

Technical Data Sheet



Protec (flat or tapered panels)



Available
Flat or
Tapered



BOARD INSULATION 15080*
MINERAL BOARD INSULATION
07 21 13**
ROOF INSULATION 07 22 00**

Tapered product slope: 1% (1/8"), 2% (1/4"), 4% (1/2") or greater available upon request

Description:

Protec, a water repellent yet vapor permeable roofing insulation, is a rigid, ROXUL® mineral wool fibre board manufactured from basalt rock and steel slag, having a melting point of approximately 2150°F (1177°C). An environmentally friendly product, Protec is CFC and HCFC free. This product is available flat, tapered, butt edge or shiplap.

Common Application:

Protec, a single density stone wool insulation panel, is intended for use with standing seam metal roof systems. It is also used with mechanically attached membrane systems and may be used for insulated curbs for roof top mechanical units and rooftop duct work. Another use is to protect high performance plastic insulations from thermal cycling.

Compliance and Performance:

ASTM C726	Standard Specification for Mineral Fiber Roof Insulation Boards	Complies***
FM Approvals 4450/4470	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 E108)	Standard Test Methods for Fire Tests of Roof Coverings	Class A
UL 263 (ASTM E119)	See UL Roofing and Materials Directory for Assembly Details Fire Tests of Building Construction and Materials See UL Fire Resistance Directory at the following link for assembly details: http://database.ul.com/cgi-bin/XYV/template/LISCANADA/1FRAME/index.html 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 %

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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.m2 (41 Perm)
ASTM C 209	Water Absorption	<1.0 %

Thermal Resistance:

ASTM C 518 (C 177)	Temperature	R-value	RSI value	Note that as testing temperatures decrease, the R-value increases. ↓ Temperature = ↑ R-value
	25°F (-4°C)	4.4 hr.ft².F/Btu	0.77 m²K/W	
	40°F (4°C)	4.3 hr.ft².F/Btu	0.75 m²K/W	
	75°F (24°C)	4.0 hr.ft².F/Btu	0.70 m²K/W	
	110°F (43°C)	3.7 hr.ft².F/Btu	0.66 m²K/W	

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 C423		CO-EFFICIENTS AT FREQUENCIES						NRC
Thickness	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz		
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 lbs/ft³	200 kg/m³
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Dimensions:

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

Thickness:

Nominal 1 inch - actual 1.04 inch (26.5 mm)

Do not expose **Protec** by ModulR TS to weather during shipment, storage or installation. At completion of day's work, seal all exposed edges. It is not intended for use as a structural roof deck. To avoid damage from construction traffic and material transportation install adequate protective boardwalks over installed roofing materials to enable passage of people and products not limited to the roofing project.

*MASTER FORMAT 1995 EDITION **MASTER FORMAT 2004 EDITION *** all tests based on uncoated mineral wool **** "Provisions for lot testing may be required, consult manufacturer."

ModulR TS Inc. reserves the right to change the above specifications without prior notice.