

# Product Data Sheet

## HYTHERM MW Insulation

**High performance insulation for warm roofs (flat boards or tapered).**

**HYTHERM MW is a uniquely versatile insulation solution suitable for all roof covering types – torch applied, pour and roll, single ply, cold applied liquid, EPDM and living roofs. HYTHERM MW roofing boards provide unique tested solutions for fire, thermal and acoustic roofing systems for all building types.**



### Key benefits

- Manufactured from renewable volcanic stone, achieves Euroclass reaction to fire A2-s1 d0 and is classified as non-combustible in accordance with LPCB certificates 022g and 022a.
- Excellent acoustic reduction, absorption and impact (rain noise) performance. Acoustic solutions provide opportunity for additional BREEAM points. (See also section on acoustic infills below).
- Long term stable thermal performance.
- Sustainable materials – Hytherm MW is 97% recyclable.

- Manufactured in accordance with BS EN 13162, ISO 14001 and ISO 9001.
- Zero GWP and ODP.
- LPCB approved to highest classification, LPS1181: Part 1 Ext – A. (Note tapered systems are covered by LPCB approval where a 2-layer system is employed and the minimum thickness of the upper board is 40-60mm with a flat board below).
- Solutions to meet all BB93 (Education) and HTM08-01 (Healthcare) acoustic requirements.

## Standard thicknesses & characteristics

Thickness	Thermal conductivity	Thermal resistance	Length	Width	Compressive strength
(mm)	(W/mK)	(m <sup>2</sup> K/W)	(mm)	(mm)	(kPa)
185	0.039	4.7435	1200	1000	65
150	0.039	3.8461	1200	1000	65
115	0.039	2.9487	1200	1000	65
105	0.039	2.6923	1200	1000	65
85	0.039	2.1794	1200	1000	65
60	0.039	1.5385	1200	1000	65
30*	0.039	0.7692	1200	1000	75

\* 30mm board is used as a recovery board on refurbishment projects and/or upstand details.

## HYTHERM MW – Technical Information

Properties	Measure unit	Value	Standard
Dimensions			
Length	mm	1200	BS EN 1604
Width	mm	1000	BS EN 1604
Thickness <sup>1</sup>	mm	30*, 60, 85, 105, 115, 150, 185	BS EN 1604
Dimensions			
Compression at 10% Deformation	kPa	≥65	BS EN 13162
Point load	N	≥650	BS EN 13162
Delamination strength	kPa	≥7.5	BS EN 13162

Properties	Measure unit	Value	Standard
Flexural strength	N	N/A	BS EN 13162
<b>Hygrometric properties</b>			
Vapour resistivity	MNs/gm	5.9	BS EN 13162
Moisture absorption	% Vol	≤1	BS EN 13162
Water resistance (Short-term immersion) <sup>2</sup>	kg/m <sup>2</sup>	≤0.5	BS EN 13162
<b>Thermal Conductivity</b>			
Declared thermal conductivity	W/mK	0.039	BS EN 13162
Specific Heat Capacity	kJ/kgK	0.84	EN 12524
<b>Other properties</b>			
Reaction to fire	-	Euroclass A2-s1, d0 (non-combustible).	BS EN 13501-1
	-	LPCB approved	LPS 1208: Part 1 EXT-A
Surface finish (upper/under)	Tissue/Mill		

\* 30mm board is used as a recovery board on refurbishment projects and/or upstand details.

<sup>1</sup> Also available in individually designed thicknesses to meet tapered scheme requirements.

<sup>2</sup> Should any boards become wet during installation, they should be allowed to dry out naturally, prior to applying the roof membrane.

## Fixing options

HYTHERM MW is suitable for all covering types. The boards are to be laid staggered and tightly butt jointed and either fully bonded with an approved adhesive or mechanically fixed through the vapour control layer to the deck.

- For mechanically fixed systems, it is recommended that a minimum of one mechanical fixing is used centrally per board to secure the boards during installation. Axter offers a range of mechanical fixings and recommends the use of plastic tube washers when mechanically fixing roofing boards to the structure.
- For fully or partially adhered systems using an adhered PVC membrane or self-adhesive bituminous membrane, the tissue facing of the board encourages a strong bond between membrane and insulation. Where the membrane is fully bonded to the insulation surface, the number of fixings per board (if required) should be determined by wind load calculations (please contact Axter for more information).
- For torch applied bituminous membranes, when applying the bituminous membrane always torch with minimum heat at all times. Torch the roll of waterproofing membrane using appropriate flame/edge guards at all times.
- For advice on cold liquid applied membranes, please contact Axter Ltd.

