





# UK Insulation Guide

Your reference for Recticel's insulation solutions.

# Feel good inside

As your insulation partner, we work together to create a feel good inside climate by providing a range of intelligent insulation solutions. By constantly innovating and improving our products we want to increase comfort for you and your customers. Discover the many ways you benefit from insulating with Recticel Insulation:



## Stable inside temperature

Recticel Insulation guarantees maximum comfort by creating a living or working environment with a healthy and stable inside climate.



# Quick installation

The boards are user friendly and comfortable to install. They reduce the installation time on site.



# Lightweight

The insulation boards are light and easy to handle.



# Easy to cut

Our boards are easy to cut on site in different dimensions. This gives you the ability to customise sizes to fit every project.



# More living space

With their high insulation values, the insulation boards give you the opportunity to install thinner layers of insulation and create extra living space.

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		Flat roofs	oofs		<u></u>	<u></u>		
	Single ply membrane	Torch-on felt	Mastic	Built- up felt	Pitched	Walls	Floors	Soffit Liner
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						6		
<b>®</b> Eurothane PL					11	<del></del>		
<b>®</b> Eurothane FP						13		13
O Eurothane Eurodeck	15							
O Powerdeck F	17		17	17				
O Powerdeck U		19		10				
<b>⊗</b> Plylok°	21			21				
O Deck-VQ	23							

# Introduction

As well as producing PIR products of unparalleled quality, Recticel Insulation is a company of thought leaders and creators, driven by a desire to develop insulation which establishes unprecedented levels of thermal performance and usability. Based at its state-of-the art facility in Stoke-on-Trent, Recticel Insulation - which is part of the Recticel Group, one of the world's largest producers of polyurethane products - is a committed solution-provider: an industry pioneer in the quest for future generations to be able to enjoy a sustainable environment, without compromising on comfort.























Much of our lifetime will be spent at home and in the workplace. Therefore, ensuring both areas are well-insulated is of the upmost importance. By creating a healthy interior climate, we enhance the well-being of those within. Customer comfort lies at the heart of Recticel Insulation's success - and there can be no greater achievement than its facilitation of safe, secure and sustainable living space.

Insulating a building is a once-in-a-lifetime investment, hence the need to select insulation products of proven quality to help reduce long-term energy consumption - a major contributor to lowering carbon emissions and meeting the challenge of global warming. Renowned as a leading technical innovator within the insulation industry, Recticel is focused on the future needs of our children and guiding them towards a comfortable and worry-free future. Its worldview displays similar compassion. Recticel's products are designed and manufactured to result in the lowest environmental impact, and its Stoke-on-Trent site has attained ISO 14001 certification for its environmental management system.

In order to maintain its reputation as instigators parexcellence in the field of insulation advancement, Recticel's search for new and improved product solutions continues daily at its Belgium-based Sustainable Innovation Department. From its high-specification European facility, a dedicated research and development team works tirelessly to discover formulas which will lead to the manufacture of materials comprising even greater thermal efficiency and workability. Quality product producers, unbeatable service providers, environmental engagers, future solution suppliers... Recticel Insulation has more than earned its position as one of the world's leading PIR manufacturers – but its journey has only just begun.

# Eurothane GP

Eurothane® GP is a high performance PIR insulation board, perfectly suited for multiple applications.



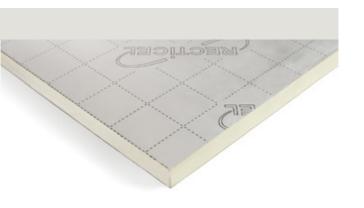
For pitched roofs, walls and floors

# Main benefits

- · Suitable for multiple applications
- Good thermal performance: λ<sub>D</sub> = 0.022 W/mK
- · Quick, easy installation
- · Space-saving
- · Strong and reliable solution
- · Easy to cut and install

Lambda (λ)	0.022 W/mK
Size(s)	2400x1200 mm
Fire performance	Euroclass F
Edge finishing	Square edges
Compressive strength	25-49mm: 120 kPa, 50-160mm: 140 kPa





Thickness (mm)	Boards per pack	m² per pack	Boards per stack	m² per stack
25	12	34.56	96	276.48
30	10	28.80	80	230.40
40	8	23.04	56	161.28
50	6	17.28	48	138.24
60	5	14.40	40	115.20
70	5	14.40	35	100.80
75	4	11.52	32	92.16
80	5	14.40	30	86.40
90	5	14.40	25	72.00
100	4	11.52	24	69.12
110	3	8.64	21	60.48
120	4	11.52	20	57.60
130	3	8.64	18	51.84
140	3	8.64	15	43.20
150	3	8.64	15	43.20
160*	3	8.64	15	43.20

<sup>\*</sup>See page 26 - 'special order items'

# **№** Eurowall Cavity

Eurowall® Cavity is a high performance product for partial fill masonry cavity wall applications.



