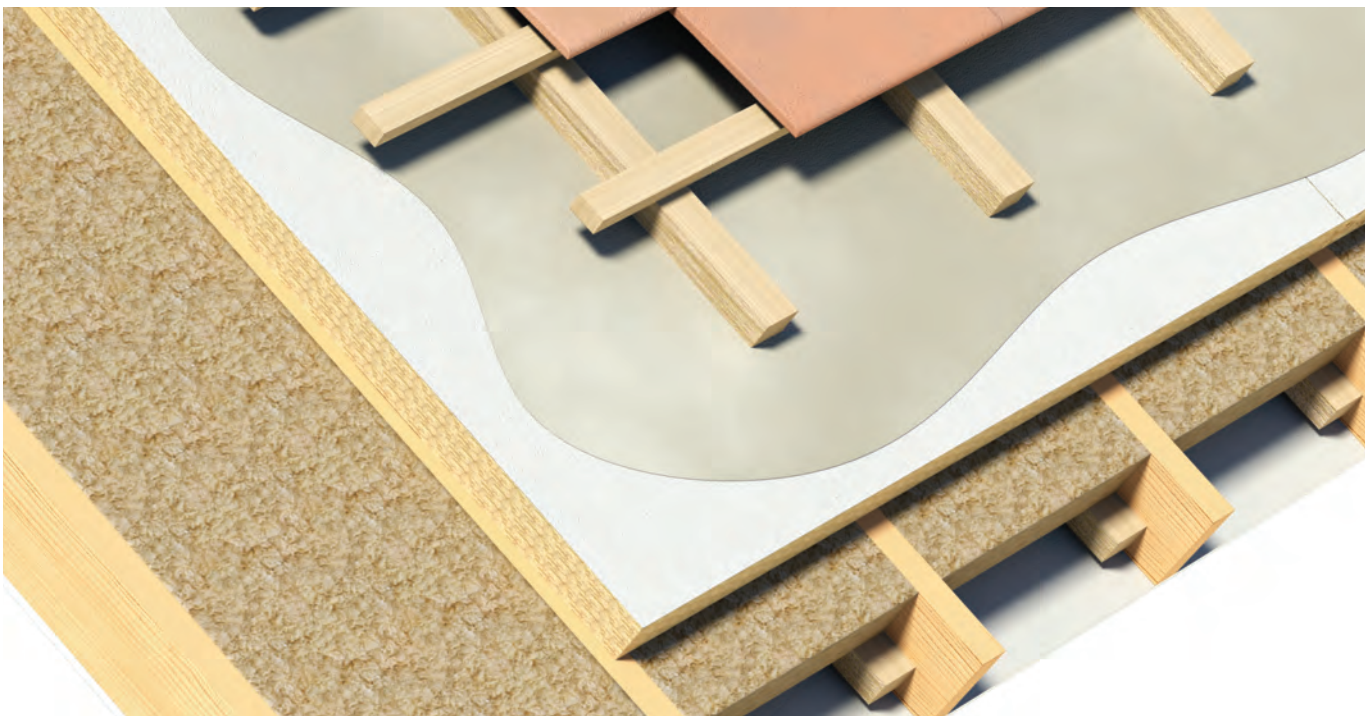
AIM Warm Roof System

AIM Rockwool Warm Roof System



ROCKWOOL®

The AIM Overlay and Underlay System is used to produce a 'Warm Roof' type construction in buildings with pitched roofs in excess of 15 degrees. The System provides an effective means of insulating the roof space at rafter level and also offers good acoustic performance.

Specification

Board Dimensions:

Overlay: 1200 x 1000mm

Underlay: 1000 x 1140mm

Board Type:

Overlay: High density rigid Rockwool slab

Underlay: Semi-flexible Rockwool slab

Board Thickness:

Overlay: 50, 60, 70, 80, 90, 100mm

Underlay: 100, 125, 150mm

Thermal Conductivty:

Overlay Đ = 0.038W/mK

Underlay Đ = 0.034W/mK

Vapour Resistivity: 7 MNs/g

- High compressive strength
- Optional four edge rebated
- Thermal and acoustic insulation
- Global warming potential = zero

The Overlay and Underlay boards are vapour permeable and should be used in conjunction with a breather membrane on the outer face, thus preventing the need for ventilation of the roof void. They can be installed directly on a timber rafter construction, or the construction may include profiled steel or timber decking.

