

ROCKWOOL® Flat Roof Insulation Boards

Insulation boards for warm flat roofs

ROCKWOOL's range of HardRock® and RoofRock® roofing boards have been developed to provide an unrivalled combination of thermal, acoustic and fire insulation for most roof constructions.

The products are suitable for most types of roof deck, high performance build-up roofing, single ply membrane systems and twin skin metal decks.

Advantages

- Fire safe
 - Tested and assessed by FM
 - Tested and assessed by BRE/LPC
- Contributes to GBI requirements
- Aids MS 1525 compliance
- Excellent thermal and acoustic properties
- Dimensionally stable
- Environmentally friendly
- Suitable for new builds and refurbishments
- Cantilever performance
- Fast installation
 - Fewer installation fasteners required
(with mechanically fastened single ply membranes)
- High strength
- Excellent point load compressive resistance

Shape and Dimensions

ROCKWOOL HardRock and RoofRock roofing boards are manufactured as follows:-

Standard sheet size

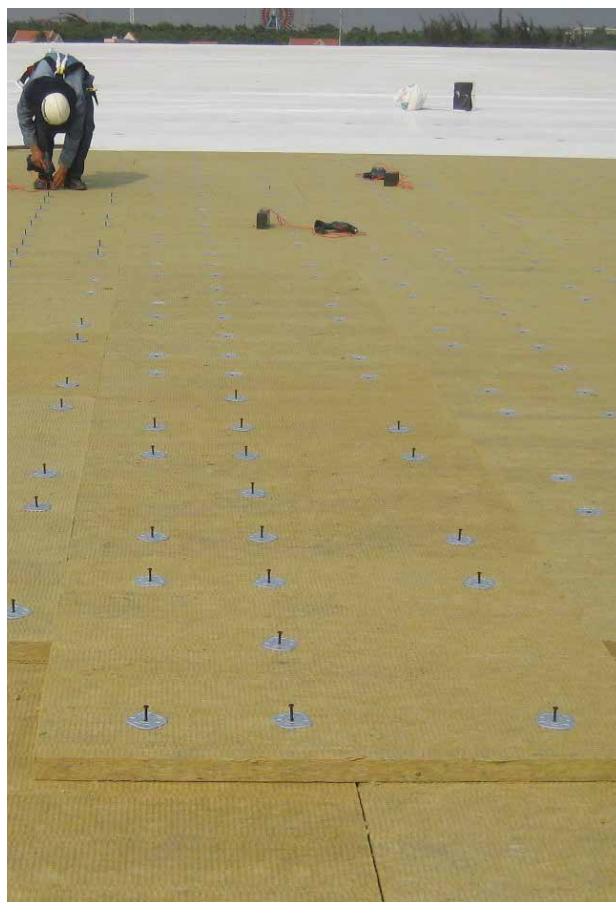
2400mm x 1200mm

1200mm x 1000mm

(Other sizes are available upon request)

Thickness

50mm, 75mm and 100mm (Other thicknesses are available upon request)



Finishes

ROCKWOOL HardRock and RoofRock roofing boards are available with a number of facing options upon request, which are:-

- Non-woven mineral black tissue
- Non-woven mineral white tissue
- Aluminium foil

Standards and Approvals

ROCKWOOL HardRock and RoofRock roofing boards satisfy the requirements of EN 3958: Part 5: 1986, 'Specification for bonded man-made mineral fibre slabs'.

Environment

No CFCs, HCFs or HCFCs are used in the manufacture of ROCKWOOL HardRock and RoofRock roofing boards.

Performance and Properties

Density

The nominal density of ROCKWOOL HardRock 80 is 175kg/m³, HardRock 60 is 160kg/m³ and RoofRock 30 is 120kg/m³ unless otherwise specified.

Strength

ROCKWOOL HardRock and RoofRock roofing boards are strong enough to bear the normal foot traffic associated with installation and routine maintenance inspection.

Heat sink

The natural properties of ROCKWOOL HardRock and RoofRock roofing boards enable them to act as a heat sink. This allows a controlled thermal transfer from the waterproof membrane, thereby reducing undesirable stresses on the membrane due to the solar radiation.

Resistance to moisture

ROCKWOOL HardRock and RoofRock roofing boards are water repellent and unaffected by the freeze/thaw cycle.

Dimensional stability

ROCKWOOL HardRock and RoofRock roofing boards are dimensionally stable and therefore do not exert any undesirable stress on the waterproof membrane or metal decks.

Fire

Fire not only destroys buildings, but can cost lives, due to smoke and fumes that hinder rescue and escape. Insulation materials should be specified not only for their effectiveness as insulants but also to ensure that no toxic fumes are emitted in a fire.

ROCKWOOL HardRock and RoofRock roofing boards offer a high level of fire safety. The base mineral wool is inherently non-combustible. If exposed to fire, they will not release dense smoke and will withstand temperatures in excess of 1000°C without melting.

ROCKWOOL HardRock roofing boards were tested in conjunction with a steel deck roof, using mechanically fastened Sarnafil single ply membrane to BS 476 Part 3: 1975 and achieved EXT. F. AB.

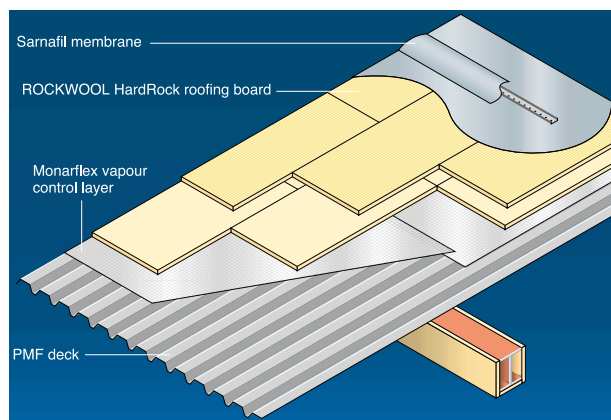
RoofRock 30, HardRock 60 and HardRock 80 are approved products under Factory Mutual (FM).

Specification

ROCKWOOL Flat Roofing Insulation boards should be installed in accordance with the specification for Class 1 steel deck constructions and in accordance with FM Approved Guide and appropriate FM data sheets.

Additionally, the insulation boards should be mechanically fixed in accordance with FM pre-securement requirements. ROCKWOOL FM approved assemblies are available in www.roofnav.com.

