

| | |
|-------------------|----------|
| Application type | Acoustic |
| Construction type | Roofing |

ROCKWOOL

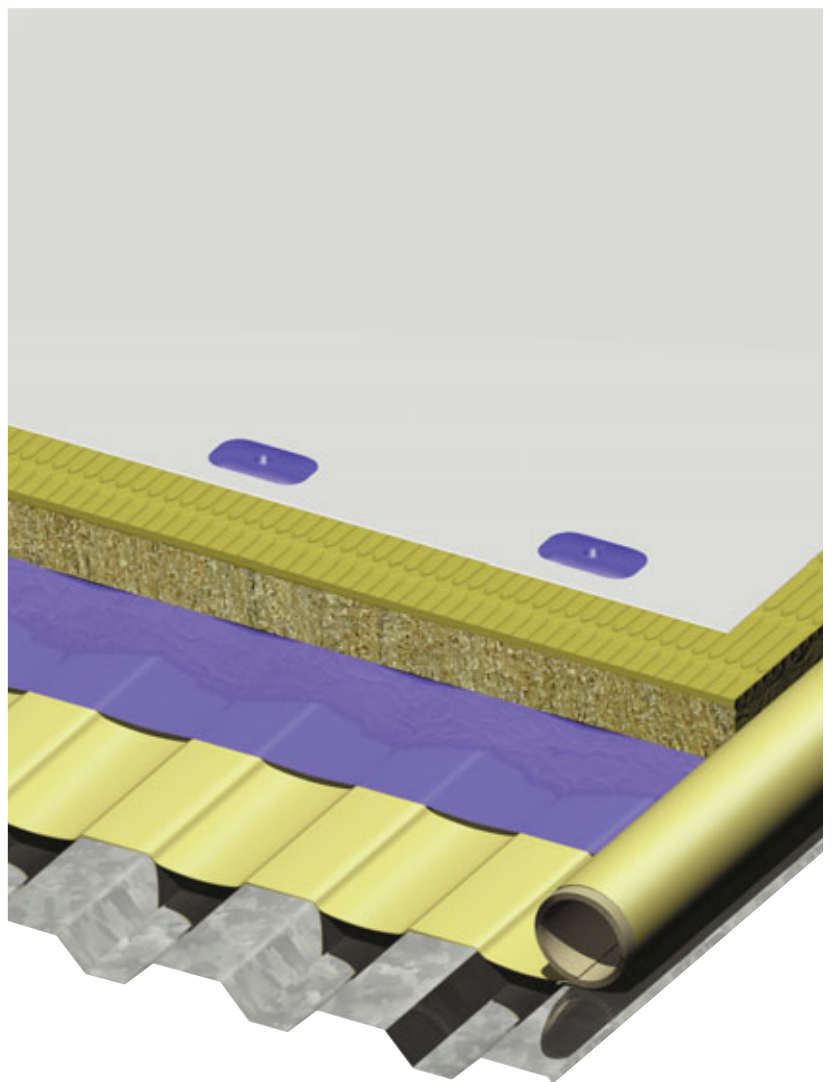
Rockwool Acoustic Membrane

High performance sound deadening membrane for flat roofing and built-up metal roofs

Rockwool Acoustic Membrane is a flexible, high-density polymer mass layer.

The product, when combined with Rockwool insulation products, offers both high performance and economic acoustic solutions for flat roofing and built-up metal roofing systems (e.g. standing seam).

An ideal acoustic solution from the Rockwool SoundPro range, for buildings requiring high levels of acoustic performance. These include schools, hospitals, cinemas, airports, concert halls, stadia, retail, leisure developments etc.



Acoustic flat roof construction using Rockwool Acoustic Membrane and Hardrock Dual Density Roofing Board

Advantages

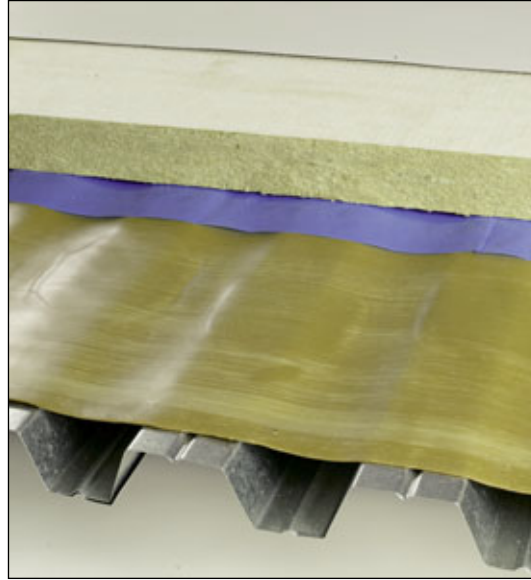
- Excellent acoustic properties
 - Enhances low frequency performance
- Easy to cut and install on site
- Available as a roll
 - less joints
 - faster installation
- Fully tested system
- Cost effective
- Suitable for new build and refurbishment

Flat Roofs

Constructions 1 to 6 indicate a Weighted Sound Reduction Index improvement of up to 12dB when using Rockwool Acoustic Membrane. Increasing the SRI by just 3dB will approximately halve the transmitted sound energy.