For walls

# Main benefits

- Good thermal performance:  $\lambda_D = 0.022 \text{ W/mK}$
- · Easy to cut and install
- · Limited moisture absorption
- · Durability

Lambda (λ)	0.022 W/mK
Size(s)	1200x450 mm
Fire performance	Euroclass F
Edge finishing	Straight edges
Compressive strength	120 kPa





Boards per pack	m² per pack	Boards per stack	m² per stack
40	21.60	200	108.00
32	17.28	160	86.40
24	12.96	120	64.80
20	10.80	100	54.00
16	8.64	80	43.20
14	7.56	70	37.80
12	6.48	60	32.40
12	6.48	60	32.40
10	5.40	50	27.00
10	5.40	50	27.00
	per pack 40 32 24 20 16 14 12 12 10	per pack per pack 40 21.60 32 17.28 24 12.96 20 10.80 16 8.64 14 7.56 12 6.48 12 6.48 10 5.40	per pack         per pack         per stack           40         21.60         200           32         17.28         160           24         12.96         120           20         10.80         100           16         8.64         80           14         7.56         70           12         6.48         60           12         6.48         60           10         5.40         50

<sup>\*</sup>See page 26 - 'special order items'



Eurowall + is a high performance PIR insulation for full fill masonry wall applications with a 10mm clear cavity



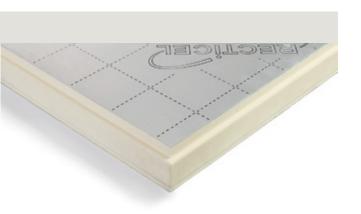
## Main benefits

- Good thermal performance:  $\lambda_D = 0.022 \text{ W/mK}$
- · Easy and fast installation
- · Helps to achieve 0.18 U-value in 100 mm cavities
- · Tongue and groove rebate minimises thermal bridging
- · Alkali-resistant facing

Lambda (λ)	0.022 W/mK
Size(s)	1200x460 (max including tongue and groove joint) 1190x450 (installed dimensions) mm
Fire performance	Euroclass F
Edge finishing	Tongue and groove
Compressive strength	120 kPa







Thickness (mm)	Boards per pack	m² per pack	Boards per stack	m² per stack
75*	12	6.48	60	32.40
90	10	5.40	50	27.00
115	8	4.32	40	21.60
140	8	4.32	32	17.28

<sup>\*</sup>See page 26 - 'special order items'



# Eurothane PL is a durable PIR insulation and plasterboard in a one single, handy panel



For pitched roofs



For walls

# Main benefits

- 3-in-1 solution: insulation board, vapour control layer and plasterboard
- Good thermal performance:  $\lambda_D = 0.022 \text{ W/mK}$
- · Multiple fixing methods can be applied

Lambda (λ)	0.022 W/mK (insulation only)
Size(s)	2400x1200 mm
Fire performance (end use with plasterboard 12.5mm)	Euroclass B-s1, d0 according to EN 13950:2005
Edge finishing (insulation)	Straight edges (all sides)
Compressive strength	≥ 120 kPa





Thickness (mm)*	Boards per pack	m² per pack
25	26	74.88
40	20	57.60
50	18	51.84
65	15	43.20

<sup>\*</sup> thickness plasterboard 12.5mm not included

# **№ Eurothane** FP

Eurothane® FP is a high performance PIR insulation board with Class 0 fire performance suitable for use across multiple applications.



