Bitumen Waterproofing
Liquid Waterproofing
Single Ply Waterproofing

Product Data Sheet

HYTHERM MW
Insulation

Hytherm MW is a non-combustible, stone wool insulation board faced with a mineral-coated white fleece, for use in Axter warm roof systems including either thermally-activated adhesive or self-adhesive bitumen, single ply membranes or cold-applied liquids, particularly where there are further considerations for fire and/ or acoustic performance.

Hytherm MW is made from natural materials which can be recycled and reprocessed reducing landfill costs. It does not contain gases that have ozone depletion potential (ODP) or Global Warming Potential (GWP) resulting in an ODP of zero and a GWP of less than 5.

Hytherm MW is available in a range of flat board thicknesses for used on new roofs or existing roofs under refurbishment to upgrade the thermal performance.

A manufacturers BBA certificate is available.

Key benefits

- Presents no smoke hazard and will not contribute to fire growth in any stage of a fire (including the fully developed stage of fire).
- Non-combustible and achieves a Euroclass reaction to fire classification of A2-s1,d0.
- Manufacturers BBA certificate available.
- Solutions to meet all BB93 (Education) and HTM08-01 (Healthcare) acoustic requirements.
- Contributes to reducing airborne sound and impact (rain) noise.
- Sustainable materials – can be recycled and reprocessed helping to reduce construction waste going to landfill.

Technical information

Properties	Unit of measure	Value	Standard
Dimensions			
Length	mm	1200	BS EN 1604
Width	mm	1000	BS EN 1604
Thickness	mm	60, 85, 105, 115, 150, 185	BS EN 1604
Facing type, side 1	-	Mineral fleece	-
Compressive strength	kPa	CS(10)70	BS EN 13162
Point load	N	PL(5)750	BS EN 12430
Long term water absorption	kg/m²	WL(P)	BS EN 120871
Short term water absorption	kg/m²	WS	BS EN 1609
Declared thermal conductivity	W/mK	0.039	BS EN 12667
Reaction to fire	Euroclass	A2-s1,d0	BS EN 13501-1

Thermal performance

When calculating the U-value of a tapered roof, Building Regulations require that the entire roof is taken into account. Please contact Axter Ltd for project specific U-value calculations.

Water resistance and moisture

Whilst Hytherm MW insulation board is not waterproof, it is non-hygroscopic, meaning it will not absorb water from the surrounding air and it can repel limited amounts of moisture. It retains thermal performance even in humid conditions, helping to support the durability of the building fabric.

Dimensional stability

Hytherm MW insulation boards are dimensionally stable when tested to EN 1604 and therefore do not exert any undesirable stress on the fixings or waterproof membrane.

Fire performance

Hytherm MW insulation board has been tested in accordance with EN 13501-1, achieving a reaction to fire Class A2-s1,d0 (classification report - 231002030-3).

Additionally, Hytherm MW insulation boards have been tested in accordance with EN 1365-2: 2014 and have a fire resistance classification of REI 120 in accordance with EN 13501-2: 2016 (Classification Report - PCA10677A).

Compression table

The tables below are based on four pedestals per m^2. In extrapolating to different arrangements, note that the total load applied should not exceed 500kg/m^2.

Pedestals			
Square		Circular	
Side (mm)	Max. weight (kg)	Diameter (mm)	Max. weight (kg)
170	70	170	55
200	97	200	76
220	118	220	92
305	125	305	125
455	125	455	125
Maximum load 500kg/m^2			

The loadings have been determined through testing and allow for up to 2% deflection within the elastic limit.

Support load

The information below is based on pedestal size and number of pedestals per m^2 to not exceed the maximum load of 500kg/m^2.

Square		
Diameter (mm)	Kg	No. of feet /m^2
170 x 170	74.8	7
220 x 220	83.7	6
305 x 305	94.8	5
Maximum load 500kg/m^2		

Circular		
Diameter (mm)	Kg	No. of feet /m^2
170	74.8	7
220	80.7	6
305	88.7	5
Maximum load 500kg/m^2		

Installation

Care should always be taken to clean off all surfaces prior to the laying of the boards and membrane. The Hytherm MW insulation boards are to be laid staggered and tightly butt jointed and either fully bonded with an approved adhesive or mechanically fastened through the vapour control layer to the deck. They can be cut to size using a fine-toothed saw or panel saw. Appropriate stop battens should be installed to protect the boards open edges during installation. Day joints must be formed at the conclusion of each section of work to seal exposed edges and prevent damage.

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 fleece 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 (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 dual layer systems, installing both Hytherm MW and Hytherm MW Underlay, place the 150mm Hytherm MW Underlay boards down first as a base layer, and then add the fleece-faced Hytherm MW insulation boards above, with the fleece facing upwards to receive the covering membrane.

In designated walkways or in areas of high foot traffic, a supporting layer should be placed on the roof both during installation and upon completion.

For advice on cold applied liquid membranes, please contact Axter Ltd.

Design considerations for profiled metal decks

Crown and trough position

Hytherm MW insulation boards must be laid with the long edge at right angles to the profiles of the metal deck. Butt joints should occur at the mid-crown position, except where cantilevering is applicable.

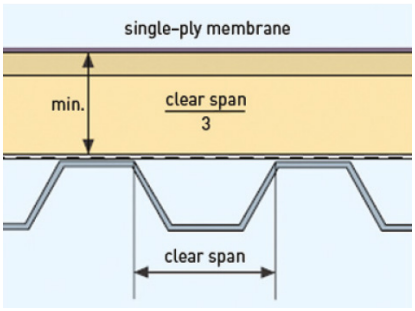
Free spanning capability

For free spanning, the minimum board thickness is equal to the maximum trough width divided by 3. The maximum trough width suitable for free-spanning Hytherm MW is 300mm.

Where installed trough widths exceed the maximum spanning capability of the board, provision must be made to provide full support for the insulation.

Cantilevering

- Boards of 60mm or greater thickness may cantilever over a trough.
- For cantilevering the minimum board thickness is equal to the maximum trough width divided by 2.



Note that the span to be measured is across the clear width of the trough, and not from the centre to centre of the crowns.

Handling, cutting and storage

Hytherm MW insulation boards must be protected from prolonged exposure to sunlight and should be stored either

under cover or protected with opaque polythene sheeting. Where possible, packs should be stored inside. If outside, packs should be raised off the ground, not in contact with ground moisture.

The polythene wrapping is not considered adequate protection for outside exposure.

Insulation boards can be readily cut using a fine-toothed saw or panel saw. Ensure that insulation boards are cut square to achieve continuity of insulation without cold gaps between edges.

Appropriate PPE should be worn when handling insulation. Please refer to corresponding Safety Data Sheet on the Axter website.

Durability

Hytherm MW insulation boards, when used as prescribed, do not require any regular maintenance and will remain effective for a life at least as long as that of the roof waterproof covering.

Hytherm MW insulation board is vapour permeable, reducing the risk of condensation, which can lead to rot, mould, and humidity damage.

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. Refer to the Safety Data Sheet for more details.