### HYTHERM MW Recovery board

Specifically developed for use on flat roof refurbishment projects and upstand details, Hytherm MW Recovery Board is non-combustible and is compatible with mechanically fixed, bonded and torch applied flat roof membranes, including bitumen, single-ply, EPDM and cold applied liquid waterproofing systems.

It is manufactured with an integral mineral coated glass-fibre fleece which, for adhered membranes, secures a strong bond between membrane and insulation whilst limiting the amount of adhesive required.

Hytherm MW Recovery Board can be installed directly over the roof waterproof membrane, easily accommodating minor imperfections on the existing external finish.



#### Key benefits

- A single solution that is compatible with most roof coverings
- Can be installed directly over the existing roof membrane
- Suitable for application with adhesive, mechanical fixings or by torch (due to its excellent heat resistance)
- Reduces external noise ingress
- Will accommodate minor imperfections on the existing external finish

Hytherm MW Recovery Board is available in **30mm thickness**.

### Hytherm MW Upstand Board

Non-combustible insulation for upstands and parapet walls on warm and inverted roofs. This board combines two non-combustible materials - dense insulation slab bonded to a rigid 6mm fibre cement board - and provides an impact- and weather-resistant solution for insulating flat roof upstands and parapet walls. Installation guidance will depend on roof system assembly; please contact Axter for assistance.



#### Key benefits

- Non-combustible
- Low thermal conductivity at 0.034 W/mK
- Impact and weather resistant
- Suitable for use with a variety of roof waterproofing systems
- Easy to handle

Properties	Measure unit	Value
Length	mm	1200
Width	mm	600
Thickness	mm	56 (50mm insulation; 6mm cement fibre board)
Thermal conductivity	W/mK	0.034

## Sound attenuation

Noise intrusion from external sources such as heavy traffic or aircraft can be reduced by using HYTHERM MW, creating a quieter ambience within the building. Use of an acoustic membrane may be required for high performance specifications.

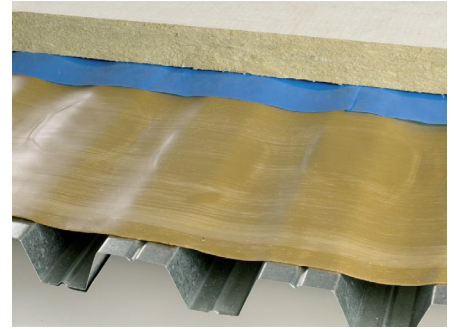
Axter's acoustic membrane is a high density polymer mass layer that combines with HYTHERM MW to offer enhanced acoustic performance for the very highest specifications and comes in two sizes, 5kg, 2.5mm and 10kg, 5mm.

HYTHERM MW acoustic infills can also be used as part of the system to act as a sound absorber on perforated metal decks. The infill consists of trapezoidal shaped mineral wool insulation, engineered to suit specified perforated metal roof decking.

The combination of optimised density, fibre direction and excellent fit provides a significant improvement in sound absorption when used with HYTHERM MW roofing boards.

Pre-cut to suit specific roof deck types, it is available in 1000mm lengths and different facing options for enhanced aesthetic appearance (black/white tissue, or plain).

The infill is placed directly with the trough of the metal deck ensuring the infills are tightly butted together.



## Acoustic performance/solutions

Solution to E3 and E4 of the approved document E, a perforated metal deck construction including HYTHERM MW roofing boards and HYTHERM MW acoustic infills will achieve Classification C sound absorption rating with BS EN ISO 11654:1997.

## Angle fillet

HYTHERM MW angle fillet has been designed to fully support the waterproofing membrane at 90° abutments, providing a smooth transition between the horizontal and vertical interface. Manufactured with an integral mineral coated glass fibre fleece which secures a strong bond between membrane and insulation.

HYTHERM MW angle fillet dimensions: Length:1200mm; Major width: 75mm; Minor: 15mm, Thickness: 30mm. It should be placed along the 90° abutment between the horizontal and vertical interface and fixed to the horizontal surface using a compatible adhesive.



## Durability

When properly installed, HYTHERM MW has a service life similar to that of the building or structure.

## Handling and storage

HYTHERM MW is lightweight and easy to handle and install. The weight/density is 160kg/m³. The product must be protected from prolonged exposure to sunlight to prevent degradation of the surface of the board.

## Environmental

Made from natural materials, HYTHERM MW can be recycled and reprocessed reducing landfill costs. It does not contain gases that have ozone depletion potential (ODP) or global warming potential (GWP). It is approximately 97% recyclable.

HYTHERM MW fibres are not classified as a possible human carcinogen. A Safety Datasheet is available from Axter.

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