When tested in accordance with BS 476 Part 21: 1987, using standard roofing components, ROCKWOOL HardRock roofing boards achieved 80 minutes fire resistance in conjunction with a steel deck roof, using mechanically fastened Sarnafil single ply membrane. Please see test report LPCB Ref No. 022a/01.



ROCKWOOL Ltd. HardRock roofing board achieved 80 minute fire resistance, integrity and insulation solution for profiled metal deck roof LPCB Ref No. 022a/01.

ROCKWOOL HardRock and RoofRock roofing boards provide the highest Euro Fire Classification, A1 rating according to EN 13501-1, being non-combustible products.

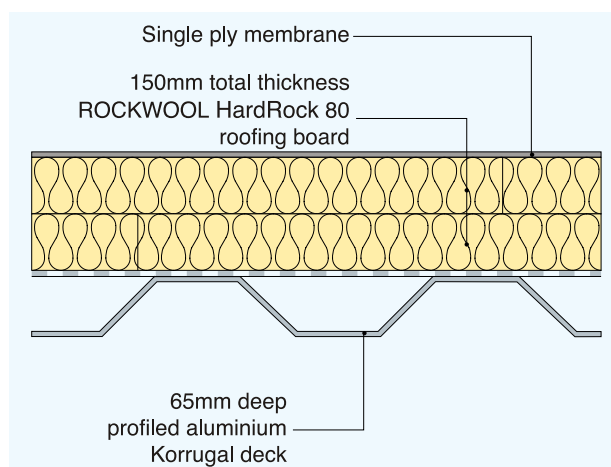
If you require further details, please contact our Technical Services Department.

Acoustics

HardRock has been proven over the years to be the ideal material for rain noise treatment, noise attenuation or sound absorption. For example, sound absorption as shown below:

Thickness		Frequency (Hz)					
		125	250	500	1k	2k	4k
HardRock 60	50mm	0.31	0.76	0.89	0.90	0.96	1.04
HardRock 80	100mm	0.67	0.66	0.78	0.91	0.95	0.99

The roof construction shown in the detail below is particularly suitable for buildings at airports and similar environments.



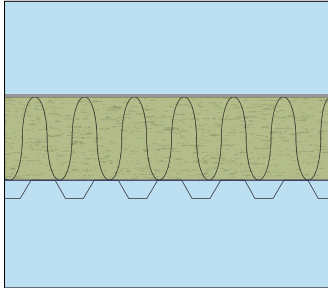
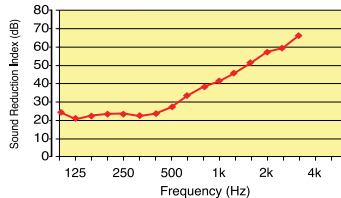
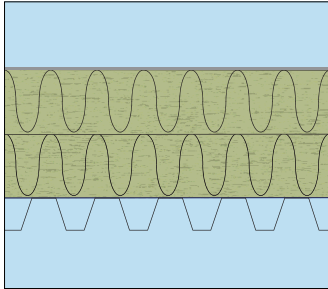
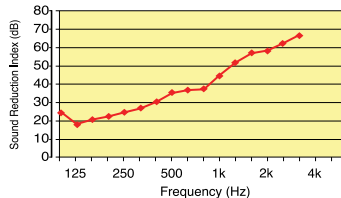
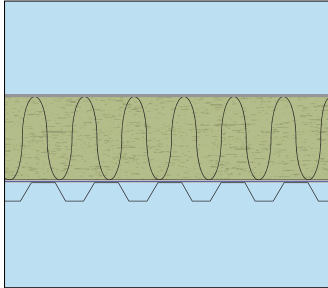
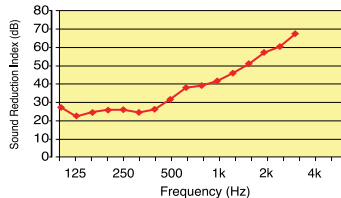
Stansted Airport :
Flat roof detail with ROCKWOOL HardRock 80 roofing board. Average
Rw = 40dB

Technical Specification

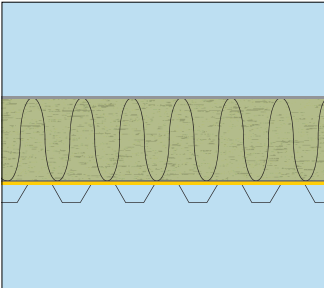
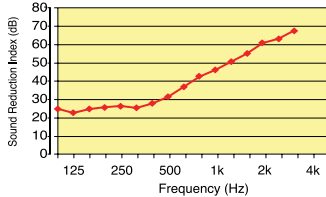
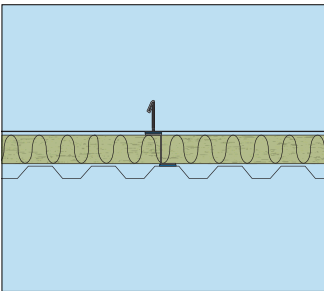
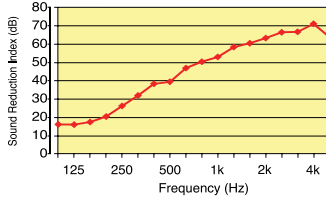
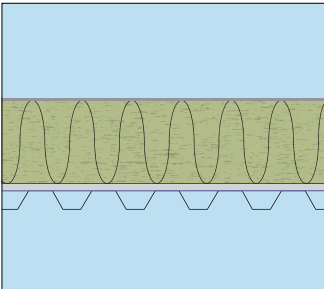
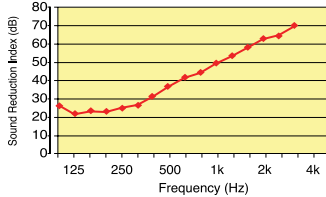
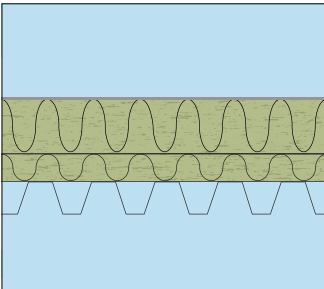
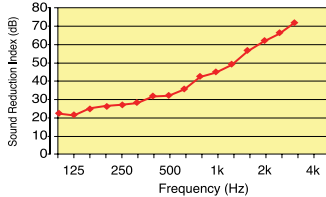
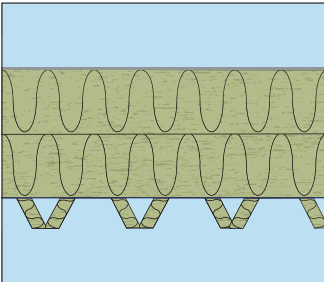
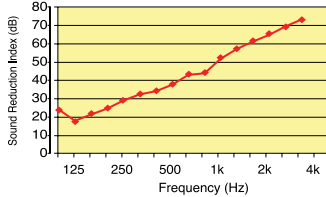
	RoofRock 30	HardRock 60	HardRock 80
Thermal Conductivity at 20°C (ASTM C518)	0.036W/mK	0.037W/mK	0.038W/mK
Compression Strength (EN 826) (σ_{10}) (EN 12430)	> 30kPa at 10% deformation	> 60kPa at 10% deformation > 500N at 5mm deformation	> 80kPa at 10% deformation > 700N at 5mm deformation
Delamination Strength > 7.5kPa (EN1607)	> 7.5kPa	> 7.5kPa	> 7.5kPa
Moisture Resistance (ASTM C1104/C 1104M-95)	Moisture sorption < 1% Vol.	Moisture sorption < 1% Vol.	Moisture sorption < 1% Vol.
Water Resistance (EN 1609:97)	Short-term water absorption < 0.5kg/m ²	Short-term water absorption < 0.5kg/m ²	Short-term water absorption < 0.5kg/m ²

