ModulRTS

Ontario Office
21 Scott Ave. P.O.Box 248
Paris, ON. N3L 3G2

Technical Data Sheet

Protec-X2 (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") other slopes available upon request

Description:
Protec-X2, a water repellent yet vapor permeable roofing insulation, is a rigid, ROCKWOOL® mineral wool fibre board with a higher density top layer for durability and enhanced strength, formed as a monolithic structure, manufactured from basalt rock and steel slag, having a melting point of approximately 2150°F (1177°). Protec-X2 is CFC and HCFC free and available flat, tapered, butt edge or shiplap.

Common Application:
Protec-X2, a dual-density stone wool insulation panel is intended for both new building and re-roofing applications, for use with mechanically fastened or ballasted traditional and single ply membranes systems in commercial and industrial roof applications.

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	
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 See UL Roofing and Materials Directory for Assembly Details	Class A
UL 263 (ASTM E119)	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)	0.71 %
ASTM D 2126	Linear change 7 days @ 40°F (-40°C) ambient RH	0.1 %
	Linear change 7 days @ 200°F (93°C) ambient RH	0.1 %
	Linear change 7 days @ 158°F (70°C) 97% RH	0.0 %

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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	0.15 %
ASTM E 96	Water Vapor Transmission, Desiccant Method	2330 ng/Pa.s.m^2 (41 Perm)
ASTM C 209	Water Absorption	<1.0 %

Thermal Resistance:
ASTM C 518 (C 177)

Temperature	R-value/inch	RSI value/25.4 mm
25°F (-4°C)	4.3 hr.ft².F/Btu	0.74 m²K/W
40°F (4°C)	4.2 hr.ft².F/Btu	0.72 m²K/W
75°F (24°C)	**3.8 hr.ft².F/Btu**	**0.68 m²K/W**
110°F (43°C)	3.6 hr.ft².F/Btu	0.64 m²K/W

Note that as testing temperatures decrease, the R-value increases.

↓ Temperature = ↑ R-value

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						
Thickness	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	NRC
2.0”	0.50	0.71	0.85	0.89	0.90	1.01	0.85

Compressive Strength:

ASTM C 165 (top layer)	at 10%	20 psi (140 kPa)	ASTM C 165 (entire board)	at 10%	11 psi (75 kPa)	Point Load @ 5mm compression	30 psi (205 kPa)
	at 25%	37 psi (250 kPa)		at 25%	15 psi (105 kPa)		EN 12430

Density:
ASTM C 303 – Actual Top Layer 13.75 lbs/ft^3 (220 kg/m^3) Bottom Layer 10.0 lbs/ft^3 (160 kg/m^3)

Dimensions:
48” (width) x 48” (length)
1219 mm (width) x 1219 mm (length)

Thickness:
Product thickness is available in 2” to 6” with 1/2” increments

Do not expose **Protec-X2** 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.

1-800-908-9899 / www.modulrts.com / contact.us@modulrts.com

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