



# Excellence in METAL ROOF SYSTEMS

## THE FERRUM RANGE

MRC Group is the **ONLY** designer, installer and maintainer of metal roof systems in Africa whose services & works are backed with the 'Guardian' System Warranty.

Metal roof solutions in 'Pierced Fix' & 'Concealed Fix' roof sheeting include:

- Single Skin Roof Systems
- Compressed Insulation Roof Systems
- Over-Roofing Roof Systems
- Double Skin Built Up New Build Roof Systems
- High Security Roof Systems

## GUARANTEES / WARRANTIES



The 'Guardian' System Warranty covers the roof system, junction points AND perimeter details for:

- Design
- Materials
- Workmanship
- Maintenance

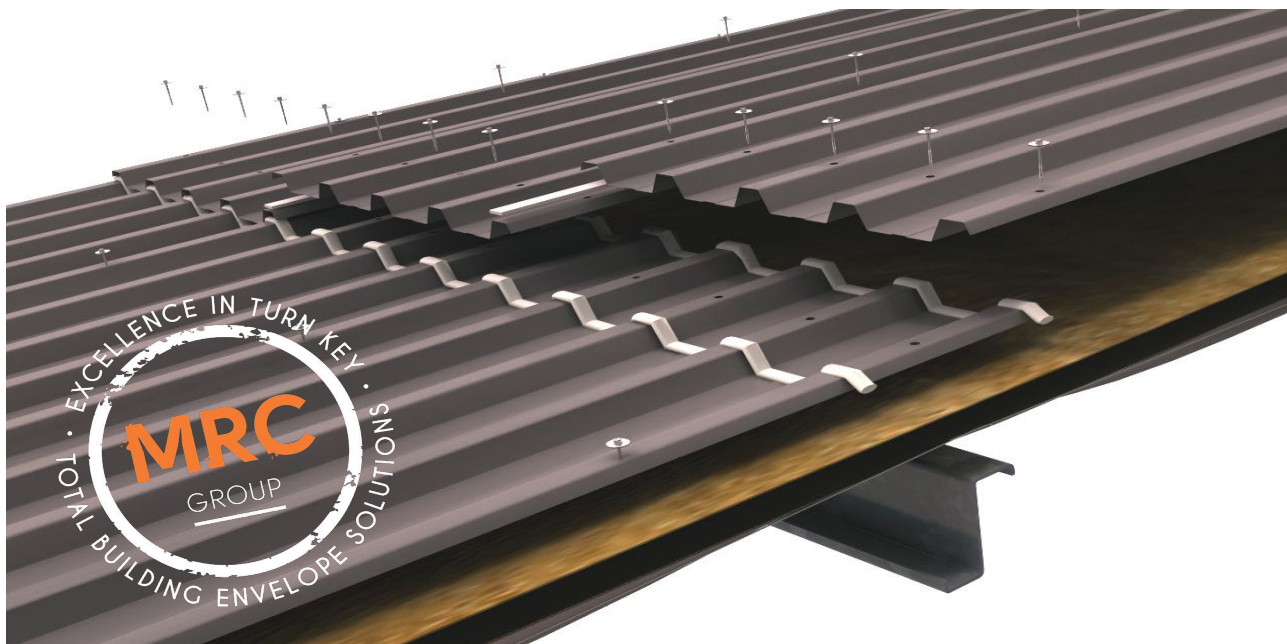


All the above are for the SAME length of term i.e. the workmanship & maintenance match the same length of term as the product guarantee.

The length of term is determined by the product guarantee of the roof sheeting and its location. Typically metal roof systems are up to 20 years.

[www.mrc-group.co.za](http://www.mrc-group.co.za)

# COMPRESSED INSULATION ROOF SYSTEMS



## SYSTEM OVERVIEW

Metal roof system using compressed insulation over purlin using restraining wire to support the insulation.

The compressed insulation can lose up to 40% of its stated uncompressed thermal performance.

Glass wool bulk density insulation has a Fire Classification of Class 1 (non-combustible) with a melting temperature of over 750 degrees °C.

By comparison polystyrene insulation (combustible) panels have a melting temperature of 85 degrees °C.

