



ROXUL® SAFE® 55 & 65  
and ROXUL PLUS® MB

Insulation for Pre-Engineered Metal Buildings

# Exterior Wall Insulation for Pre-Engineered Metal Buildings

ROXUL SAFE® 55 & 65 and ROXUL PLUS® MB are non-combustible, high-density insulation products for interior and exterior walls in pre-engineered metal building construction. This stone wool insulation is made from natural stone and recycled content, providing exceptional fire-resistance and energy-saving properties. While similar in thermal insulating properties, each product is designed for specific building applications.



*ROXUL SAFE® 55 & 65 and ROXUL PLUS® MB products are used to insulate walls in pre-engineered metal buildings. ROXUL SAFE® 55 & 65 are ideally suited for zero lot line applications where buildings are in close proximity and fire safety is essential.*

# Assemblies for Zero Lot Line and Exterior Wall Applications

## Basic Concept of a Fire Rated Wall Featuring SAFE® 55 & 65 Insulation in the Wall Assembly

ROXUL SAFE® 55 & 65 are non-combustible, rigid stone wool insulation boards that provide added fire protection for metal buildings in close proximity.

ROXUL SAFE® 55 & 65 are designed for interior or exterior non-load bearing metal panel wall assemblies where a fire resistance rating is required. ROXUL offers the option of one or two hour, single side or double sided fire rated assemblies.



Components: Exterior Metal Cladding, ROXUL SAFE® 55 or 65, Z-Bar Girts, Ceramic Fire Blanket (Z-Girt Cover), Flashing Channels, Wall and Partition Facings/Accessories

Note: For ULC Designs W610 and W611 ceramic strips required on two sides. For actual designs please reference UL/ULC Directories.



ROXUL PLUS® MB is a lightweight, non-combustible, semi-rigid blanket insulation, designed for metal building construction where an hourly fire rating is not required.

Insulating buildings with ROXUL PLUS® MB will help increase energy efficiency, improve thermal stability, and enhance fire protection for the overall comfort and safety of occupants.

That's why ROXUL PLUS® MB is the insulation of choice for today's green builders in commercial construction.



Components: Exterior Metal Cladding, ROXUL PLUS® MB, Z-Bar Girts, Flashing Channels, Wall and Partition Facings/Accessories

*These products also provide superior performance in acoustic assemblies, as well as in applications for mechanical equipment isolation and insulation.*

# Fire Resistance

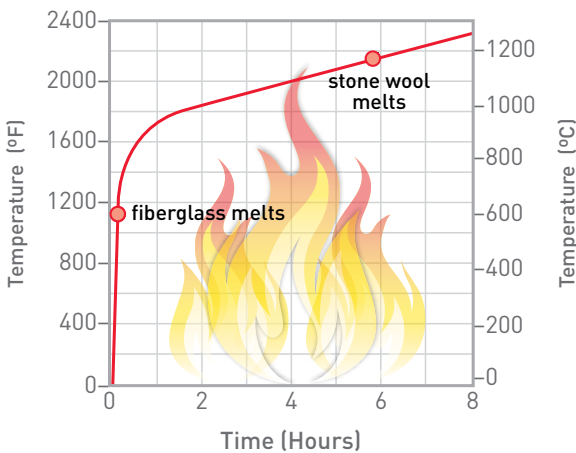
ROXUL SAFE® 55, ROXUL SAFE® 65 and ROXUL PLUS® MB are non-combustible, able to withstand temperatures up to 2150°F (1177°C), and do not produce smoke or propagate flames, providing a critical line of defense in fire protection.

These products provide high temperature fire protection, particularly when a fire separation wall is required.

ROXUL SAFE® 55 & 65's fire resistance ratings allow builders to reduce the required separation and increase the area of buildings in close proximity to each other.



