratherm[®]
More than insulation



08/4613



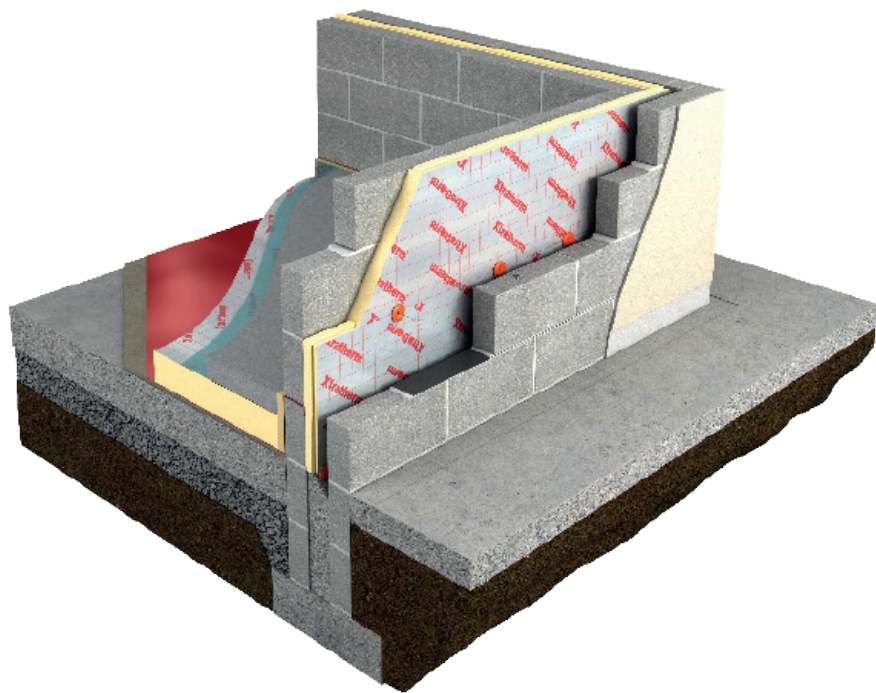
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Thin-R XT/CW (T&G)

PIR Insulation
Insulation for
Partial Fill Cavity Walls

Thin-R Partial Fill Cavity Wall XT/CW (T&G) builds to a system thanks to its engineered tongue and grooved joints and pre-formed corners, ensuring insulation continuity and minimisation of thermal bridging.

XT/CW (T&G) for use in traditional masonry walls, builds to the highest thermal standards whilst maintaining a residual cavity, offering protection from wind driven rain.



Specification Clause

The partial fill cavity wall insulation shall be Xtratherm Thin-R XT/CW (T&G) manufactured to EN 13165 by Xtratherm, comprising a rigid Polyisocyanurate (PIR) core between low emissivity foil facings. The XT/CW (T&G) _ _ _mm with Agrément certified Lambda value of 0.022 W/mK to achieve a U-Value of _ _ _W/m²K for the wall element. To be installed in accordance with instructions issued by Xtratherm.

Xtratherm PIR achieves an A+ rating under the BRE Green Guide.



Refer to NBS clause F30 155, F30 12



Thermal Resistances

Thickness (mm)	R-Value (m ² K/W)
40	1.80
50	2.25
60	2.70
70	3.15
80	3.60
100	4.50

Resistance 'R' Values

The resistance value of any thickness of Xtratherm insulation can be ascertained by simply dividing the thickness of the material (in metres) by its agrément declared lambda value, for example: Lambda 0.022 W/mk and thickness 50mm -> 0.050/ 0.022 -> R-Value = 2.25. In accordance with EN 13165, R-values should be rounded down to the nearest 0.05 (m²K/W).