Acoustic Roof Structure

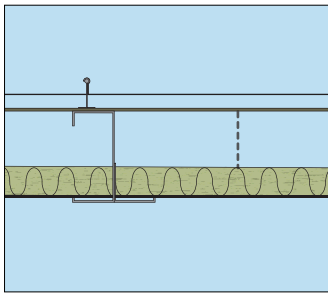
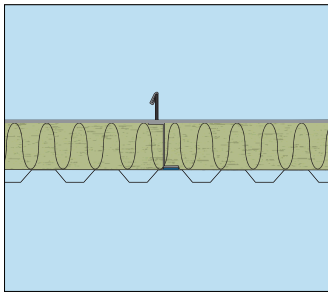
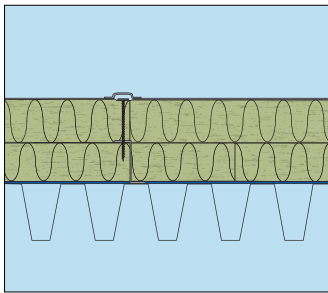
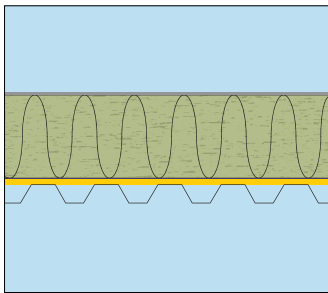
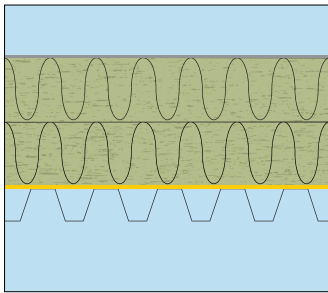
The following acoustic tests are undertaken on roofing systems incorporating ROCKWOOL HardRock and RoofRock roofing boards.

Roof Structure	Specification	Nominal System Thickness (mm)	Sound Test Type And Performance	Test Report Number Graph
Transmission Loss Tests				
	1. 1.5mm thick PVC membrane 2. 150mm thick HardRock Dual Density Roofing Board 3. Polyethylene vapour control layer 4. Corus D35 profile 0.7mm thick galvanised steel profile deck	152	Rw35 dB	C/02/5L/0526/1 TEST 2 
	1. 1.5mm thick PVC membrane 2. 210mm (105+105mm) thick HardRock Dual Density Roofing Boards 3. 0.22mm thick polyethylene vapour control layer 4. Corus D60 profile 0.7mm thick galvanised steel profile deck	210	Rw36 dB	C/06/5L/3434/1 TEST 2 
	1. 1.5mm thick PVC membrane 2. 150mm thick HardRock Dual Density SPA 3. 2mm thick aluminium cored vapour control layer 4. Corus D35 profile 0.7mm thick galvanised steel profile deck steel profile deck	154	Rw37 dB	C/02/5L/0526/1 TEST 7 

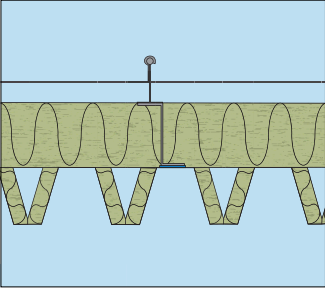
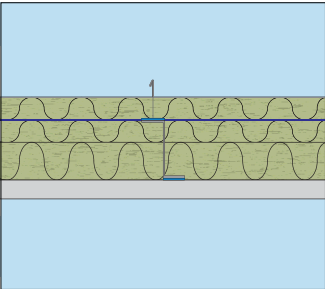
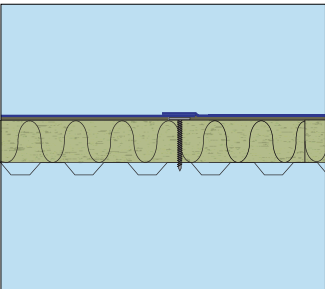
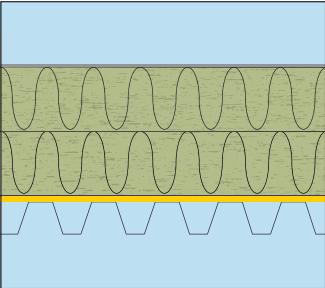
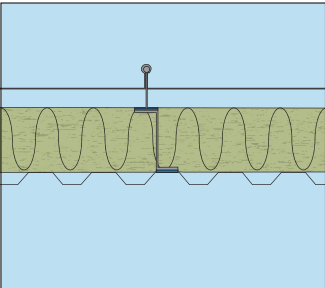
Acoustic Roof Structure