## Temperature Development in a Standard Fire (ASTM E119)



*ROXUL SAFE® 55 & 65 are able to withstand the intense heat of fire approaching 2150°F (1177°C) without melting or burning. They are specifically designed to meet building codes in high density areas where buildings are in close proximity.*

## Fire-Rated Exterior Non-Load Bearing Sheet Steel Walls

Product	Fire Resistance Rating	Fire Protection	UL Design No.	ULC Design No.	Thickness*	W x L
SAFE® 65	1HR	From 1 Side	U654	W605	3" (76 mm) (2 layers)	24" x 48" (610 x 1220 mm)
		From 2 Sides	*Contact ROXUL Technical Services	W610		31.5" x 48" (800 x 1220 mm)
SAFE® 55	2HR	From 1 Side	U655	W606	4" (102 mm) (2 layers)	24" x 48" (610 x 1220 mm)
		From 2 Sides	*Contact ROXUL Technical Services	W611		31.5" x 48" (800 x 1220 mm)

\*ROXUL SAFE® 65 & ROXUL SAFE® 55 products are installed using 2 layers of 3" or 4" material respectively.

# High-Performance Insulation Designed for Pre-Engineered Metal Buildings

## Energy-Saving Thermal Performance

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The excellent thermal properties of ROXUL PLUS® MB, ROXUL SAFE® 55 and ROXUL SAFE® 65 contribute to energy efficient building envelopes helping to reduce ongoing energy costs. ROXUL PLUS® MB delivers consistent thermal performance across the board in metal building wall construction, maintaining an R-value of R4. ROXUL SAFE® 65 and ROXUL SAFE® 55 maintain R-values of R4.2 and R4.3, respectively.



## Water Repellent

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The structure and integrity of ROXUL insulation are not affected by the presence of water. The product is water repellent, resisting the infiltration of water into the system. It is compatible with air/vapor barrier systems to provide an extra layer of protection against moisture and thermal transfer. The product is inorganic and therefore does not rot, corrode, or promote fungi, mold and bacterial growth.

## Superior Sound Absorption

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ROXUL SAFE® 55, ROXUL SAFE® 65 and ROXUL PLUS® MB demonstrate superior sound attenuation characteristics. The unique multi-directional fiber structure and high density effectively trap and dissipate sound waves reducing noise transmission into and out of the building.



# ROXUL SAFE® 55 & 65 Technical Data

## Compliance and Performance

ASTM C612	Mineral Fiber Block and Board Thermal Insulation	Type IVB, Complies
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## Fire Performance

CAN/ULC S411	Test for Non-Combustibility	Non-Combustible
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CAN/ULC S102	Surface Burning Characteristics	Flame Spread = 0 Smoke Developed = 0
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## Maximum Service Temperature

ASTM C411	Hot Surface Performance	In Compliance with ASTM C612 @ 1200°F (650°C)
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## Dimensional Stability

ASTM C356	Linear Shrinkage	<1% @ 1200°F (650°C)
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## Moisture Resistance

ASTM C1104	Moisture Sorption	0.04%
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## Thermal Resistance

SAFE® 65 ASTM C518 [C 177]	R-value/inch @75°F RSI value/25.4 mm @25°C	4.2 hf. ft². F/BTU 0.74 m²K/W
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SAFE® 55 ASTM C518 [C 177]	R-value/inch @75°F RSI value/25.4 mm @25°C	4.3 hf. ft². F/BTU 0.76 m²K/W
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## Corrosive Resistance

ASTM C665	Corrosiveness to Steel	Pass
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ASTM C795	Stainless Steel Stress Corrosion Specification as per Test Methods C871 and C692: U.S. Nuclear Regulatory Commission, Reg. Guide #1.36: U.S. Military Specifications – 24244 [all versions including B and C]	Conforms
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## Dimensions

24" W x 48" L (610 mm x 1219 mm) 31.5" W x 48" L (800 mm x 1219 mm) 32" W x 48" L (813 mm x 1219 mm)
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## Thickness

ROXUL SAFE® 65 ROXUL SAFE® 55	3" (76 mm) Thickness 4" (102 mm) Thickness
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# ROXUL PLUS® MB Technical Data

## Compliance and Performance

ASTM C553	Standard Specification for Mineral Fiber Blanket Thermal Insulation for Commercial and Industrial Applications	Type I, II, III
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## Fire Performance