Overlay boards may be used without Underlay boards, depending on the U Value requirement. However it is preferable not to use Underlay without Overlay, to avoid any potential for condensation on the tops of the rafters.

Design Considerations

It is important to take account of potential condensation problems, when designing a Warm Roof construction. The Overlay & Underlay boards themselves have a vapour resistivity similar to air and will therefore 'breathe' satisfactorily, provided the underslating membrane is a breather membrane and not of the impervious type. It is good practice to incorporate a vapour control layer on the warm side of the insulation, particularly in areas of high humidity. If used, the vapour control layer should be overlapped at its edges and adequately sealed.

Fire Resistance

AIM Overlay and Underlay Boards are incombustible to BS 476 part 4, rated Class 1 Surface Spread of Flame to BS 476 part 7 and comply with the performance requirements of Class 0 of the Building Regulations.

Overlay Board

Design Notes

Whilst AIM Overlay Board is very compression resistant, it is NOT a structural board suitable for foot traffic.

AIM Overlay Boards are not designed to add to the structural stability of the roof. The roof structure should be properly designed and fully braced, independently of the insulation.

Installation and U values

38 mm wide rafters/ 400 mm rafter spacing

U value of roof construction (W/m²K)															
	Rafter depth (mm)														
	100	100	100	**100**	125	125	125	**125**	**125**	150	150	150	**150**	**150**	**150**
Overlay Thickness (mm)	Underlay Thickness (mm)														
	50	60	75	**100**	50	60	75	**100**	**125**	50	60	75	**100**	**125**	**150**
50	0.34	0.31	0.28	**0.25**	0.34	0.31	0.28	**0.24**	**0.22**	0.34	0.31	0.28	**0.24**	**0.21**	**0.19**
60	0.31	0.29	0.26	**0.23**	0.31	0.29	0.26	**0.22**	**0.20**	0.31	0.29	0.26	**0.22**	**0.20**	**0.18**
70	0.29	0.27	0.24	**0.22**	0.29	0.27	0.24	**0.21**	**0.19**	0.29	0.27	0.24	**0.21**	**0.19**	**0.17**
80	0.27	0.25	0.23	**0.21**	0.27	0.25	0.23	**0.20**	**0.18**	0.27	0.25	0.23	**0.20**	**0.18**	**0.17**
90	0.25	0.23	0.22	**0.20**	0.25	0.23	0.22	**0.19**	**0.18**	0.25	0.23	0.22	**0.19**	**0.17**	**0.16**
100	0.23	0.22	0.20	**0.19**	0.23	0.22	0.20	**0.18**	**0.17**	0.23	0.22	0.20	**0.18**	**0.16**	**0.15**

38 mm wide rafters/ 600 mm rafter spacing

U value of roof construction (W/m²K)															
	Rafter depth (mm)														
	100	100	100	100	125	125	125	125	125	150	150	150	150	150	150
Overlay Thickness (mm)	Underlay Thickness (mm)														
	50	60	75	100	50	60	75	100	125	50	60	75	100	125	150
50	0.33	0.30	0.27	0.24	0.33	0.30	0.27	0.23	0.21	0.33	0.30	0.27	0.23	0.20	0.18
60	0.30	0.28	0.25	0.23	0.30	0.28	0.25	0.22	0.20	0.30	0.28	0.25	0.22	0.19	0.18
70	0.28	0.26	0.24	0.21	0.28	0.26	0.24	0.21	0.19	0.28	0.26	0.24	0.21	0.18	0.17
80	0.26	0.24	0.22	0.20	0.26	0.24	0.22	0.20	0.18	0.26	0.24	0.22	0.20	0.17	0.16
90	0.25	0.23	0.21	0.19	0.25	0.23	0.21	0.19	0.17	0.25	0.23	0.21	0.19	0.17	0.15
100	0.23	0.22	0.20	0.18	0.23	0.22	0.20	0.18	0.16	0.23	0.22	0.20	0.18	0.16	0.15