Robust Tongue & Groove Jointing

Corner Panels & Cavity Closers:
Reduced Thermal Bridging

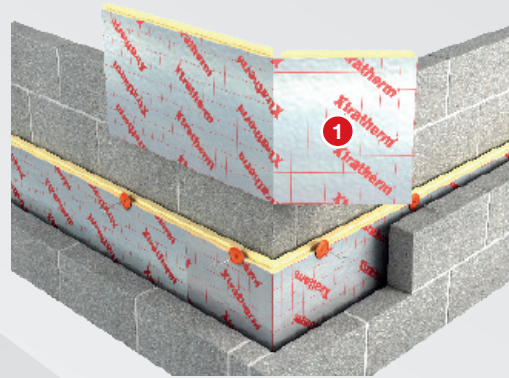
Clear Cavity Maintained

No Exposure Restrictions

Low Emissivity Foil Facings

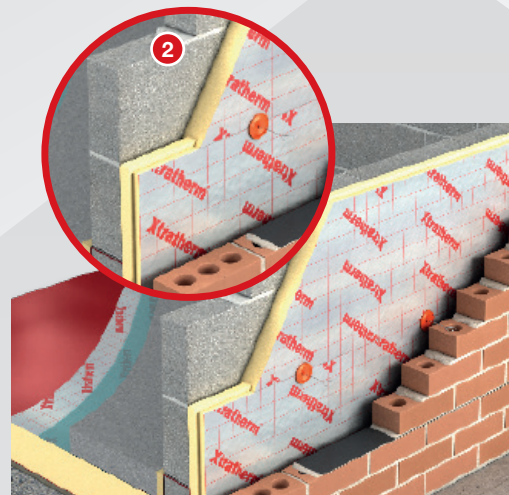
1

The Xtratherm Cavity Wall System includes an optional pre-formed corner panel (XT/CRN) that folds to 90 degrees to effectively insulate a corner junction that is normally vulnerable to thermal bridging and cold spots.



2

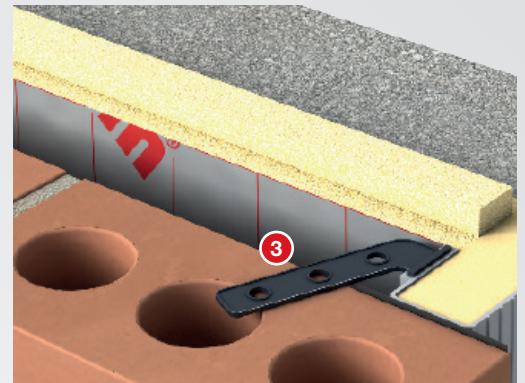
The XT/CW (T&G) tongue and groove jointing offers a practical on-site solution that results in a more robust continuous layer of insulation, minimising the threat of thermal bridging and improving the overall U-Value of the wall.



3

The low emissivity foil facing on XT/CW (T&G) improves the thermal performance of the wall. The residual cavity is the most effective method of preventing wind-driven rain penetrating a wall from the outside.

A residual cavity is the air space that remains when XT/CW (T&G) is placed against the inner leaf of the cavity of a wall. The recommended residual cavity width required is 50mm in accordance with agrément certification, however a reduced cavity may be permissible in certain circumstances.



XT/CW (T&G)

Length (mm)	1200
Width (mm)	450
Thickness (mm)	40, 50, 60, 70, 80, 100

Other thicknesses may be available depending on minimum order quantity and lead time.

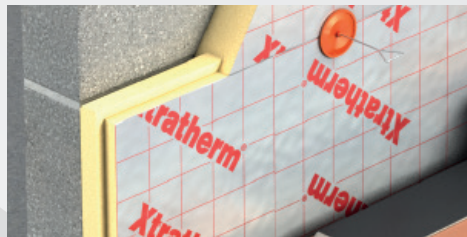
Property & Units

Thermal Conductivity	0.022 (W/mK)
Compressive Strength	>120 (kPa)
Reaction to Fire	NPD

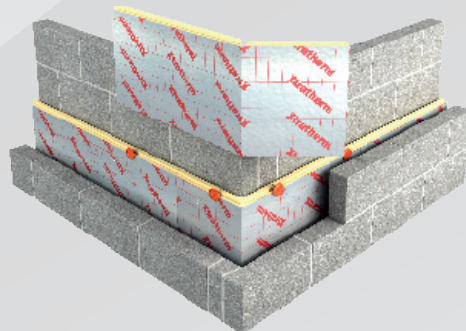
Xtratherm CE Declaration of Performance (DoP) for this product is available for download from our website.

Installation Guidelines

1. Under Eurocode 6/S.R. 325 it is recommended that no more than four courses of block are laid on the preceding skin before installation of the insulation. This allows for wall ties to be inserted accurately and without bending and thus distorting the physical characteristics of the wall ties. Ensure the wall is level and free of any protrusions before installing the insulation with all edges tightly interlocked.
2. Mortar should be struck from the inner cavity face of the block to ensure mortar squeeze is minimised on the cavity side. The inner and outer courses can then be built.
3. Insert wall ties maximum 600mm centres one block course below DPC. Wall ties should incorporate retaining clips and be agrément approved.
4. Secure cavity boards tight against inner leaf with retaining clip on wall ties. Boards should be installed with the tongue uppermost and joints should be tightly butted.
6. Maintain a 50mm residual cavity to suit all exposure zones. In isolated circumstances where the cavity is obstructed, a minimum 25mm residual cavity should always be maintained and extra consideration should be given to fixings and weatherproofing. Any reduction in cavity width should be agreed with Building Control.
7. Place wall ties at maximum 900mm x 450mm centres, securing with a minimum of 3 wall ties per board.
8. 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 and cavity are kept clean of mortar. Wall ties should be sloped downwards towards outer leaf.
9. A cavity board should be used to keep the cavity clean. XT/CRN corner boards and cavity closers may be fitted to provide robust detailing.