For walls (rainscreen) up to 18m



For soffit liners

# Main benefits

- Good thermal performance:  $\lambda_n = 0.022 \text{ W/mK}$
- · Easy to handle, cut and install
- · Can be combined with a variety of cladding systems
- · Class 0 fire performance

Lambda (λ)	0.022 W/mK
Size(s)	2400x1200 mm
Fire performance	Euroclass F - Class 0
Edge finishing	Straight edge
Compressive strength	≥ 140 kPa



11.52

8.64

8.64

20

15

15

57.60

43.20

43.20

\*See page 26 - 'special order items'

4

3

3

120\*

140\*

160\*

# **<b>∆** Eurothane Eurodeck

Eurothane® Eurodeck is a high performance rigid PIR foam board for use in warm flat roofs under mechanically fixed single ply membrane systems.



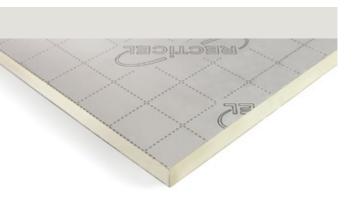
For flat roofs

# Main benefits

- Good thermal performance:  $\lambda_D = 0.022 \text{ W/mK}$
- · High compressive strength
- · Compatibility with numerous waterproofing systems
- · Easy handling and installation
- · Durability

Lambda (λ)	0.022 W/mK
Size(s)	2400x1200 mm
Fire performance	Euroclass F
Edge finishing	Straight edge
Compressive strength	≥ 150 kPa





Thickness (mm)	Boards per pack	m² per pack	Boards per stack	m² per stack
25	12	34.56	96	276.48
30	10	28.80	80	230.40
40	8	23.04	56	161.28
50	6	17.28	48	138.24
60	5	14.40	40	115.20
70	5	14.40	35	100.80
75	4	11.52	32	92.16
80	5	14.40	30	86.40
90	5	14.40	25	72.00
100	4	11.52	24	69.12
110	3	8.64	21	60.48
120	4	11.52	20	57.60
130	3	8.64	18	51.84
140	3	8.64	15	43.20
150	3	8.64	15	43.20
160*	3	8.64	15	43.20

<sup>\*</sup>See page 26 - 'special order items'

# ♠ Powerdeck® F

Powerdeck® F is a durable, market-leading PIR insulation board for built-up felt, mastic asphalt and single ply membrane waterproofing systems.



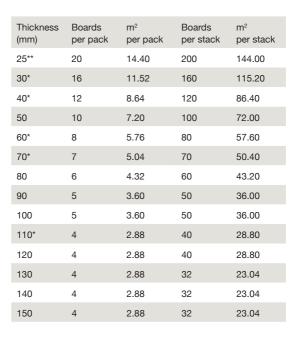
For flat roofs

# Main benefits

- Good thermal performance:  $\lambda_D = 0.024 \text{ W/mK}$
- · High compressive strength
- · Compatibility with numerous waterproofing systems
- · Easy handling and installation
- · Durability

Lambda (λ)	0.024 W/mK (≥120 mm), 0.025 W/mK (80 - 119 mm), 0.026 W/mK (≤79 mm)
Size(s)	1200x600 mm
Fire performance	Euroclass F
Edge finishing	Straight edges
Compressive strength	150 kPa





<sup>\*</sup>See page 26 - 'special order items'

<sup>\*\*</sup> Separate to the BBA Certificate



Powerdeck® U insulation is a high performance rigid polyisocyanurate (PIR) foam board for use in warm flat roofs with torch-on felt.



For flat roofs

# Main benefits

- Good thermal performance:  $\lambda_D = 0.024 \text{ W/mK}$
- · High compressive strength
- · Compatibility with numerous waterproofing systems
- · Easy handling and installation
- · Durability

Lambda (λ)	0.024 W/mK (≥120 mm), 0.025 W/mK (80 – 119 mm), 0.026W/mK (≤79 mm)
Size(s)	1200x600 mm
Fire performance	Euroclass F
Edge finishing	Straight edge
Compressive strength	≥ 150 kPa



2.88

2.88

2.88

2.88

40

32

32

32

28.80

23.04

23.04

23.04

4

4

4

4



120

130

140

150

<sup>\*</sup>See page 26 - 'special order items'



Plylok® is a thermal insulation board for use in warm flat roofs under traditional bituminous waterproofing and single-ply waterproofing membranes.