### 'Pierced Fix' Roof System considerations:

End laps should be sealed with two runs of sealant to ensure no wind driven water ingress from outside or water ingress from internal condensation.

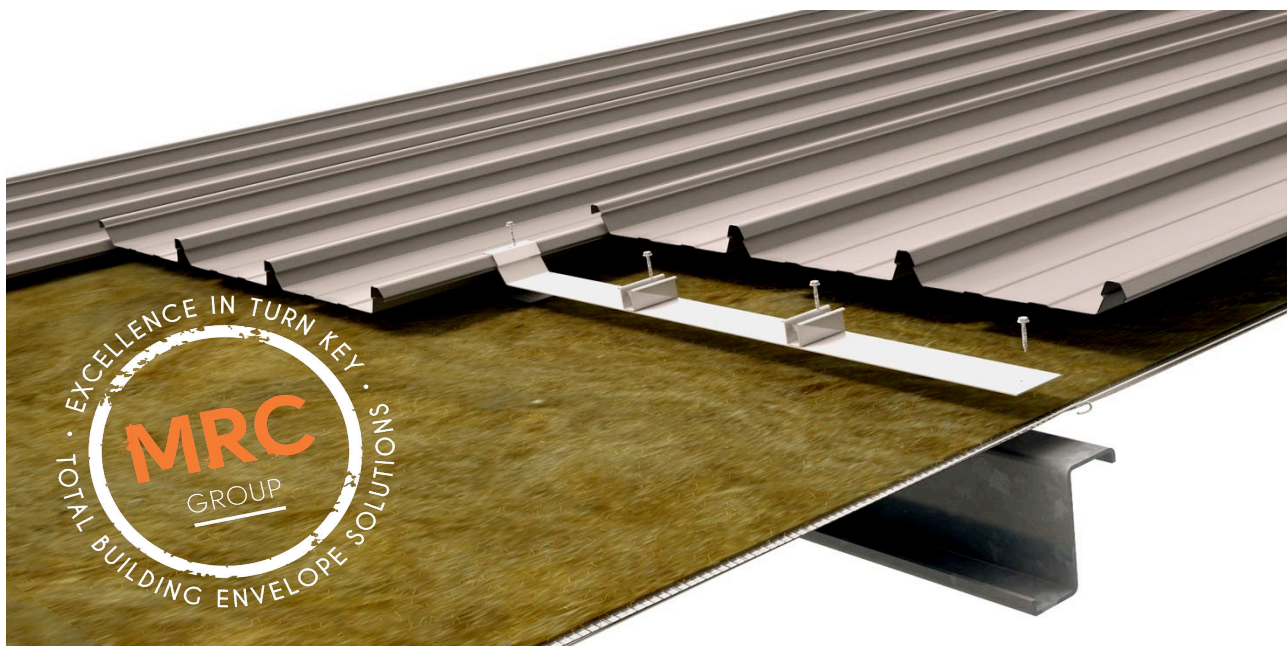
Side laps should be sealed and stitched to ensure no water ingress. Not advisable for roof pitches below 7.5 degrees.