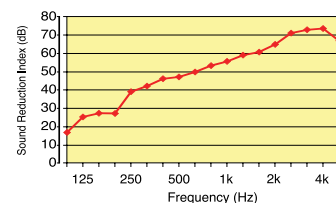
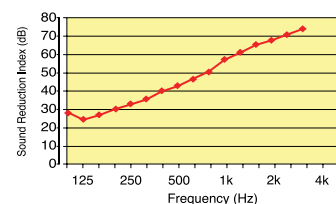
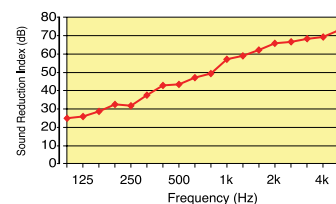
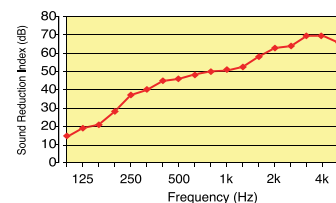
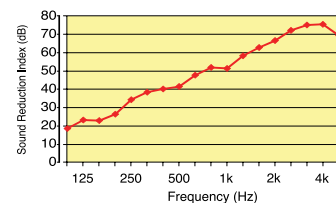
Roof Structure	Specification	Nominal System Thickness (mm)	Sound Test Type And Performance	Test Report Number
Transmission Loss Tests				
	1. 1.5mm thick PVC membrane 2. 150mm thick HardRock Dual Density Roofing Board 3. Polyethylene vapour control layer 4. 2.5mm thick ROCKWOOL Acoustic Membrane (5kg/m²) 5. Corus D35 profile 0.7mm thick galvanised steel profile deck	155	Rw38 dB	C/03/7H/10161/L2
				
	1. Steel standing seam clip 2. 0.6mm TCT steel standing seam roof 3. 9mm thick neoprene pads 4. 1.0mm thick Z purlin at 1.2m centres 5. 40mm thick HardRock 80 6. 9mm thick neoprene pad 7. 0.47mm TCT galvanised steel deck, 28mm deep	112	Rw38 dB	UiTM 01WIFE07 TEST 5
				
	1. 1.5mm thick PVC membrane 2. 150mm thick HardRock Dual Density Roofing Board 3. 12mm thick cement partial board 4. Polyethylene vapour control layer 5. Corus D35 profile 0.7mm thick galvanised steel profile deck	164	Rw39 dB	C/02/5L/0526/1 TEST 4
				
	1. 1.5mm thick PVC single ply membrane 2. 100mm thick HardRock Dual Density SPA 3. Aluminium cored vapour control layer 4. 50mm thick HardRock Dual Density TFA 5. Corus PMF D60 webb perforated colour steel deck 13% open area	152	Rw39 dB	C/02/5L/0526/1 TEST 8
				
	1. 1.5mm thick PVC membrane 2. 210mm (105+105mm) thick HardRock Dual Density Roofing Board 3. 0.22mm thick polyethylene vapour control layer 4. Corus D60 perforated profile deck, 0.7mm thick with 4 layers of ROCKWOOL Acoustic Infills	212	Rw39 dB	C/06/5L/3434/1 TEST 10
				

Acoustic Roof Structure

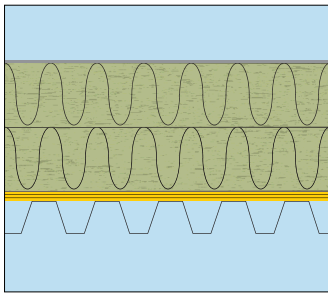
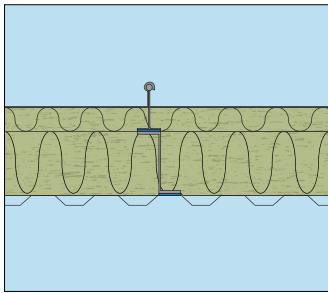
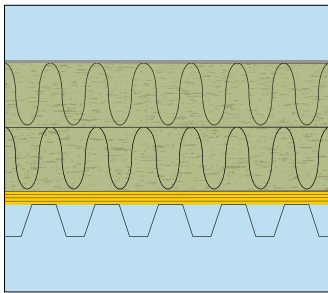
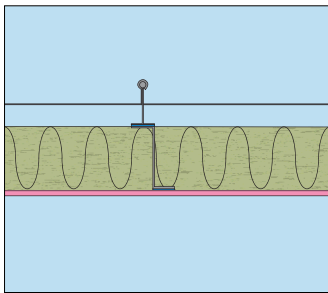
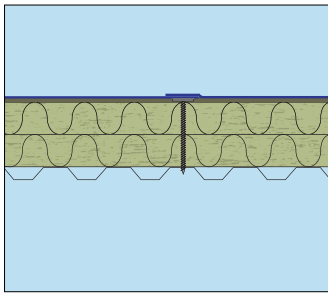
Roof Structure	Specification	Nominal System Thickness (mm)	Sound Test Type And Performance	Test Report Number
Graph				
Transmission Loss Tests				
	0.5mm TCT steel standing seam roof 8mm thick cement particle board 155mm high steel purlin 85mm air gap 50mm thick HardRock 60, black tissue faced one side	323	Rw39 dB	Marshall Day Test 95003D
	- Steel standing seam clip 0.6mm thick steel standing seam roof - Vapour barrier - Z purlin 75mm thick HardRock 80 6mm thick neoprene pad 0.47mm TCT zincalume deck	134	Rw40 dB	UiTM 02WIFE07 TEST 7
	- Sarna bar 1.2mm thick PVC membrane - Screw fastener 80mm thick HardRock 80 70mm thick HardRock 80 - Z purlin - Vapour barrier 0.7mm thick, 102mm deep galvanised steel deck	253	Rw40 dB	SRL C/6487/405/1
	1.5mm thick PVC membrane 150mm thick HardRock Dual Density Roofing Board - Polyethylene vapour control layer - ROCKWOOL Acoustic Membrane 10 (or alternatively 2 layers of ROCKWOOL Acoustic Membrane 5) - Corus D35 profile 0.7mm thick galvanised steel profile deck	152	Rw41 dB	C/02/5L/0526/1 TEST 5
	1.5mm thick PVC membrane 210mm (105+105mm) thick HardRock Dual Density Roofing Board 0.22mm thick polyethylene vapour control layer 1 layer of ROCKWOOL Acoustic Membrane 5 - Corus D60 profile 0.7mm thick galvanised steel profile deck	212	Rw41 dB	C/06/5L/3434/1 TEST 6

