Poly ISO 2
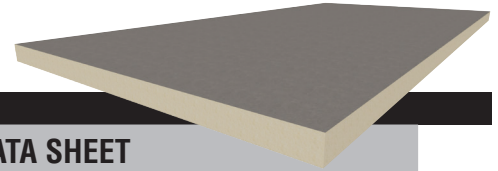## Roof Insulation

DESCRIPTION

MuleHide Poly ISO 2™ (flat) and Poly ISO 2™ (Tapered) insulations consist of a closed-cell polyisocyanurate foam core laminated to heavy, (non-asphaltic) glass fiber reinforced felt facers. Poly ISO 2 insulations are compatible with all MuleHide membranes and accessories and are available in 20 and 25 psi densities.

BASIC USES

MuleHide Poly ISO 2™ insulation boards may be used for ballasted, mechanically attached and fully adhered single-ply roofing systems. Poly ISO 2 insulation board may be installed over approved decks and substrates on new construction, tearoffs, and recover (retrofit) projects. Rated for use in UL Class A and FM Class 1 assemblies.

BENEFITS & SUPPLEMENTAL STATEMENTS

- Approved for direct application to steel decks
- MuleHide Poly ISO 2™ is manufactured using CFC-, HCFC-, and HFC-free foam blowing technology with zero ozone depletion potential (ODP) and virtually no (negligible) global warming potential (GWP)
- Available as 4' x 4' or 4' x 8' panels in Grade 2 (20 psi) or Grade 3 (25 psi)
- Thicknesses range from 1" to 4.5"
- Contains between 52.9% and 27.6% recycled materials by weight

PACKAGING

Factory applied packaging is only intended for protection during transit. When stored outside or at the job site, the insulation must be stored at least 4" above ground level and completely covered with a weatherproof covering such as a tarpaulin. **Warning - Do Not Leave Exposed:** This product will burn if exposed to an ignition source of sufficient heat and intensity, or an open flame.

CODE APPROVALS/COMPLIANCE

Poly ISO 2™ complies with the requirements of the following specifications, test and code requirements when properly installed.

- ASTM C 1289, Type II, Class 1, Grade 2 (20 psi) or Grade 3 (25 psi)
- CAN/ULC-S704 Type 2, Class 3 or Type 3, Class 3 CCMC No. 12464-L
- FM Standard 4450/4470 Approval, Class 1
- UL Standard 1256 Classification
- UL Standard 790 Classification
- UL Standard 263 Fire Resistance Classification
- UL Standard 1897 Uplift Resistance
- IBC Chapter 26 and NBC Sections on Foam Insulation

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TYPICAL PHYSICAL PROPERTIES (FLAT & TAPERED)

Property	Test Method	Typical Result
Dimensional Stability	ASTM D2126	<2% Linear Change
Compressive Strength	ASTM D1621 (10% deformation)	20 PSI (Grade 2) 25 PSI (Grade 3)
Water Absorption	ASTM C209, ASTM D2842	< 1.5%, <3.5%
Water Vapor Transmission	ASTM E96	< 1.5 Perm
Product Density	ASTM D1622	Nominal 2 lbs./cubic ft.
Flame Spread (Foam Core)	ASTM E84	40 to 60*
Smoke Development	ASTM E84	50 to 170*
Service Temperature	--	-100°F to 250°F Max**
Tensile Strength	ASTM D1623	>730 psf (35 kPa)

*The numerical ratings are determined by ASTM Test Method E-84 are not intended to reflect hazards presented by this or any other material under actual fire conditions. A flame spread index of 75 or less and smoke development of 450 or less meet code requirements regarding flame spread and smoke development for foam plastic roof insulation. However, the codes exempt foam plastic insulation when used in roof deck constructions that comply as an assembly with FM 4450 or UL 1256 (see IBC, NBC, UBC and SBS Sections on Foam Plastic Insulation (Chapter 26). Smoke development does not apply to roofing.

**ASTM C1289 Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation. The physical properties above are presented as typical average values as determined by accepted ASTM test methods and are subject normal manufacturing variation.

POLY ISO 2 (FLAT)

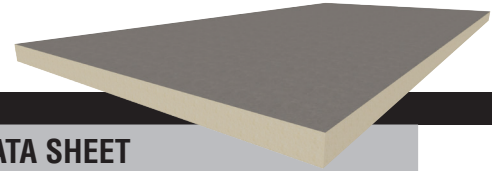| Nominal Thickness*	(mm)	LTTR R-Value	RSI	Flute Spanability
1.0	25.4	5.7	1.00	2-5/8
1.5	38.1	8.6	1.51	4-3/8
2.0	50.8	11.4	2.01	4-3/8
2.5	63.5	14.4	2.53	4-3/8
2.6	66	15	2.63	4-3/8
3.0	76.2	17.4	3.06	4-3/8
3.5	88.9	20.5	3.61	4-3/8
4.0	101.6	23.6	4.16	4-3/8

Long Term Thermal Resistance Values are based on ASTM C1289 (revised Jan-2014) and CAN/ULC S770 which provides for a 15-year time weighted average.