### 'Concealed or Secret Fix' Roof System considerations:

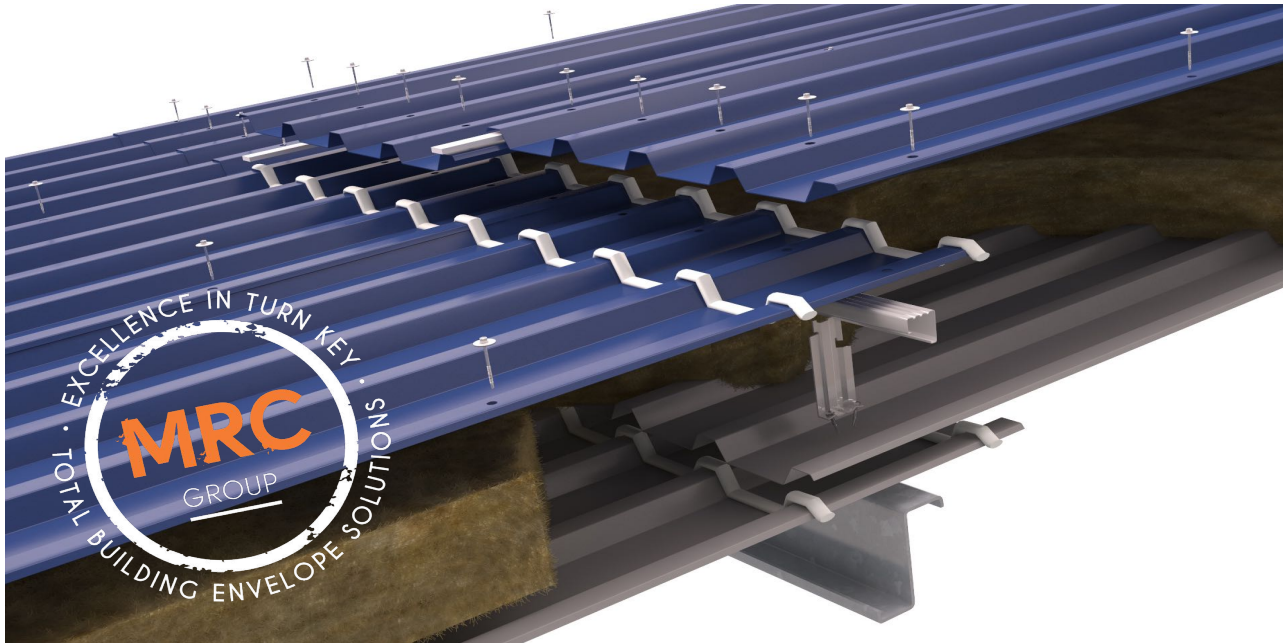
Please note that the use of compressed insulation thicker than 100 mm is **NOT** advised with a 'Secret Fix' Roof System, as it may lead to unclipping of the roof system.

100mm compressed insulation with purlins at 1.8m spacings will provide a 1.5 R-Value ( $\text{m}^2\cdot\text{K}/\text{W}$ ).

Used for roof pitches as low as 2 degrees **UNLESS** there are openings or penetrations in the roof system.



# 'BUILT UP' OR DOUBLE SKIN INSULATED ROOF SYSTEMS



## SYSTEM OVERVIEW

**'Built Up' or Double Skin Metal roof system using over purlin a trapezoidal profile liner sheet and uncompressed insulation.**

R-Values of over  $10 \text{ m}^2.\text{K}/\text{W}$  achievable as the bracket heights range from 60mm to over 300mm. Please note that the insulation is not compressed therefore higher thermal performance can be achieved compared to the compressed insulation systems.

### Acoustic Considerations:

Weighted sound reduction or noise breakout / in is reduced by a minimum of 40dB as a standard. Bespoke system designs can provide over 70dB if required.

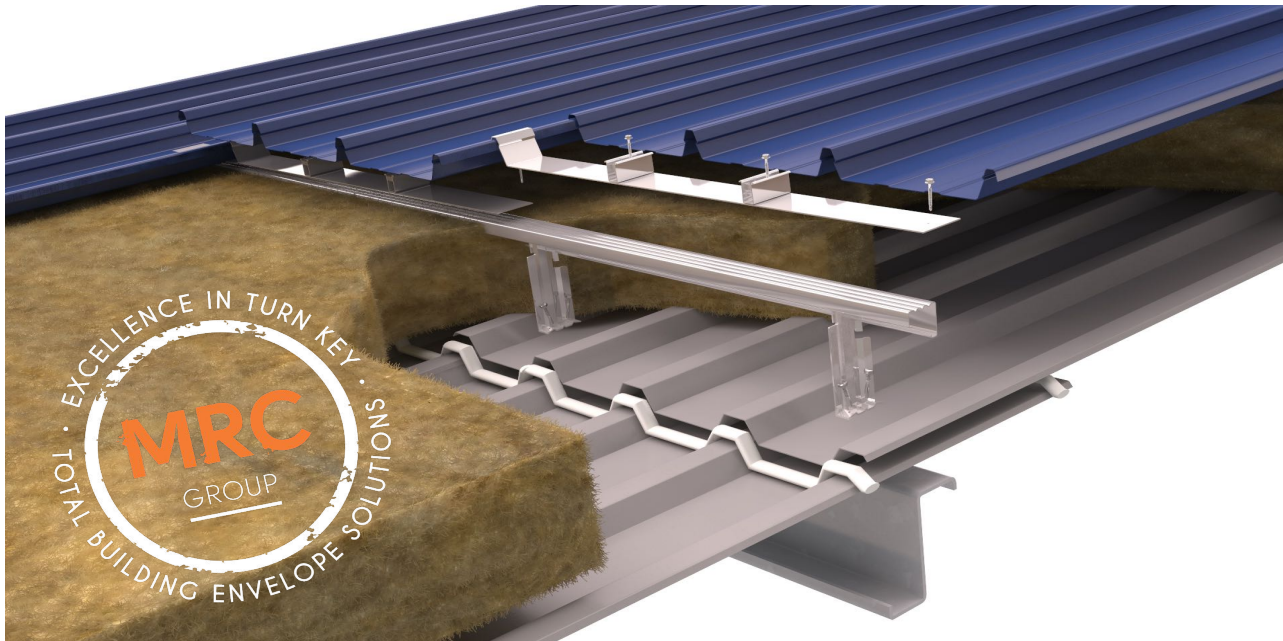
Perforated liner sheets can provide sound absorption solutions.