Acoustic Roof Structure

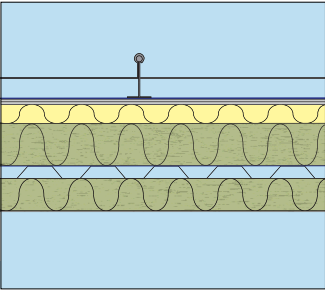
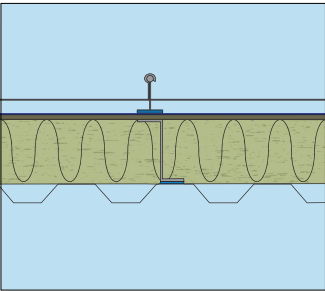
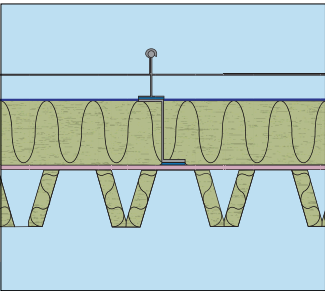
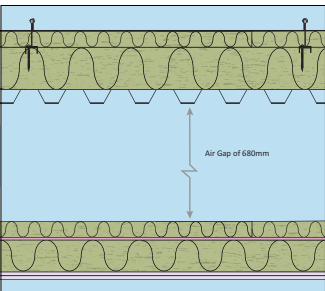
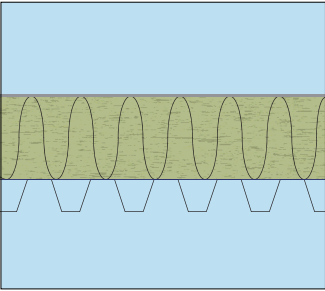
Roof Structure	Specification	Nominal System Thickness (mm)	Sound Test Type And Performance	Test Report Number
Transmission Loss Tests				
Graph				
	- Steel standing seam clip 0.6mm TCT steel standing seam roof 43mm air gap - Z purlin 100mm thick HardRock 80 6mm thick neoprene pad 50mm thick, 50kg/m³ mineral wool black tissue faced one side 0.7mm thick, 102mm deep perforated galvanised steel deck	302	Rw43 dB	UiTM 01WIFE06 TEST 9
	0.42mm thick lower deck layer 50mm thick Wil-Kool (bridged by 0.8mm 60 x 70 x 60mm Z purlin at 900mm centres, with 6mm neoprene pads either side at screw points) 30mm thick HardRock 60 (bridged by 0.8mm 60 x 70 x 60mm Z purlin at 900mm with 6mm neoprene pads either side at screw points) - Vapour barrier 30mm thick Wil-Kool 0.6mm BST, standing seam steel deck	151	Rw44 dB	UiTM 02WIFE11 TEST 1
	1.2mm thick waterproof membrane - Mechanical fastener 9mm thick cement particle board 80mm thick HardRock 80 0.75mm thick, 28mm deep galvanised steel deck	91	Rw45 dB	UiTM 02WIFE12 TEST 2
	1.5mm thick PVC membrane 210mm (105+105mm) thick HardRock Dual Density Roofing Board 0.22mm thick polyethylene vapour control layer 2 layers of ROCKWOOL Acoustic Membrane 5 (Or RAM 10) - Corus D60 profile 0.7mm thick galvanised steel profile deck	212	Rw45 dB	C/06/5L/3434/1 TEST 3
	- Steel standing seam clip 0.6mm thick msteel standing seam roof 43mm air gap 6mm thick neoprene pad 0.75mm thick Z purlin at 1.2m centres 100mm thick HardRock 80 6mm thick neoprene pad 0.42mm thick, 28mm deep galvanised steel deck	208	Rw46 dB	UiTM 01WIFE06 TEST 6



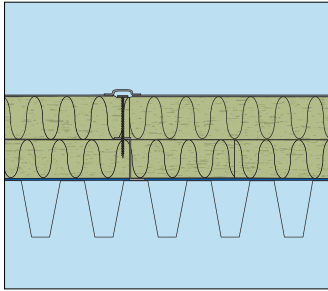
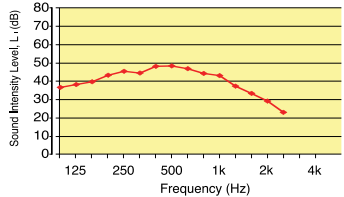
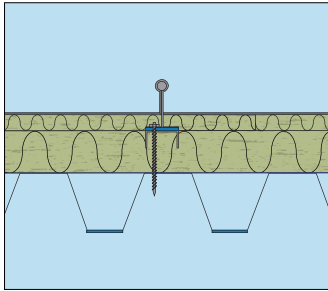
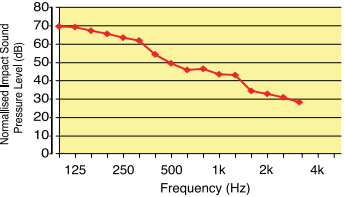
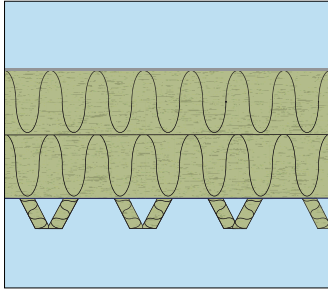
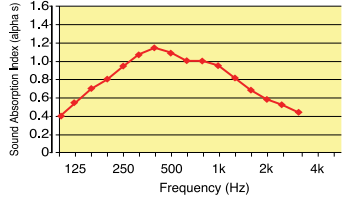
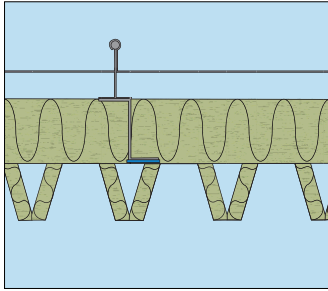
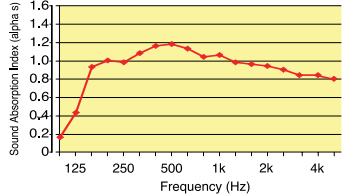
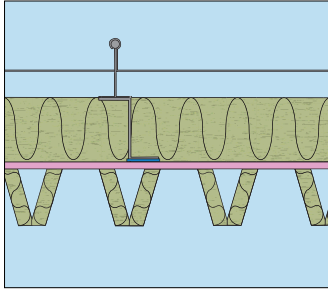
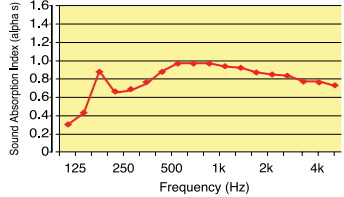
Acoustic Roof Structure