For flat roofs

# Main benefits

- Good thermal performance:  $\lambda_n = 0.022 \text{ W/mK}$
- · High compressive strength
- · Compatibility with numerous waterproofing systems
- · Easy handling and installation
- · Durability

Lambda (λ)	0.022 W/mK
Size(s)	2400x1200 mm
Fire performance	Euroclass F
Edge finishing	Straight edges
Compressive strength	140 kPa

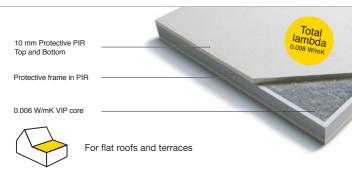


Thickness (mm)*	Boards per pack	m² per pack
90	11	31.68
110	9	25.92
120	9	25.92

<sup>\*</sup> thickness of 6mm ply not included



# Ultra-high performance encapsulated VIP insulation for flat roofs and terraces.



# Main benefits

- · The solution for limited space
- · Ultra-high thermal performance
- · Easy installation combined with expert service

# Key specifications

Lambda (λ)	0.008 - 0.009 W/mK
Size(s)	600x300 mm 600x600 mm 1200x300 mm 1200x600 mm
Fire performance	Euroclass E
Edge finishing	Straight edges
Compressive strength	≥ 150 kPa
Insulation thickness	45mm / 60mm
R <sub>D</sub> (m <sup>2</sup> K/W)	5.00 / 7.50

#### Standards & Certificates

European assessment document (EAD)	040011-00-1201 2017
ETA	18/0846

For product information and enquiries please contact sales@gradient.co.uk

# Area contacts

A North East & Scotland
T: 07545 610753

West Midlands & North West
T: 07525 803218

Yorkshire & East Midlands
T: 07484 040655

East Anglia

T: 07483 413221

South Wales & South West
T: 07921 056781

T: 07483 367929

Central and South
T: 07484 532034

South East

# Contact us

# Customer service centre

To place an order or for a price/leadtime enquiry please contact:

Address: Recticel Insulation, Enterprise Way,

Whittle Road, Meir Park, Stoke on Trent, ST3 7UN, United Kingdom

Web: recticelinsulation.co.uk

Email: customer.services@recticel.com

Telephone: 01782 590 480

**Opening Times** 

 Monday
 8am - 5pm

 Tuesday
 8am - 5pm

 Wednesday
 8am - 5pm

 Thursday
 8am - 5pm

 Friday
 8am - 4.30pm

#### Technical services

For all technical product and application queries please contact:

Address: Recticel Insulation, Enterprise Way,

Whittle Road, Meir Park, Stoke on Trent, ST3 7UN, United Kingdom

Web: recticelinsulation.co.uk

Email: technicalservices@recticel.com

Telephone: 0800 0854079

**Opening Times** 

 Monday
 9am - 5pm

 Tuesday
 9am - 5pm

 Wednesday
 9am - 5pm

 Thursday
 9am - 5pm

 Friday
 9am - 4.30pm

Recticel's insulation is also available as a tapered board through our specialist single-layer insulation solution division, Gradient.

Web: gradientuk.com **GRADIENT**Telephone: 01543 678777

Email: sales@gradientuk.com
Full terms and conditions of sale are available upon request.

The prices, technical details and other information included in this literature are correct at the time of publication. Please contact Recticel Insulation UK sales to confirm availability and that information is still current. Product suitability should only be determined following a detailed U-value calculation and condensation risk analysis for each individual project. Please contact Recticel Insulation Technical services department for assistance.

Recommendations for use should be verified as to the suitability and compliance with actual requirements, specifications and any applicable laws and regulations. For other applications or conditions of use, contact Recticel Insulation Technical services department for assistance. Recticel Insulation Ltd. reserves the right to amend product specifications without prior notice. E.&O.E.

# Terms and conditions

# Special order items

Recticel is able to produce any standard product type in any standard size and/or thickness within its manufacturing capability. Products in this category will usually be delivered within 15 working days of order confirmation.

Orders for special order products cannot be accepted for less than the minimum order quantity. Customer services will confirm these details. The full order quantity must be taken as part of a single order and cannot be split.

Once ordered, special order products cannot be cancelled and full costs will be applied.

# Delivery

# Amending orders

Orders can be amended free of charge for stocked items up to 48 hours prior to delivery date or additional charges will apply.

# Please note: specials

Once an order has been placed and the manufacturing process has started, made-to-order products cannot be cancelled or amended and full costs will apply.

# Cancelled deliveries

Deliveries cancelled within 48 hours of delivery may be subject to cancellation charges. Recticel Customer Services will be able to confirm charges on request.

