

**General Product Information:**

ROXUL<sup>®</sup> products are mineral wool fiber insulations made from basalt rock and slag. This combination results in a non-combustible product with a melting point of approximately 2150°F (1177°C), which gives it excellent fire resistance properties. ROXUL mineral wool is a water repellent yet vapor permeable material.

**Description & Common Applications:**

ROXUL MONOBOARD<sup>®</sup> Plus is a rigid, single density, dimensionally stable, mineral wool insulation board coated with a top layer of bitumen; compatible with torch, hot, cold applied and fully adhered roof systems. It is intended for commercial and industrial roofs and is suitable for new roof, re-roof and re-cover applications as an insulation coverboard.

**Compliance and Performance:**

ASTM C726	Standard Specification for Mineral Fiber Roof Insulation Boards	Complies***
FM Approvals 4470	Approval Standard for Single-Ply, Polymer-Modified Bitumen Sheet, Built-Up Roof (BUR) and Liquid Applied Roof Assemblies for use in Class 1 and Noncombustible Roof Deck Construction	Complies
FM Approvals 4470	NCC – (Noncombustible Core) Rated Roof Insulation	Complies

**Fire Performance:**

NFPA 276	Standard Method of Fire Tests for Determining the Heat Release Rate of Roofing Assemblies with Combustible Above-Deck Roofing Components	Class 1
CAN4 S114	Test for Non-Combustibility	Non-Combustible
CAN/ULC-S107-03	Fire Tests of Roof Coverings	Class A
CAN/ULC-S126-06	Fire Spread Under Roof Deck Assemblies	Construction C7, C18, C28, C38
ASTM E 84 (UL 723)	Surface Burning Characteristics***	Flame Spread = 0 Smoke Developed = 0
CAN/ULC S102	Surface Burning Characteristics***	Flame Spread = 0 Smoke Developed = 0
UL 790 (ASTM E 108)	Standard Test Methods for Fire Tests of Roof Coverings See UL Roofing and Materials Directory for Assembly Details	Class A
UL 263 (ASTM E 119)	Fire Tests of Building Construction and Materials See UL Fire Resistance Directory at the following link for assembly details: <a href="http://database.ul.com/cgi-bin/XYV/template/LISCANADA/1FRAME/index.html">http://database.ul.com/cgi-bin/XYV/template/LISCANADA/1FRAME/index.html</a> P004, P213, P214, P225, P228, P230, P237, P238, P242, P245, P250, P254, P259, P404, P409, P501, P502, P504, P506, P508, P510, P512, P514, P701, P708, P710, P711, P718, P729, P732, P734, P735, P737, P740, P801, P810, P815, P828, P904, P909, P912, P915.	

**Dimensional Stability:**

ASTM C 356	Linear Shrinkage 24 Hrs. @ 1200°F (650°C)	1.1 %
ASTM D 2126	Linear change 7 days @ 40°F (-40°C) ambient RH	0.0 %
	Linear change 7 days @ 200°F (93°C) ambient RH	0.1 %
	Linear change 7 days @ 158°F (70°C) 97% RH	0.1 %

**Hail Performance:**

FM 4470	Test Standard for Susceptibility to Hail Damage	Class 1 – SH (Severe Hail)
FM 4473	Impact Resistance by Impacting with Freezer Ice Balls	Class 4
UL 2218	Impact Resistance of Prepared Roof Covering Materials	Class 4

**Moisture Resistance:**

ASTM C 1104	Water Vapor Sorption	0.29 %
ASTM E 96	Water Vapor Transmission, Desiccant Method	2360 ng/Pa.s.m <sup>2</sup> (41 Perm)
ASTM C 209	Water Absorption	<1.0 %

**Thermal Resistance:**

ASTM C 518 (C 177)	Mean Temperature	R-value	RSI value
	25°F (-4°C)	4.4 hr.ft <sup>2</sup> .F/Btu	0.77 m <sup>2</sup> K/W
	40°F (4°C)	4.3 hr.ft <sup>2</sup> .F/Btu	0.75 m <sup>2</sup> K/W
	<b>75°F (24°C)</b>	<b>4.0 hr.ft<sup>2</sup>.F/Btu</b>	<b>0.70 m<sup>2</sup>K/W</b>
	110°F (43°C)	3.7 hr.ft <sup>2</sup> .F/Btu	0.66 m <sup>2</sup> K/W

\*MASTER FORMAT 1995 EDITION \*\*MASTER FORMAT 2004 EDITION \*\*\* all tests based on uncoated mineral wool

**Corrosive Resistance:**

ASTM C 665	Corrosiveness to Steel	Non-corrosive
ASTM C 795 ****	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)	Non-corrosive

**Acoustical Performance:**

ASTM C 423		CO-EFFICIENTS AT FREQUENCIES					
Thickness	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	NRC
1.0"	0.13	0.49	0.85	0.89	0.89	0.97	0.80

**Compressive Strength:**

ASTM C 165	at 10%	12 psi	(85 kPa)
(1" thickness)	at 25%	28 psi	(190 kPa)

**Density:**

ASTM C 612-09 – Actual    12.5 lb/ft<sup>3</sup>    200 kg/m<sup>3</sup>

**Dimensions:**

48" (width) x 48" (length)  
 1219 mm (width) x 1219 mm (length)

**Thickness:**

nominal 1 inch - actual 1.04" inch (26.5 mm)

**Key Application Qualifiers:**

- Will not promote blistering
- Does not off gas
- Will not warp or cup
- Dimensionally stable
- High impact resistance
- Low moisture sorption
- Non-corrosive
- Long term stable R-value
- Noncombustible
- Excellent acoustical properties
- Made from natural & recycled materials

**Limitations:**

This product should not be exposed to inclement weather during shipment, storage or installation. At the completion of a day's work, all exposed edges should be temporarily sealed by lapping roof membrane over them. The products are not intended for use as a structural roof deck or for use under heavy traffic areas.

**On-Site Storage:**

The factory packaging is intended for the protection of the insulation boards during transit and is not intended for job site protection against the elements. When product is stored outdoors, the plastic shroud must be slit and the insulation protected by a waterproof, breathable covering such as a tarpaulin. Insulation must be stored minimum 4 in. (102 mm) above ground and kept on a solid flat surface.

**Other ROXUL Products:**

Please consult ROXUL for all your insulation needs. We have an extensive range of products for all applications from pipe insulation to commercial products to residential batts. ROXUL invites all inquiries and will act promptly to service all of your requirements.

\*\*\*\* "Provisions for lot testing may be required, consult manufacturer."

**Note:**

As ROXUL Inc. has no control over installation design and workmanship, accessory materials or application conditions, ROXUL Inc. does not warranty the performance or results of any installation containing ROXUL Inc's. products. ROXUL Inc's. overall liability and the remedies available are limited by the general terms and conditions of sale. This warranty is in lieu of all other warranties and conditions expressed or implied, including the warranties of merchantability and fitness for a particular purpose.

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