Roof Structure	Specification	Nominal System Thickness (mm)	Sound Test Type And Performance	Test Report Number
Transmission Loss Tests				
Graph				
	1.5mm thick PVC membrane 210mm (105+105mm) thick HardRock Dual Density Roofing 0.22mm thick polyethylene vapour control layer 3 layers of ROCKWOOL Acoustic Membrane 5 - Corus D60 profile 0.7mm thick galvanised steel profile deck	212	Rw46 dB	C/06/5L/3434/1 TEST 5
	- Steel standing seam clip 0.6mm TCT steel standing seam roof 50mm thick, 40kg/m³ compressed to 43mm 6mm thick neoprene pads 0.75mm thick Z purlin at 1.2m centres 100mm thick HardRock 80 6mm thick neoprene pad 0.42mm thick, 20mm deep galvanised steel deck	194	Rw46 dB	UiTM 01WIFE06 TEST 5
	1.5mm thick PVC membrane 210mm (105+105mm) thick HardRock Dual Density Roofing Board 0.22mm thick polyethylene vapour control layer 4 layers of ROCKWOOL Acoustic Membrane 5 (Or alternatively, 2 layers of RAM 10) - Corus D60 profile 0.7mm thick galvanised steel profile deck	212	Rw47 dB	C/06/5L/3434/1 TEST 4
	- Steel standing seam clip 0.6mm thick steel standing seam roof 43mm air gap 6mm thick neoprene pad - Z purlin 100mm thick HardRock 80 6mm thick neoprene pad 12mm thick gypsum board	192	Rw48 dB	UiTM 01WIFE06 TEST 7
	1.2mm thick waterproof membrane - Mechanical fastener 9mm thick cement particle board 2 x 50mm thick RoofRock 0.75mm thick, 28mm deep galvanised steel deck	102	Rw48 dB	UiTM 03WIFE12 TEST 3

Acoustic Roof Structure

Roof Structure	Specification	Nominal System Thickness (mm)	Sound Test Type And Performance	Test Report Number
Graph				
Transmission Loss Tests				
	- Aluminium standing seam clip 0.7mm thick aluminium standing seam roof 5mm thick PE foam 2 x 6mm thick layer cement particle board 30mm thick, 16kg/m³ fibreglass 80mm thick HardRock 80 0.42mm zinalume deck BST 50mm thick, 40kg/m³ mineral wool - Galvanised steel wire mesh	202	Rw49 dB	SIRIM 2009CB2337
	- Aluminium standing seam clip 0.7mm thick aluminium standing seam roof 8mm thick neoprene pad - Vapour barrier 10mm thick cement particle board 100mm thick HardRock 80 - Z purlin 8mm thick neoprene pad 0.42mm thick, 28mm deep galvanised steel deck	179	Rw50 dB	UiTM EP02/04/04
	- Steel standing seam clip 0.6mm thick steel standing seam roof 43mm air gap 6mm thick neoprene pad - Vapour barrier - Z purlin 100mm thick HardRock 80 6mm thick neoprene pad 12mm thick, 7.8kg/m³ gypsum board 50mm thick, 50kg/m³ mineral wool black tissue faced one side 0.42mm thick, 102mm deep perforated galvanised steel deck	338	Rw50 dB	UiTM 01WIFE06 TEST 8
	- Aluminium standing seam clip 1.0mm thick aluminium standing seam roof 25mm thick RWA45 1.8mm thick, 20mm deep, 60mm wide aluminium C channel 80mm thick HardRock 80 - Screw fastener 0.7mm thick, 102mm deep galvanised steel deck 10mm thick neoprene pad 25mm thick RWA45 12.5mm thick gypsum board 50mm thick Wil-Kool Plus black tissue faced one side 0.8mm x 55mm high perforated sinusoidal aluminium soffit lining	1067	Rw63 dB	PSB Corp 54S020268/AI/EMK
Rain Intensity Tests				
	1.2mm thick PVC membrane 150mm thick HardRock Dual Density Roofing Board - Polyethylene vapour control layer - Corus D60 profile 0.7mm thick galvanised steel profile deck	152	LIA = 52dB	L904-020

Acoustic Roof Structure

Roof Structure	Specification	Nominal System Thickness (mm)	Sound Test Type And Performance	Test Report Number
Rain Intensity Tests				
	1. Sarna locking 2. 1.2mm thick PVC membrane 3. Screw fastener 4. 80mm thick HardRock 80 5. 70mm thick HardRock 80 6. Z purlin 7. Vapour Barrier 8. 0.7mm thick, 102mm deep galvanised steel deck	253	LIA = 52dB	BRE L994-020
				
Impact Test				
	1. Kal-Zip ST 65 clip 2. 1.0mm thick aluminium standing seam roof 3. 25mm thick RWA45 4. 10mm thick neoprene pad 5. 80mm thick HardRock 80 6. 1.8mm thick, 20mm deep, 60mm wide aluminium C channel 7. Screw 8. Vapour barrier 9. 0.7mm thick, 102mm wide galvanised steel deck 10. 10mm thick neoprene pad	255	Ln.w 60 dB IIC 50 dB	PSB Corp 54S020268/B/EMK
				
Sound Absorption Tests				
	1. 1.5mm thick PVC membrane 2. 210mm (105+105mm) thick HardRock Dual Density Roofing Board 3. 0.22mm thick polythene vapour control layer 4. ROCKWOOL Acoustic Infill 5. Corus D60 webb perforated colour steel deck 13% open	212	NRC 0.9	C/06/5L/3434/2
				
	1. Steel standing seam clip 2. 0.6mm thick steel standing seam roof 3. 43mm air gap 4. Z purlin 5. 100mm thick HardRock 80 6. 6mm thick neoprene pad 7. 50mm thick, 50kg/m³ mineral wool, black tissue faced one side 8. 0.7mm thick 102mm deep perforated galvanised steel deck	326	NRC 1.0	UiTM 03WIFE02 TEST 2
				
	1. Steel standing seam clip 2. 0.6mm thick steel standing seam roof 3. 43mm air gap 4. Z purlin 5. 100mm thick HardRock 80 6. 6mm thick neoprene pad 7. 12mm thick gypsum board 8. 50mm thick, 50kg/m³ mineral wool, black tissue faced one side 9. 0.7mm thick 102mm deep perforated galvanised steel deck	338	NRC 0.85	UiTM 03WIFE02 TEST 4
				