# Special order items

· For unmanufactured products, no charges will apply.

- For products already manufactured, the full order value will be charged.
- For manufactured products in transit for delivery, the full order value plus handling and transport costs will apply.

# Postponed deliveries

The storage charge will be £50 per trailer per day.

## Refused deliveries

Refused deliveries will incur costs, including outbound delivery, return charges and Recticel handling fees.

### Redirected deliveries

Deliveries that are redirected from the agreed delivery destination will incur charges. Recticel Customer Services will confirm these costs at the time of request.

# Split deliveries

Recticel offers limited split deliveries on request, where possible.

- Up to 20 miles between deliveries, from £75
- · Other distances POA

# Delayed off-loading

Waiting time charges at £50 per hour pro-rata will apply if the delivery vehicle is not off-loaded within two hours of the requested delivery time.

#### E&OE

Recticel has made every effort to ensure the accuracy of this document and its content. However, the company reserves the right to amend in the event of error or omission.

For our full terms and conditions please visit: www.recticel.com

# **Delivery options**

Full-load deliveries on an articulated HGV curtainside trailer within normal business hours are made free of charge.

Other vehicle types and timed deliveries are available. Additional charges will apply. These are by agreement with a Recticel representative.

Special vehicle types available include: Rigid 18T, Rigid 7.5T, Moffett FLT offload Flat-bed trailer, Tail lift offload collections.

Collections in a suitable vehicle can be arranged from Recticel at Meir Park, Stoke-on-Trent between 9am and 4pm, Monday to Friday.

Customers will be given a time slot and reference number. The Recticel Customer Service team will provide information on this service as required.

# Pallets which comprise a full load

To help with building a full load, we have provided a summary of how many pallets comprise a full load for each of the available pallet sizes. Depending on the product, and pallet size, the number of pallets in a full load varies. Please see below for full details (all sizes in mm.)

Pallet size: 2400 x 1200

FULL LOAD = 11 stacks

- · Eurothane GP
- · Eurothane Eurodeck
- · Eurothane FP
- IP PIR 022

# Pallet size: 1200 x 1200

FULL LOAD = 22 Stacks

Powerdeck FPowerdeck U

Pallet size: 900 x 1200

FULL LOAD = 28 stacks

· Eurowall Cavity

• Eurowall +

Pallet size: 2400 x 1200

FULL LOAD = 22 stacks

· Eurothane PL

Plylok

# Eurothane GP to Eurowall Cavity vehicle fill ratio

	High cube vehicle	
	Eurothane GP stacks	Eurowall Cavity stacks
Full truck load calculation chart	11	0
	10	2
	9	5
	8	8
	7	10
	6	13
	5	16
	4	18
	3	21
	2	23
	1	26
	0	28

# Regulations

The Building Regulations (England & Wales) and Building Standards (Scotland) are technical guidance to ensure that buildings are safe, energy efficient and comfortable to live in. They also ensure compliance with the performance requirements of the regulations.

For insulation manufacturers and our customers, the relevant regulation for England and Wales is Approved Document L (Conservation of fuel and power) or Part L as it is more commonly known, and this supports the energy efficiency requirements of the Building Regulations. For Scotland, guidance is provided by the Building Standards, specifically Section 6 (energy) of the Technical Handbooks.

These regulations determine the level of thermal insulation required when carrying out any building work, whether new build or renovation of dwellings (homes) or non-dwellings (mainly commercial buildings). There are requirements for U-values, a basic measure of heat transfer (thermal transmittance, units – W/m²K) through the various construction elements (roof, wall, floor).

As we move towards zero carbon buildings, standards are becoming even more demanding and with the focus on fabric energy efficiency, there is greater need for continuous insulation, reduced thermal bridging, improved airtightness and lower U-values.

For new buildings, compliance with the regulations is assessed and demonstrated by calculations within software, SAP for dwellings and SBEM for non-dwellings. The software calculates the energy demand and likely  ${\rm CO_2}$  emissions for the building depending upon the design specifications.

There are tables detailing the various U-value requirements depending on your location within the UK. Adopting the fabric first approach based on low U-values will put you on the right path to compliance.

For advice on U-values you can contact Recticel Technical Services team who are members of the BBA Competent Persons U-value scheme, and can provide calculations as a free of charge service. Alternatively, you can visit our website and access the online U-value calculator.