Roof Construction

- 1.5mm PVC membrane mechanically fixed.
- Hardrock Dual Density or Duorock roofboard.
- 0.22mm polyethylene vapour control layer.
- Varying layers of Rockwool Acoustic Membrane 5 (5kg/m²).
- 0.70mm galvanised steel profile deck, 35mm deep.



| Construction Options for Sound Reduction (based on above construction) | Test Report Number | C _{tr} Value |
|--|--|-----------------------|
| To achieve 37dB Rw: • 145mm Duorock with 1 layer of Acoustic Membrane | C/03/7H/10161/L2* | -5 |
| To achieve 38dB Rw: • 150mm Hardrock DD with 1 layer of Acoustic Membrane | C/03/7H/10161/L2 | -5 |
| To achieve 41dB Rw: • 145mm Duorock with 2 layers of Acoustic Membrane • 150mm Hardrock DD with 2 layers of Acoustic Membrane • 210mm Duorock with 1 layer of Acoustic Membrane • 210mm Hardrock DD with 1 layer of Acoustic Membrane | C/02/5L10526/1 Test 5* C/02/5L10526/1 Test 5C/06/5L13434/1 Test 6* 5-7C/06/5L13434/1 Test 6 | -5 -5 -7 -6 |
| To achieve 44dB Rw: • 210mm Duorock with 2 layers of Acoustic Membrane | C/06/5L13434/1 Test 3* | -6 |
| To achieve 45dB Rw: • 210mm Hardrock DD with 2 layers of Acoustic Membrane | C/06/5L13434/1 Test 3 | -6 |
| To achieve 47dB Rw: • 210mm Duorock with 4 layers of Acoustic Membrane • 210mm Hardrock DD with 4 layers of Acoustic Membrane | C/06/5L13434/1 Test 4* C/06/5L13434/1 Test 4 | -6 -6 |

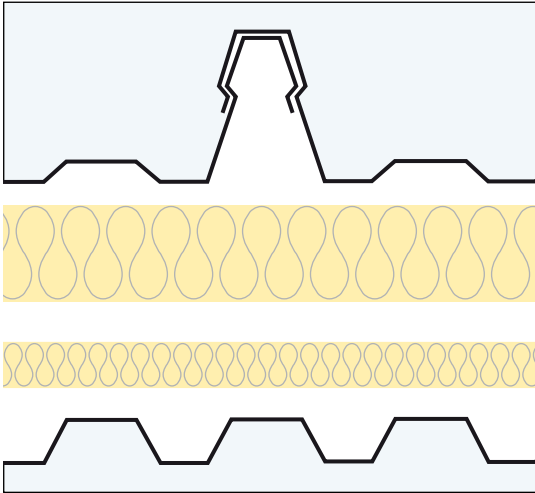
*Assessments for Duorock performed by Sound Research Laboratories Ltd based on original Hardrock sound test reports.

Built-up Metal Roofing

For built-up metal roofing system applications (e.g. standing seam), Rockwool Acoustic Membrane should be applied between the metal outer sheet and insulation.

For enhanced performance, the membrane should also be positioned between the insulation layers as shown in construction 4.

Construction 4



A typical construction is shown above comprising

- Aluminium outer sheet
- Rockwool Cladding Roll
- Rockwool Acoustic Membrane 5 (5kg/m²) – 1 or 2 layers depending on acoustic requirements
- Rockwool RW3 Slab
- Vapour Control Layer
- Steel liner tray

In the absence of test data, Rockwool Limited have assessed that similar constructions with combinations of Rockwool Acoustic Membrane and Rockwool insulation materials are likely to achieve Weighted Sound Reduction Index values of up to 50dB. For assistance with such constructions, please contact Rockwool Customer Support on 0871 222 1780.

Rain noise

Impact noise from rain can significantly increase the indoor noise level. Excessive noise from rain on metal roofs can result in noise radiating into working or habitable space below.

Rain noise is therefore a potentially important noise source, which must be considered at an early point in the roof design in order to minimise disturbance within the building.

The solution is provided by a combination of Rockwool Acoustic Membrane (for damping of the profiled metal cladding) and Rockwool insulation materials (for sound absorption).

At the time of writing, a new laboratory test measurement standard for impact sound from rain on the roof, ISO 140-18 is under development.

For assistance, please contact Rockwool Customer Support on 0871 222 1780.

Performance & Construction

Acoustic Performance

The addition of a mass layer is required in order to attain the highest acoustic performance levels for lightweight metal roof constructions. Rockwool Acoustic Membrane offers additional mass whilst also providing inherent acoustic damping properties.

Using Rockwool Acoustic Membrane in conjunction with Rockwool roofing products results in improved sound insulation levels across the frequency range. Testing has confirmed that Rockwool Acoustic Membrane provides improved acoustic performance in comparison with heavier, and thicker Cementitious boards.