*Other thicknesses available upon special request.

POLY ISO 2 (TAPERED)

Nominal Thickness*	(mm)	LTTR R-Value	RSI	Slope Per Ft.
0.5-1.0	12-25	4.3	0.76	1/8"
1.0-1.5	25-38	7.1	1.25	1/8"
1.5-2.0	38-50	10.0	1.76	1/8"
2.0-2.5	50-63	12.9	2.27	1/8"
0.5-1.5	12-38	5.7	1.00	1/4"
1.5-2.5	38-63	11.4	2.01	1/4"
0.5-2.5	12-63	8.6	1.51	1/2"

Long Term Thermal Resistance Values are based on ASTM C1289 (revised Jan-2014) and CAN/ULC S770 which provides for a 15-year time weighted average.

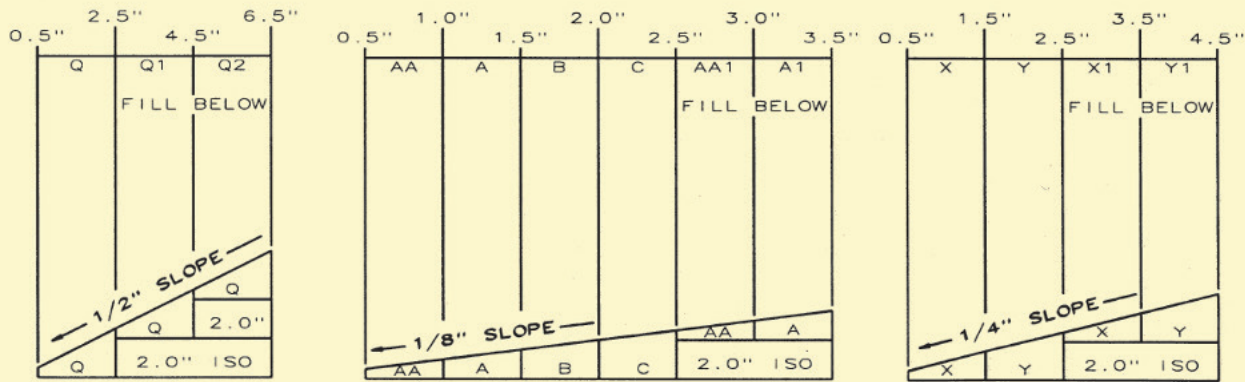*Other thicknesses MAY be available upon special request.

PROFILES

- California State Insulation Quality Standards and Title 25 Foam Flammability Criteria (license #T1231)
- Has achieved GREENGUARD GOLD Certification UL 2818

MuleHide Poly ISO 2 is manufactured using CFC-, HCFC-, and HFC-free foam blowing technology with zero ozone depletion potential (ODP) and virtually no (negligible) global warming potential (GWP).

INSTALLATION INSTRUCTIONS

Ballasted Single-Ply Membrane Systems - MuleHide Poly ISO 1™ does not require attachment to the deck in this system. All boards must be tightly fitted together to prevent movement, separation or damage during the installation of the membrane system. All gaps greater than 1/4" must be filled. After the membrane is installed, sufficient amounts of ballast must be applied to prevent membrane and insulation movement. Refer to the MuleHide Manual and FM Loss Prevention Data Sheet 1-29 for information regarding ballasting guidelines.

Mechanically Attached Single-Ply Membrane Systems - MuleHide Poly ISO 1™ should be attached with MuleHide fasteners and insulation plates (or FM Approved fasteners) using a minimum of 4 fasteners per 4'x 4' board (1 fastener per 4 square feet) and a minimum of 6 fasteners per 4'x 8' board (1 fastener per 5.33 square feet). Refer to the MuleHide Manual for proper fastener placement.

Fully Adhered Single-Ply Membrane Systems - MuleHide Poly ISO 1™ should be installed with the perforated side down. Insulation attachment will vary depending upon insulation thickness and job requirements. If the top layer is less than 2" thick, install a minimum of 8 fasteners per 4'x 4' board (1 fastener per 2 square feet) and a minimum of 16 fasteners per 4'x 8' board (1 fastener per 2 square feet). If the top layer is 2" thick or thicker, install 4 fasteners per 4' x 4' or 8 fasteners per 4' x 8' insulation board. Refer to the MuleHide Manual for proper fastener density and placement. Additional fastening may be required for certain job conditions. In some instances hot steep asphalt or insulation adhesive

may be used to attach the MuleHide Poly ISO 1 to approved concrete decks. Only 4'x 4' boards may be used. Contact MuleHide's Technical Department for specific requirements and procedures.

PROTECTION & SAFETY

MuleHide maintains Safety Data Sheets on all of its non-exempt products. Safety Data Sheets contain health and safety information for your development of appropriate product handling procedures to protect your employees and customers. MuleHide's Safety Data Sheets should be read and understood by all of your supervisory personnel and employees before using MuleHide products in your facilities.

ADDITIONAL INFORMATION

The information given on this PDS is subject to change without notice. Always check the MuleHide website at www.mulehide.com for the latest information, changes and updates or contact MuleHide at 800-786-1492.