# Glossary of terms

#### **Breather membrane**

A membrane with low resistance to the passage of moisture vapour, positioned on the outside of any insulation layers, usually to act as secondary weather protection behind tile and cladding finishes.

#### P/A ratio

Used in U-value calculations for ground floors, where the pattern of heat loss is different to other construction elements. 'P' refers to the length of the exposed perimeter (i.e. the length of floor abutting external walls and unheated spaces). 'A' is the total floor area to be insulated, and P is divided by A to give the ratio.

#### PIR

Polyisocyanurate (PIR) is a type of rigid foam insulation developed from polyurethane (PUR).

#### Thermal conductivity / lambda / K-value

A measure of how much heat energy a material allows to pass through it. It is a consistent property of the material, so a 25mm Eurothane GP board has the same 0.022 W/mK thermal conductivity as a 150mm Eurothane GP board.

#### Thermal resistance / R-value

Dividing the thickness of an insulation board by its thermal conductivity gives the thermal resistance. The thicker the board, the higher the R-value. Can be used to find out comparative thicknesses of products with different thermal conductivities.

#### Thermal transmittance / U-value

Only worked out by calculation, combining the thermal resistances of all materials and layers in a complete construction to determine the heat loss per square metre. As such, an insulation board does not have its own U-value as it depends how/where it is being used.

#### Vapour control layer (VCL)

A layer of high vapour resistance, positioned on the inside of any insulation layers, to restrict the passage of moisture vapour from inside a building. Should be continuous from one construction element to another, and not punctured for services to pass through. May be formed from polythene sheet, taped insulation board joints or foil backed plasterboard, and commonly acts as an airtightness layer as well.

# **FAQs**

#### What quality standards do Recticel products meet?

Recticel Insulation prides itself on the quality of its product. We operate a Quality Management System in accordance with the requirements of BS EN ISO 9001 and offer CE Marking to European Standard EN 13165.

#### How environmentally friendly is the production of Recticel PIR insulation?

All Recticel Insulation products use CFC and HCFC free materials in their manufacture, and as such have a low global warming potential (GWP) and zero ozone depletion potential (ODP). Recticel Insulation, Stoke-on-Trent (UK), operates to the ISO 14001 Environmental Management System standard.

#### What is the BBA Competent Person Scheme?

The scheme, of which Recticel Insulation is a member, ensures consistency and accuracy in the provision of U-value calculations through a process of assessment, certification and continuous monitoring. Not all insulation manufacturers are members of the scheme.

#### Is a vapour control layer (VCL) required in a floor?

In addition to the damp proof membrane (normally a 1200-gauge polythene sheet below the insulation), a 500-gauge polythene VCL should be laid over the insulation. Where a concrete slab or a screed is to be poured on top, the VCL will also protect the foil face of the board from alkalis within the concrete, and stop poured concrete opening board joints and causing a thermal break.

#### What product can be used with underfloor heating?

Eurothane GP is compatible with underfloor heating systems. Clipping a wet system through the vapour control layer will not compromise the performance of the VCL or the insulation.

# In a partial fill masonry cavity wall, what is the minimum required clear cavity?

Best practice guidance is to design a minimum 50mm cavity, which is acceptable to all warranty providers and in any part of the country. However, if variations in workmanship lead to a reduced cavity, Eurowall Cavity is certified for use with a cavity as low as 25mm in some parts of the country. If in doubt, seek advice from your Building Control Officer or warranty provider.

#### Is Eurothane PL available with a vapour barrier?

Eurothane PL is a versatile product that can be fixed either mechanically or with gypsum adhesive, in accordance with installation guidelines. It has a built-in vapour control layer as standard, located between the PIR core and the plasterboard.

# Can insulation be placed between and over flat roof joists?

BS 5250, the British Standard for the control of condensation in buildings, does not recommend installing insulation between timber joists as well as above the deck.

# What air gap is required between insulation and breather membrane?

This should be confirmed in the membrane manufacturer's BBA certificate, though 25mm to 50mm is typical.

# **Notes**

Recticel Insulation Enterprise Way Whittle Road Meir Park Stoke-on-Trent ST3 7UN

Technical freephone: 0800 0854079

Technical support email: technicalservices@recticel.com Customer support email: customer.services@recticel.com

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