### Trapezoidal Liner sheet considerations:

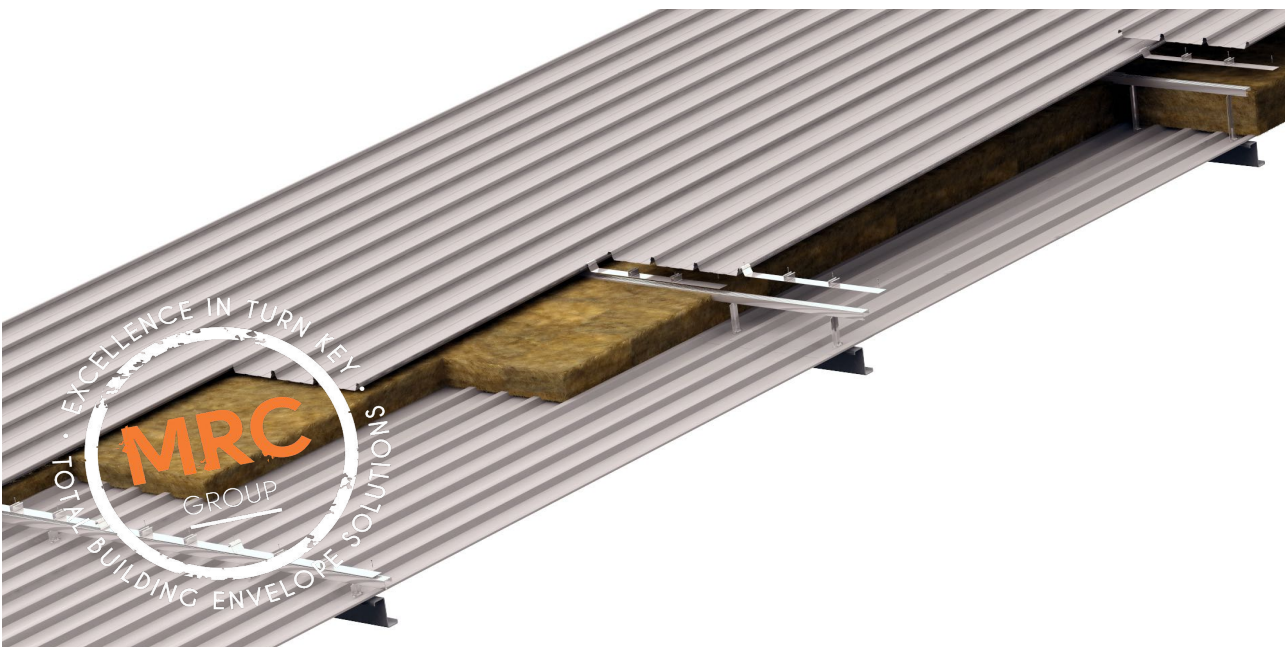
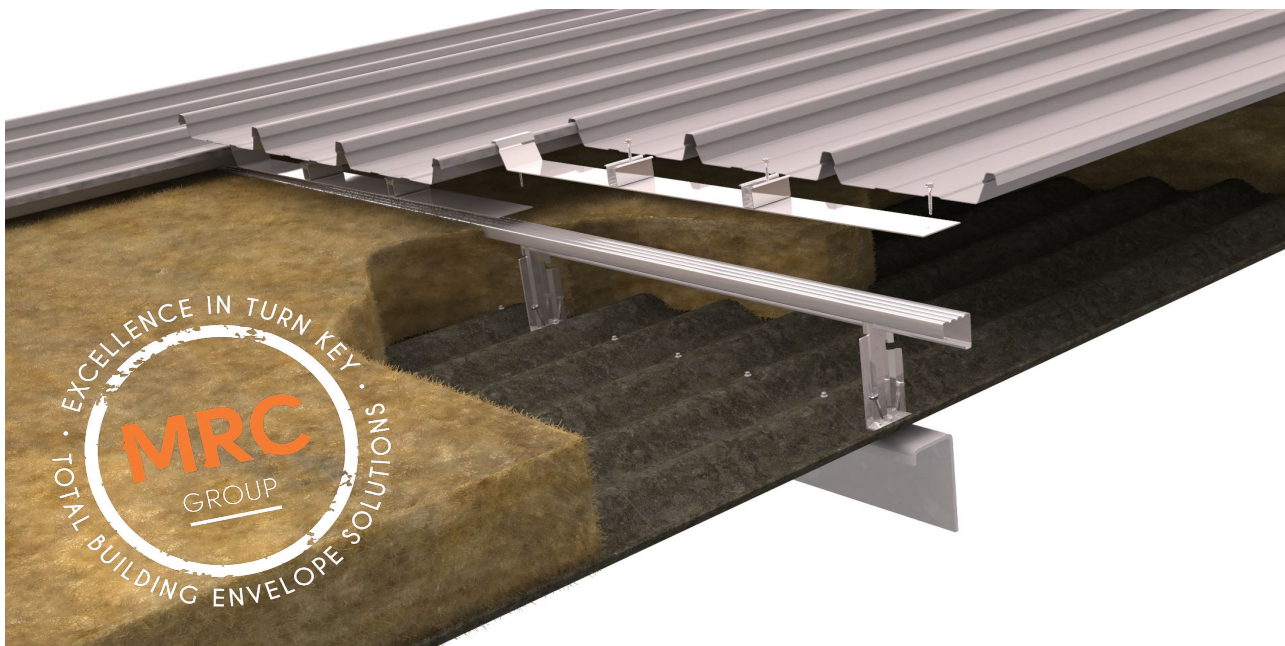
The liner sheet profile provides a walkable platform to install the rest of the roof system, whilst providing a cover for building works to continue beneath, thereby removing the roof off the programme critical path.