CAN/ULC S102	Surface Burning Characteristics	Flame Spread = 0 Smoke Developed = 0
ASTM E84 (UL 723)	Surface Burning Characteristics	Flame Spread = 0 Smoke Developed = 0
CAN4-S114	Determination of Non-Combustibility	Non-Combustible

## Maximum Service Temperature

ASTM C411	Maximum Recommended Use Temperature	450°F (232°C)
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## Dimensional Stability

ASTM C356	Linear Shrinkage	0.74 % @ 450°F (232°C)
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## Moisture Resistance

ASTM C1104	Water Vapor Sorption	0.028%
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## Thermal Resistance

ASTM C518 (C177)	R-value/inch @ 75°F RSI value/25.4 mm @ 24°C	4.0 hf. ft <sup>2</sup> . F/BTU 0.71 m <sup>2</sup> K/W
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## Corrosive Resistance

ASTM C665	Corrosiveness to Steel	Pass
ASTM C795	Stainless Steel Stress Corrosion Specification as per Test Methods C871 and C692: U.S. Nuclear Regulatory Commission, Reg. Guide #1.36: U.S. Military Specifications MIL-I-24244 (all versions including B and C)	Conforms

## Dimensions

24" W x 48" L (610 mm W x 1219 mm L)	Product thickness available in 2" through 4" in ½" increments as well as 5" and 6" offerings.	
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## Density

ASTM C612-00	2.0 lbs/sq.ft. <sup>3</sup> 32 kg/m <sup>3</sup>	
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# A Global Leader

ROXUL Inc. is a subsidiary of ROCKWOOL International A/S, the world's leading supplier of innovative products and systems based on stone wool. ROCKWOOL International A/S is a publicly held company, which trades on the NASDAQ OMX Nordic Exchange Copenhagen. Operating 28 factories in 18 countries, the ROCKWOOL Group employs more than 10,000 people and features a global network of sales companies, trade offices and dedicated commercial partners. ROXUL® products provide superior thermal and acoustical value and are fire resistant, water repellent, non-corrosive, and resistant to mold.

For more, visit [ROXUL.com](http://ROXUL.com)

## ROXUL is the Better Insulation Choice

ROXUL insulation is innovative, offering a world of green features. Sustainability is a fundamental pillar of our philosophy at ROXUL. We are proud to have our products used in projects targeting LEED® certification, as they can contribute both to energy efficiency and materials credits. For more information, we recommend reading the applicable LEED Reference Guide for detailed descriptions of all credits.

### Find out more about how we can assist with your design projects.

A ROXUL representative will be pleased to provide you with further details on the products described in this brochure, and can also update you with comprehensive information on the entire line of ROXUL products.

Visit our website at [ROXUL.com](http://ROXUL.com), or contact us directly at **1-800-265-6878**.



## Environmentally Sustainable

Our stone wool production process uses some of the most advanced technology available. The last decade has seen a new generation of ROXUL manufacturing advancements designed to lower our environmental footprint. These endeavors have included:

- the capture and recycling of rainwater;
- reduction in energy consumption;
- recycling of raw materials back into the production process;
- the use of natural lighting in our facilities; and
- repurposing water used during the manufacturing process.

We are proud that these steps have minimized our impact on the environment and surrounding community resources. But our green programs don't stop there.

ROXUL insulation is created using naturally occurring inorganic raw materials, and reuses waste from other manufacturers as well as from our own plants. Stone wool insulation is non-combustible and achieves its thermal performance without the use of blowing agents. Therefore, our products do not off-gas over time. This feature alone makes a substantial contribution to a cleaner environment.

To remain efficient and environmentally friendly, each ROXUL plant uses a varying combination of new and recycled content. For example, as a direct result of producing less manufacturing waste during the production process, we are able to use up to 40 per cent recycled content. Our continuing effort to improve our overall efficiencies further solidifies our commitment to environmental stewardship within our organization.



Fire Resistant



Water Repellent



Saves Energy



Sound Absorbent



Easy Fit



Made from Stone