



Cool'n'Comfort™ Blanket & Slab

General Product Information

ROCKWOOL stone wool products are made of basalt, a volcanic stone.

ROCKWOOL stone wool products are non-combustible with a melting point more than 1000°C. They are particularly suitable for thermal insulation, fire protection and sound reduction or absorption.

ROCKWOOL stone wool is inorganic and contains no nutritious substance. Therefore it will not be attacked by microorganisms. Stone wool will not rot and does not attract vermin.

No CFCs, HFCs, HCFCs, or asbestos are used in the manufacture of ROCKWOOL stone wool products.



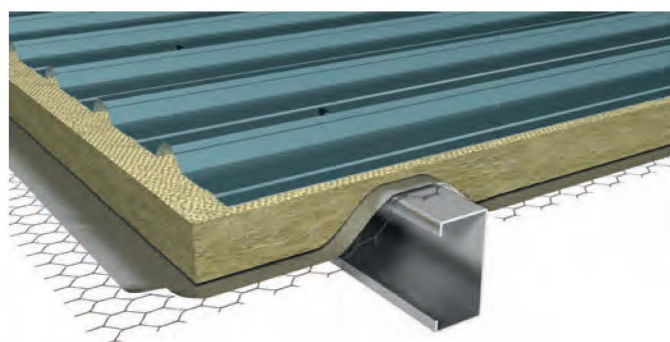
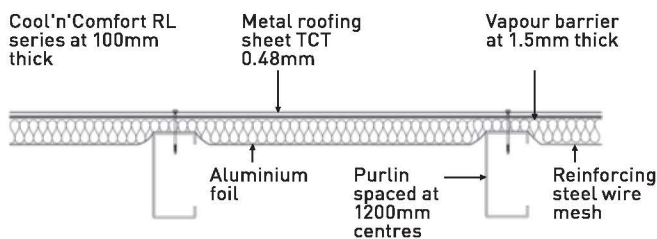
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Introduction

ROCKWOOL Cool'n'Comfort Series is designed for single or double skin metal roof, with or without skylight, to satisfy U-value requirements in order to achieve the desired roof thermal transmittance value (RTTV). It is also available with a radiant barrier facing to suit the requirements of all types of roofs in commercial and industrial buildings. Cool'n'Comfort is highly effective in reducing solar heat gain through the roof for non air-conditioned buildings; and where air-conditions are used, Cool'n'Comfort helps to save energy and reduce energy costs. The unique properties of Cool'n'Comfort contribute to making an energy efficient, environmentally sustainable and fire safe roofing system, thereby creating a cool, comfortable and safe indoor environment.

Applications

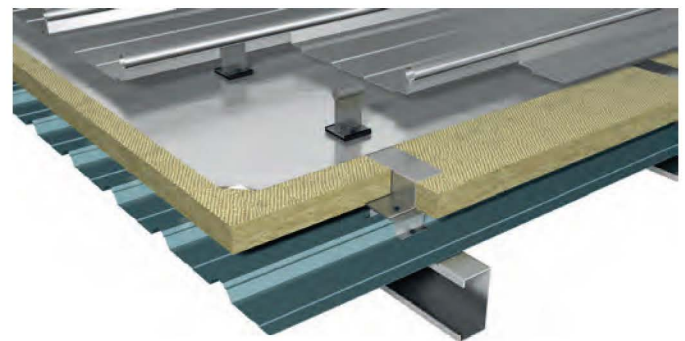
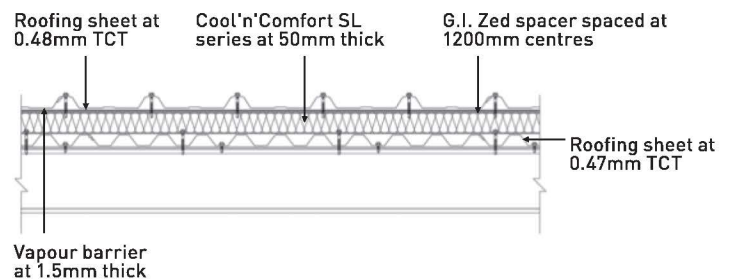
Metal roofing systems are generally categorized as single skin metal roof or double skin metal roof. In single skin roof system, insulation is installed below the metal cladding sheet held by reinforcing steel wire mesh and aluminum foil rolled over purlins. This roofing system is an economically sound option for most industrial buildings. Cool'n'Comfort RL Series is the ideal non-combustible light weight thermal insulation solution for single skin roofing system.



Single Skin Roof System

The double skin roofing system is a high performance roofing system comprising of an aesthetically designed trapezoidal or standing seam profile metal sheet on the top and a metal trapezoidal tray at the bottom. The two metal sheets are fixed together with a z-purlin creating a gap in the roof space for installation of insulation and vapor barrier. When coupled with Cool'n'Comfort SL Series stone wool insulation, it boosts the performance of the double skin metal roofing system with improved level of thermal insulation, acoustic and fire protection.

Cool'n'Comfort SL, a semi rigid slab product, is a versatile insulation that is available in various sizes to provide ease of installation and a perfect fit between purlins.