The liner sheet provides top flange restraint to the steel purlins and protects the underside of the roof sheeting from wind uplift.

The liner sheet can be sealed to provide an energy efficient airtight roof system ensuring that cool or warm air stays within the building.



# OVER-ROOFING EXISTING ASBESTOS OR METAL ROOFS



## SYSTEM OVERVIEW

**Over-roofing existing asbestos or metal roof systems with the option of upgrading the existing thermal performance by insulating the structural void.**

The patented AshGrid™ System is installed in the troughs of the existing roof sheeting with the brackets fixed directly to the underlying steel or timber purlins, thus creating an engineered, structurally defined cavity between the old and new roof coverings.

The weight of the new roof system and the AshGrid™ system is between 6 – 12 kg/m<sup>2</sup> depending on the material and whether insulation is to be installed or not.

Over-roofing systems are an Ideal roof refurbishment solution as the existing building can stay in operation and there is no requirement to strip & dispose of the existing roof system.

### Increasing the Roof Pitch considerations:

Many existing roofs are installed too low, even though 'concealed or secret' fix roof systems can be laid down to as little as 2 degrees when opening or penetrations are installed wind driven rain can cause water ingress issues.

The AshGrid's range of brackets from 60mm to over 300mm provides the opportunity to increase the pitch of the roof. Should a steeper pitch be required then top hat channel sections can be installed under the brackets.