Performance & Properties

Two products are available. Rockwool Acoustic Membrane 5 (5 Kg/m²) and Rockwool Acoustic Membrane 10 (10 Kg/m²)

Rockwool Acoustic Membrane 5

Dimension: 6050 x 1220 x 2.6mm
Weight: 5 kg/m²
Density: 1900 kg/m³
Supplied in rolls

Rockwool Acoustic Membrane 10

Dimensions: 2000 x 1000 x 5.2mm
Weight: 10 kg/m²
Density: 1900 kg/m³
Supplied in sheets

Resistance to moisture Rockwool Acoustic Membrane is water resistant.

Tensile Strength 30 N/cm² (EN12311)

Pliability Does not break when bending at -20°C

Elongation 300% (EN12311)

Thermal conductivity 0.45 W/mK

Installation – flat roof constructions

For flat roofing applications, Rockwool Acoustic Membrane should be laid directly onto the metal decking, across the line of the profiles. The metal decking must be clean and dry. Align the membrane and extend the roll (or sheets) over the metal decking progressively. Please note that it is not necessary to remove the protective plastic film.

All membrane joints should be overlapped by 50mm as small openings can reduce the level of acoustic insulation required.

A Polythene VCL (should BS 5250:1989 calculations require installation) is applied, followed by the application of Rockwool Hardrock Dual Density Roofing Boards. A Mechanically fastened single ply membrane should then be installed in accordance with the manufacturers specification requirements.

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

Installation of all components should be in accordance with BS6229:2003 (Code of practice for Flat Roofs with continuously supported coverings).

Membrane coverage

For a 35mm deep profiled metal deck, allow for yield of 1m² of Rockwool Acoustic Membrane to cover approximately 0.95m² of surface area, including overlaps. Coverage may vary for other profile types.

Cutting

Rockwool Acoustic Membrane is easily cut or shaped with a sharp knife.

Storage and handling

Rockwool Acoustic Membrane 5 is available as individual rolls or as rolls on pallets.

Weight per roll is approximately 37kg.

Rockwool Acoustic Membrane 10 is available in sheets on pallets. Weight per pallet is approximately 1800Kg.

All products are wrapped in polythene for short-term protection, if stored outside. For longer-term protection, the product should be stored in dry premises, protected against weathering and must not be exposed to temperatures exceeding 35°C.

For safety, pallets should not be stacked.

Supply

Available throughout the United Kingdom from Rockwool stockists. A list is available on request.

Health and safety

Current HSE 'CHIP' Regulations and EU directive 97/69/EC confirm the safety of Rockwool mineral wool; Rockwool fibres are not classified as a possible human carcinogen.

The maximum exposure limit for mineral wool is 5mg/m³, 8 hour time-weighted average.

A Material Safety Data Sheet is available from Rockwool Customer Support (0871 222 1780) to assist in the preparation of risk assessments, as required by the Control of Substances Hazardous to Health Regulations (COSHH).

Environment

Relying on entrapped air for its thermal properties, Rockwool insulation does not contain (and has never contained) gases that have Ozone Depleting Potential (ODP) or Global Warming Potential (GWP). Rockwool therefore complies with the relatively modest threshold of GWPL₅ included in documents such as the Code for Sustainable Homes.

Rockwool Ltd is increasingly involved in recycling waste Rockwool material that may be generated during installation or at the end of life disposal.

We are happy to discuss the individual requirements of contractors and users considering returning Rockwool materials to our factory for recycling.

Rockwool Insulation Products

Technical data sheets on Hardrock Dual Density Roofing Board, RW3 Slab and Cladding Roll are available from Rockwool Customer Support on 0871 222 1780.



SoundPro range of acoustic solutions

Rockwool Acoustic Membrane is a part of the Rockwool SoundPro range of acoustic solutions. Further information on the SoundPro range is available from Rockwool Customer Support on 0871 222 1780.

Other acoustic applications

Rockwool Acoustic Membrane, due to its damping and sound reduction properties may be used for other applications requiring isolation or mass layers. For guidance in this respect, contact Rockwool Customer Support.

Rockwool Limited reserves the right to alter or amend the specification of products without notice as our policy is one of constant improvement.

The information contained in this data sheet is believed to be correct at the date of publication. Whilst Rockwool will endeavour to keep its publications up to date, readers will appreciate that between publications there may be pertinent changes in the law, or other developments affecting the accuracy of the information contained in this data sheet.

The above applications do not necessarily represent an exhaustive list of applications for Rockwool Acoustic Membrane. Rockwool Limited does not accept responsibility for the consequences of using Rockwool Acoustic Membrane in applications different from those described above. Expert advice should be sought where such different applications are contemplated, or where the extent of any listed application is in doubt.

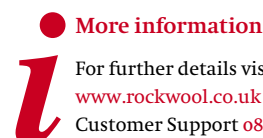


Rockwool Limited
Pencoed, Bridgend. CF35 6NY

26/28 Hammersmith Grove
Hammersmith
London
W6 7HA

info@rockwool.co.uk
www.rockwool.co.uk

Printed on recycled paper



More information

For further details visit our website at www.rockwool.co.uk or phone the Customer Support 0871 222 1780