5. Ensure a minimum 150mm overlap with the floor insulation. The receiving block should be plumb to provide a flat surface to accept the insulation. As with setting out, installation should commence from adjacent corners using the XT/CRN pre-formed corner boards. Alternate corner boards will achieve the offset break bonded pattern for the insulation.



ACDs must be followed to ensure that installation is in accordance with current Building Regulations and accounted for in the energy calculation.

Handling, Cutting and Storage

Xtratherm insulation 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. Care should be taken to protect the insulation in storage and during the build process.

The insulation boards 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 within the ACDs. Appropriate PPE should be worn when handling insulation. Please refer to Health & Safety data sheets on our website.

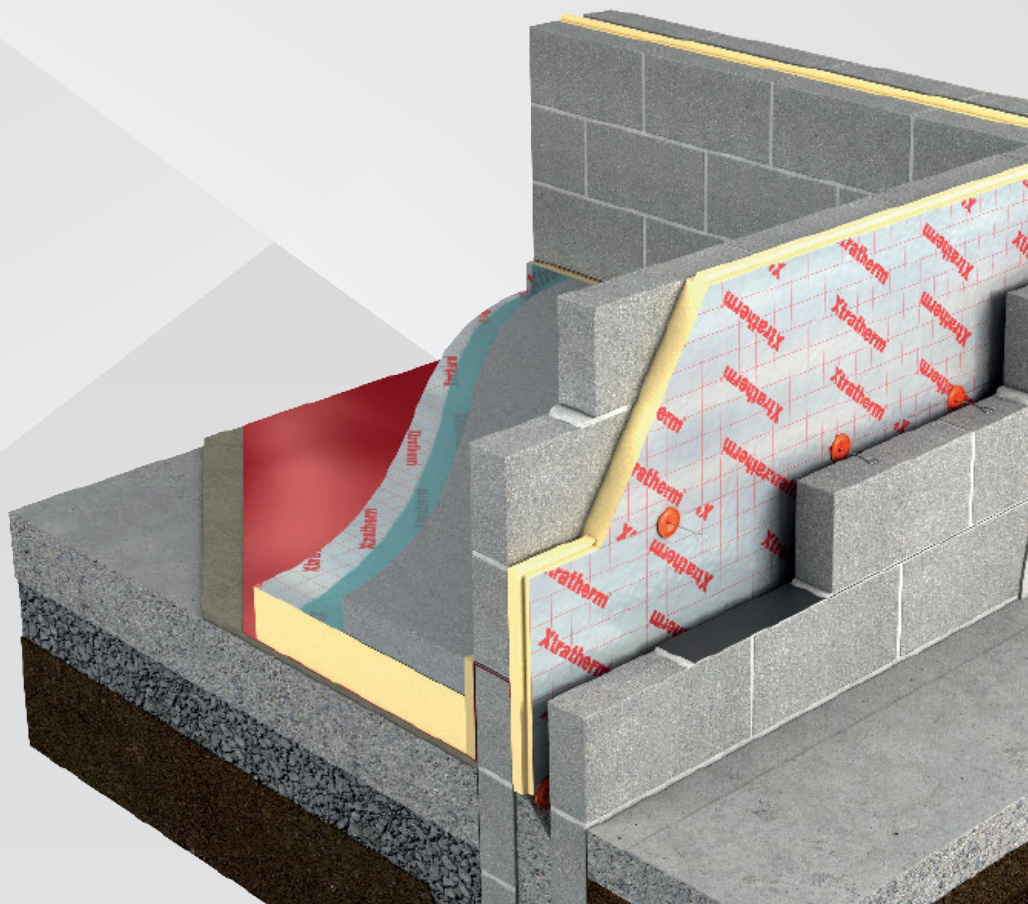
The boards are wrapped in polythene packs and each pack is labelled with details of grade/type, size and number of pieces per pack.

Xtratherm®



Durability

Xtratherm 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.