Double Skin Roof System

Note: All systems drawings are not drawn to scale.

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Water Repellent

Cool'n'Comfort Series is specially formulated with a silicone water repellent coated onto each strand of the stone wool fibres. *This special coating allows Cool'n'Comfort to repel rain water that comes into contact with the product, at the same time ensuring the product's excellent thermal and acoustic performance even after exposure to water.

As Cool'n'Comfort is commonly applied or left outdoor during installation, the silicone water repellent is added into the product as a standard offering.



Product Range & Packaging

Cool'n'Comfort comes in the form of blankets or slabs to suit many different metal roofing designs and installation needs.

Cool'n'Comfort is shrink-wrapped in polyethylene sheets for ease of handling, transportation and storage.

**Note: Water repellent test standard is based on GBT 10299. For more information, please contact your local representatives.*

Facing

Cool'n'Comfort SL is available as plain products and additionally with options of foil facing or glass tissue on one side or two-sided, while Cool'n'Comfort RL comes in foil facing as standard.



Cool'n'Comfort SL Series with foil facing

Standards

Cool'n'Comfort is designed to meet the requirements of Malaysian Standard, MS1525 (Code of Practice on Energy Efficiency and Use of Renewable Energy for Non-Residential Buildings) and Singapore BCA Green Mark for Residential and Non-Residential (version 4.0). It also complies to India Building Codes & Standards.



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Technical Parameters

| Product Name | Cool'n'Comfort RL930.FF | Cool'n'Comfort RL940.FF | Cool'n'Comfort SL940 | Cool'n'Comfort SL950 | Cool'n'Comfort SL960 | Standards |
|---|--|---|---|--|---|--|
| R-value at 50mm thickness (m ² K/W) | 1.43 | 1.47 | 1.47 | 1.47 | 1.52 | |
| Thermal Conductivity 20°C λ Value (W/mk) | 0.035 | 0.034 | 0.034 | 0.034 | 0.033 | ASTM C518 |
| Water Absorption (partial immersion (kg/m ²)) | 1.0 | 1.0 | 0.5 | 0.5 | 0.5 | EN1609.97 |
| Water Vapor Absorption | Less than 0.04 Vol % | Less than 0.04 Vol % | Less than 0.04 Vol % | Less than 0.04 Vol % | Less than 0.04 Vol % | ASTM C1104 C1104M |
| Fire Performance Non Combustibility Gross Heat of Combustion (Calorific value) | A1 Non-combustible Not exceeding 3.2 MJ/kg | | | | | EN 13501-1 BS EN 1182 BS EN ISO 1716 |
| Melting Point | More than 1000°C | | | | | ASTM E794 |
| Form Factor | Blanket | Blanket | Slab | Slab | Slab | |
| Thickness | 50, 75, 100mm | | | | | EN 822 |
| Width x Length | 1100mm x 5000 / 7500mm* | | | 600mm x 1200mm | | EN 822 |
| Aluminum Foil Facing | Aluminum foil facing on 1 side with 50mm flange on both end along the length. | | | Optional upon request | | |
| Recommended for these common applications | Single skin metal roof for food centre or canteen, usually non air-condition, without walls and highly ventilated environment. Also commonly used in walkways and common pavilion in residential estates | Single skin metal roof for high end residential, to provide a better thermal performance and long term savings on energy bill | Double skin metal roof for industrial, warehouse & factory where higher insulation thickness is designed to be slightly compressed for acoustic damping of the metal roof | Double skin metal roof for exhibition hall, school & educational institute for versatile roof design and high durability | Double skin metal roof for concert hall & airport where high acoustic performance on low sound frequencies are required | |

*Length of RL products subject to the variant selected, please contact your local representatives for more information.
Note: All information and data for technical parameters in this data sheet are based on laboratory testing.

Sound absorption coefficient at octave band (50mm thickness)

| Product | 125 Hz | 250 Hz | 500 Hz | 1000 Hz | 2000 Hz | 4000 Hz | NRC | α _w |
|-------------------------|--------|--------|--------|---------|---------|---------|------|----------------|
| Cool'n'Comfort RL930.FF | 0.10 | 0.30 | 0.70 | 0.95 | 1.00 | 1.00 | 0.75 | 0.60 (MH) |
| Cool'n'Comfort RL940.FF | 0.20 | 0.70 | 1.00 | 1.00 | 1.00 | 1.00 | 1.05 | 1.00 |
| Cool'n'Comfort SL940 | 0.20 | 0.70 | 1.00 | 1.00 | 1.00 | 1.00 | 1.05 | 1.00 |
| Cool'n'Comfort SL950 | 0.20 | 0.75 | 1.00 | 1.00 | 1.00 | 1.00 | 1.05 | 1.00 |
| Cool'n'Comfort SL960 | 0.30 | 0.85 | 1.00 | 1.00 | 1.00 | 1.00 | 1.05 | 1.00 |

*RL930.FF is tested in 25mm thickness



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Disclaimer: The information contained in this data sheet is believed to be correct at the date of publication. ROCKWOOL does not accept responsibility for the consequences of using Cool'n'Comfort™ Blanket & Slab in applications different from those described above.