47 mm wide rafters/ 400 mm rafter spacing

U value of roof construction (W/m²K)															
	Rafter depth (mm)														
	100	100	100	100	125	125	125	125	125	150	150	150	150	150	150
Overlay Thickness (mm)	Underlay Thickness (mm)														
	50	60	75	100	50	60	75	100	125	50	60	75	100	125	150
50	0.34	0.32	0.28	0.25	0.34	0.32	0.28	0.24	0.22	0.34	0.32	0.28	0.24	0.21	0.20
60	0.31	0.29	0.26	0.24	0.31	0.29	0.26	0.23	0.21	0.31	0.29	0.26	0.23	0.20	0.19
70	0.29	0.27	0.25	0.22	0.29	0.27	0.25	0.22	0.20	0.29	0.27	0.25	0.22	0.19	0.18
80	0.27	0.25	0.23	0.21	0.27	0.25	0.23	0.20	0.19	0.27	0.25	0.23	0.20	0.18	0.17
90	0.25	0.24	0.22	0.20	0.25	0.24	0.22	0.19	0.18	0.25	0.24	0.22	0.19	0.17	0.16
100	0.24	0.22	0.21	0.19	0.24	0.22	0.21	0.18	0.17	0.24	0.22	0.21	0.18	0.17	0.16

47 mm wide rafters/ 600 mm rafter spacing

U value of roof construction (W/m²K)															
	Rafter depth (mm)														
	100	100	100	100	125	125	125	125	125	150	150	150	150	150	150
Overlay Thickness (mm)	Underlay Thickness (mm)														
	50	60	75	100	50	60	75	100	125	50	60	75	100	125	150
50	0.33	0.31	0.27	0.24	0.33	0.31	0.27	0.23	0.21	0.33	0.31	0.27	0.23	0.20	0.19
60	0.31	0.28	0.26	0.23	0.31	0.28	0.26	0.22	0.20	0.31	0.28	0.26	0.22	0.19	0.18
70	0.28	0.26	0.24	0.22	0.28	0.26	0.24	0.21	0.19	0.28	0.26	0.24	0.21	0.18	0.17
80	0.26	0.25	0.23	0.20	0.26	0.25	0.23	0.20	0.18	0.26	0.25	0.23	0.20	0.18	0.16
90	0.25	0.23	0.21	0.19	0.25	0.23	0.21	0.19	0.17	0.25	0.23	0.21	0.19	0.17	0.16
100	0.23	0.22	0.20	0.18	0.23	0.22	0.20	0.18	0.17	0.23	0.22	0.20	0.18	0.16	0.15

AIM Overlay Boards will resist normal wind and snow loads. However, the fixing system is very important and the type and spacing of the fixings should be specified by a reputable fixing supplier.

Overlay Board

Installation

AIM Overlay Boards should be laid directly across the rafters, starting at the eaves. A 'stop batten' should be fixed at eaves level to prevent the boards slipping down the rafters. Boards should be butted closely together and laid tissue face upwards, with the joints staggered.

The boards should be held in place by the use of 50 x 38mm counter battens laid directly above and in line with the rafters. These should be mechanically fixed through the overlay boards to the rafters at a maximum spacing of 400mm centres. On Mansard or steep pitched roofs additional 'stop battens' may be required as well as additional mechanical fixings. At ridge and valley details the Overlay Boards should be mitred to make tight butt joints.

A suitable underslating breather membrane should be laid, either under the counter battens or across them, with lap joints in accordance with normal practice. This membrane should be continuous at both ridge and valley details with a minimum 150mm overlap. A continuous plywood 'tilting board' should be fixed to the top of the fascia to carry the breather membrane over and into the gutter. Tiling battens and the final roof finish can then be fixed.

Underlay Board

Installation

AIM Underlay Boards should be compression fitted between rafters. It is advisable to provide continuous supports to the underside edges of the underlay boards by attaching timber battens or galvanised steel 'L' angles to the side of the rafters which should provide a bearing surface of at least 40mm on each side.

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