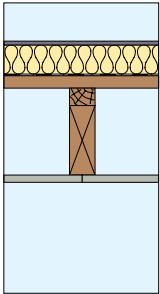
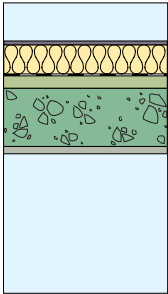
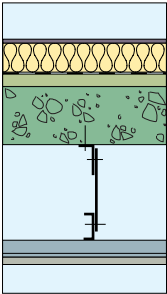
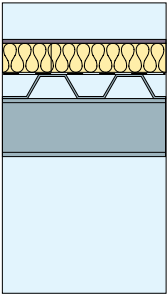
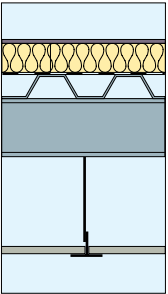
Typical roof applications and thermal performance

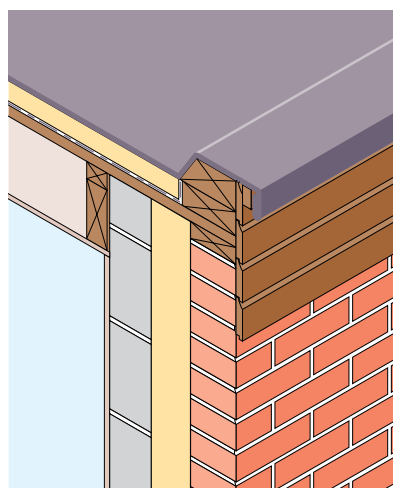
U values

ROCKWOOL HardRock and RoofRock roofing boards significantly improve the energy efficiency of the external roof.

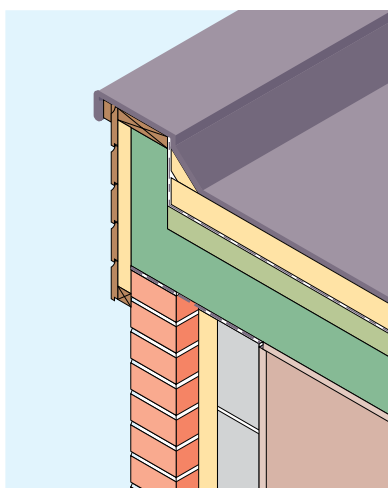
The figures in the table below have been calculated to achieve the energy efficiency (EE) requirements as stipulated in MS 1525:2007 Energy efficiency and use of renewable energy for non-residential buildings - Code of practice and the Green Building Index (GBI). Increased thicknesses of HardRock and RoofRock roofing boards have been shown to reduce energy consumption in buildings, thus reducing CO₂ emissions to the atmosphere.

U values (W/m²K) for typical roof constructions using ROCKWOOL HardRock roofing boards with single-ply membranes and a vapour control layer.

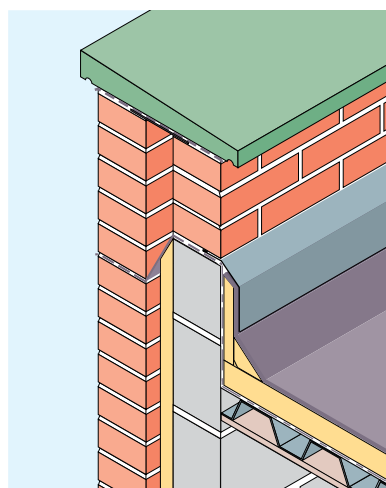
					
Board thickness (mm)	19 mm timber deck with 12.5 mm plasterboard and skim fixed to timber joist	150 mm dense concrete deck and 50 mm dense screed with 16 mm plaster finish	150 mm dense concrete deck and 50 mm dense screed with suspended 12.5 mm plasterboard ceiling	Troughed steel decking without underlining	Troughed steel deck with suspended 12.5 mm plasterboard ceiling
	(W/m ² K)	(W/m ² K)	(W/m ² K)	(W/m ² K)	(W/m ² K)
30	0.75	0.87	0.73	0.90	0.73
40	0.63	0.71	0.61	0.73	0.62
50	0.54	0.60	0.53	0.61	0.53
60	0.47	0.52	0.46	0.53	0.46
65	0.44	0.48	0.44	0.49	0.44
75	0.40	0.43	0.39	0.44	0.39
80	0.39	0.42	0.38	0.42	0.38
90	0.35	0.38	0.35	0.38	0.35
100	0.33	0.35	0.32	0.35	0.33
110 (50 + 60)	0.30	0.32	0.30	0.33	0.30
120 (2 x 60)	0.27	0.28	0.27	0.29	0.27
130 (2 x 65)	0.25	0.26	0.25	0.27	0.25
150 (2 x 75)	0.22	0.23	0.22	0.23	0.22



Typical verge detail, timber deck



Verge detail, concrete deck



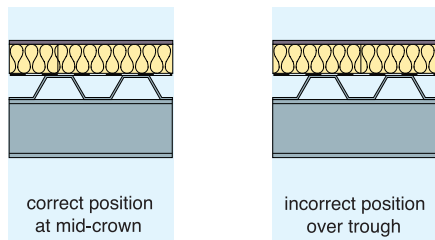
Wall abutment with metal deck roof

HardRock and RoofRock design considerations

Profiled metal deck installations

Crown And Trough Position

The butt jointing and consequent cantilevering of ROCKWOOL HardRock and RoofRock roofing boards over the troughs of metal decks are not recommended. It is essential that butt joints occur at the mid crown position.



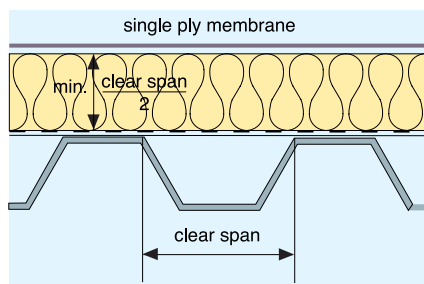
ROCKWOOL HardRock and RoofRock roofing boards are available to order in sizes to suit the specific crown dimension of the deck used, subject to quantity, manufacturing process and dimensional tolerances.