Typical U-Values



Table 1

U-Value calculations to EN ISO:6946

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

- Plasterboard Dot & Dab
- 100mm Inner Leaf Blockwork
- XT/CW (T&G)
- Low E Unventilated Cavity
- 100mm Outer Leaf Blockwork
- 19mm Sand/Cement Render

Wet plaster finish: increase insulation thickness by 5mm

Wall ties taken as S/S wire at 3 ties per m²

Block Lambda	Xtratherm Thickness (mm)					
	40	50	60	70	80	100
0.11	0.28	0.25	0.22	0.20	0.19	0.16
0.15		0.26	0.23	0.21	0.19	0.16
0.46		0.28	0.25	0.22	0.20	0.17
1.13			0.26	0.23	0.21	0.18

Table 2

U-Values achieved with additional Xtratherm XT/TL Thermal Liner

XT/TL 50.5mm thermal liner consisting of 38mm PIR and 12.5mm plasterboard on adhesive dabs

Thickness XT/CW (T&G)	Block Lambda	Original U-Value Table 1	Improved U-Value with XT/TL
60mm	0.11	0.22	0.16
70mm	0.15	0.21	0.15
80mm	0.46	0.20	0.15
100mm	1.13	0.18	0.13

Expect More **KNOWLEDGE**

At Xtratherm we understand the importance of giving our customers the best technical advice.

We have taken the unique industry step of training every one of our technical team that deals directly with our customers, to the highest industry standards of competency in U-Value calculation and condensation risk analysis. We have Thermal Bridging covered also under the BRE/NSAI Thermal modelling competency scheme, using the most comprehensive 3D software available.

Our team and products are certified in the UK and Ireland and through the following certifications bodies:

- BRE Thermal bridging modelling competency certification
- NSAI Thermal modelling competency scheme
- TIMSA-BBA competency scheme for U-Value calculation and condensation risk analysis
- BBA and NSAI certification of the Xtratherm insulation boards
- SAP and DEAP energy assessment

Our technical team can also provide:

- Thermal calculations
- Technical advice on building regulations in the UK and Ireland
- Technical papers on a variety of topics
- Certified CPDs
- BIM modelling
- NBS Specifications
- Educational resources for technical secondary and tertiary colleges

Please refer to the Resources section of our website for more details



The **Xtratherm** Innovation Centre

The Xtratherm exhibition space and training academy has been developed to assist construction professionals in understanding the principles of specifying and achieving on-site, best practice insulation standards for new dwellings, commercial envelope solutions and refurbishment projects.



Get in touch

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Thermal Calculations, Technical
Advice or to arrange a technical visit:
info@xtratherm.com

Xtratherm®

More than insulation

The Sustainable Solution

Specifying Xtratherm is a real commitment to minimising energy consumption, harmful CO² emissions and their impact on the environment. Using our products is one of the most effective ways to reduce energy consumption – in fact, after just eight months the energy they save far outweighs the energy used in their production. In addition, our manufacturing facilities operate to an ISO 14001 certified Environmental Management System.

The BRE Green Guide

The 2008 Green Guide to Specification produced by the BRE gives Xtratherm Insulation products a rating of A or A+. Green Guide ratings are used to gain credits in BREEAM (BRE Environmental Assessment Method) for non-residential buildings, and under 'Mat 4 – Insulation' the first credit requires the building to have an Insulation Index of 2 or greater – only achievable if the weighted average rating of the insulation is A or A+. This shows that all our products have been made with materials that have been responsibly sourced. The standard sets out organisational governance, supply chain management and environmental and social aspects that are verified and ensure responsible sourcing of materials.

Responsible Sourcing

Xtratherm has BES 6001 certification for responsible sourcing. The second BREEAM credit under that category is based on responsibly-sourced materials – at least 80% of the total insulation used in roofs, walls, ground floors and services must meet any of tier levels 1 to 6 in the BREEAM table of certification schemes. Our Environmental Management System is certified under EN ISO 14001, and our raw materials come from companies with similarly-certified EMS (copies of all certificates are available for BREEAM assessments). This level of responsible sourcing meets tier level 6 in the BREEAM table.

Global Warming and Ozone Depletion

All Xtratherm Insulation products use CFC- and HCFC-free materials, and are manufactured using a blowing agent with a low GWP and zero ODP.

Good workmanship and appropriate site procedures are necessary to achieve expected thermal and airtightness performance. Installation should be undertaken by professional tradespersons. The example calculations are indicative only, for specific U-Value calculations contact Xtratherm Technical Support. Xtratherm technical literature, Agrément certifications and Declarations of Performance are available for download on the Xtratherm website. The information contained in this publication is, to the best of our knowledge, true and accurate at the time of publication but any recommendations or suggestions which may be made are without guarantee since the conditions of use are beyond our control. Updated resources may be available on our websites. All images and content within this publication remain the property of Xtratherm.

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ISO 9001 | Quality Management Systems

ISO 14001 | Environmental Management Systems



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