Maximum Spanning Capability

The maximum spanning capability of ROCKWOOL HardRock and RoofRock roofing boards are dependent on the type of membrane system used as follows:

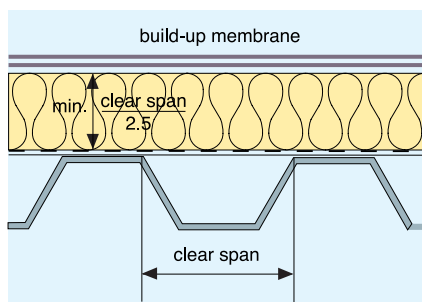
Single ply membranes:

Minimum HardRock thickness equals the width of the trough clear span, divided by 2.



Built-up membranes:

Minimum HardRock thickness equals the width of the trough, divided by 2.5.



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

Span Calculation Example

A profiled metal deck with a trough width of 120 mm, when using a single ply membrane, will require a minimum HardRock thickness of 60mm ($120/2 = 60$) or 50mm HardRock ($120/2.5 = 48$) in the case of built up membrane.

Where installed trough widths exceed the capability of the ROCKWOOL HardRock and RoofRock roofing boards, provision must be made to provide full support for the insulation.

Where the membrane system differs from the above, or any other doubt exists, please contact our Technical Services Department.

Preparation work for refurbishment

Unless the existing roof finish is:-

- known to be sound
- watertight
- seen to be suitable for bonding or mechanical fixing of ROCKWOOL HardRock/RoofRock roofing boards

then, all previously applied finishes/insulation layers should be removed.

It is recommended that the specifier/contractor check the existing levels to ensure that the existing falls are correct. If not, the appropriate ROCKWOOL HardRock and RoofRock roofing boards cut to falls system should be considered.

Walkways to finished roofs

Additional protection to spread the load on the ROCKWOOL HardRock and RoofRock roofing boards are recommended in walkway areas. Advice should be sought from the membrane manufacturer on the options available.

Plant and Machinery

Wherever possible, any plant, such as air handling and refrigeration units, should be positioned on independent upstands, located directly on the substrate.

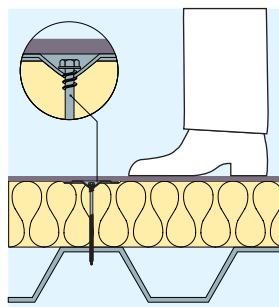
Where this is not possible, and the equipment is to be placed directly on the finished roof, further protection to spread the load on the ROCKWOOL HardRock and RoofRock roofing boards may be required. In such cases, advice should be sought from our Technical Services Department and the membrane manufacturer.

Tested membranes and adhesives

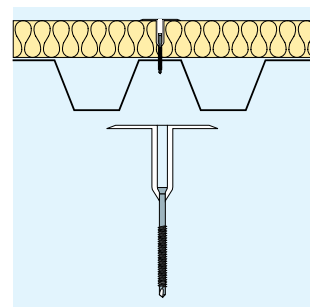
Wilms accept no responsibility for the performance or quality of any membrane or adhesive used in conjunction with the ROCKWOOL HardRock and RoofRock range of roofing boards.

Mechanical Fasteners

Wilms recommend the use of fasteners incorporating a stress plate support thread or alternatively a plastic tube washer and fastener, for the mechanical fastening of ROCKWOOL HardRock and RoofRock roofing boards to metal or timber decks. These are designed to resist foot traffic on the completed roof.



Fastener with stress plate support thread



Plastic tube washer and fastener

Site Advisory Service

Wilams operate a dedicated Site Advisory Service. Our personnel are able to offer advice prior to, during and on completion of the ROCKWOOL HardRock and RoofRock roofing boards installation, to the benefit of contractor, specifier, client and end user.

To take advantage of the Wilams Site Advisory Service, please specify its use, and instruct the contractor to contact our Technical Services Department.

Storage and Handling

ROCKWOOL HardRock and RoofRock roofing boards are fully palletised and wrapped in polyethylene for protection during transit. The pallets should be carefully unloaded by suitably trained personnel, and stored in a weatherproof location or under a secure waterproof covering.

This is also applicable where the product is supplied in packs. The packs must also be stored on pallets or skids.

Where the craning of pallets to roof level is required, the use of a pallet fork attachment is recommended.

Water Absorption

ROCKWOOL HardRock and RoofRock roofing boards consist of randomly oriented water repellent fibres. Wetting will therefore only occur in proximity to its surface. As the product is diffusion open, boards that become wet during installation must be allowed to dry out naturally prior to the application of the roof membrane or metal deck.

Installation

ROCKWOOL HardRock and RoofRock roofing boards should be laid with staggered joints wherever possible, and tightly butted to avoid gaps. The use of small pieces of insulation board should be avoided.

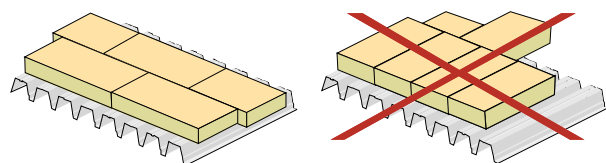
Care should be taken to clean off all surfaces prior to the laying of insulation boards and outer surface cladding.

It is recommended that a suitable independent vapour control layer be used with the ROCKWOOL HardRock and RoofRock roofing boards. This should be detailed at perimeters, abutments etc, as described in the specification and manufacturer's recommendations.

Appropriate stop battens should be installed to protect edges of boards.

Day joints must be formed at the conclusion of each section of work to seal exposed edges of insulation boards and prevent damage.

The ROCKWOOL HardRock and RoofRock roofing boards should be installed perpendicular to the longitudinal profile of the steel bottom deck as shown in the drawings below. This is done to reduce the effect of cantilevering of the insulation.



Protection during installation

Adequate temporary protection must be provided above installed ROCKWOOL HardRock and RoofRock roofing boards where any of the following occur: unloading or access points, temporary walkways, stockpiles of roofing materials, waste skips, or any other activity that might cause damage to the insulation.

Cutting

ROCKWOOL HardRock and RoofRock roofing boards are easy to cut or shape using sharp knife or panel saw.

Working Platform

Under no circumstances may the finished roof be used as a working platform without adequate protection being provided. Wilams recommend that either the main contractor or the roofing contractor operates a 'permit to work' system for any follow-up trades in areas where the roof installation is complete.



Roof installation of Kuala Lumpur Convention Centre

Health and Safety

A Material Safety Data Sheet is available from our Technical Services Department.

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