



# Product Data Sheet

## MULE-HIDE FR 60 AND 90 MIL EPDM MEMBRANE (PRE-CLEANED)

### **PRODUCT DESCRIPTION**

Mule-Hide 60 and 90 mil thick FR EPDM membranes (Pre-Cleaned) are high performance non-reinforced membrane that stands up to tearing, impacts, punctures and normal roof traffic. The elastomeric properties of the EPDM membrane compensate for thermal shock and building movement. EPDM membranes provide excellent resistance to ozone and aging. The membrane is manufactured in accordance with the guidelines established by the RMA (Rubber Manufacturers Association) and meets or exceeds the ASTM Standard Specification D 4637. Fire Retardant (FR) EPDM membranes are specially formulated to inhibit spread of flame and meet or exceed code body testing criteria for fire retardant roofing membranes.

Mule-Hide EPDM (Pre-Cleaned) membranes are available with in-seam tape that is pre-applied to the sheet

### **BASIC USES**

Can be used as a elastomeric single-ply roofing membrane for new construction and re-roofing applications. Pre-Cleaned 60 and 90 mil membranes are used primarily in Fully Adhered roofing systems, but can also be Ballasted.

### **SPECIFICATIONS** Mule-Hide 60-mil and 90-mil Thick FR EPDM Membranes (Pre-Cleaned)

Physical Properties	Test Method	Specification	Typical
Tolerance on Nominal Thickness, %	ASTM D 412	+ 10	+ 10
Weight, lbm/ft <sup>2</sup> (kg/m <sup>2</sup> ) .060 .090			0.35 (1.7) 0.59 (2.9)
Tensile Strength, min, psi(Mpa)	ASTM D 412	1305 (9)	1600 (11.0)
Elongation, Ultimate, min, %	ASTM D 412	300	465
Tear Strength, min, lbf/in (kN/m) - (Die C)	ASTM D 624	150 (26.3)	200 (35.0)
Factory Seam Strength, min.	ASTM D 816 (Modified)	Membrane Rupture	Membrane Rupture
Resistance to Heat Aging* Properties after 4 weeks @ 240°F(116°C)	ASTM D 573		
Tensile Strength, min, psi(MPa)	ASTM D 412	1205(8.3)	1450(10.0)
Elongation, Ultimate, min, %	ASTM D 412	200	280
Tear Resistance, min, lbf/in(kN/m)	ASTM D 624	125(21.9)	215 (37.6)
Linear Dimensional Change, max, %	ASTM D 1204	+ 1.0	-0.5
Ozone Resistance* Conditions after exposure 100 pphm Ozone in air for 168 hrs @ 104°F(40°C) Specimen is at 50% strain	ASTM D 1149	No Cracks	No Cracks
Brittleness Temp., max, deg. F (deg.C)	ASTM D 746	-49 (-45)	-49 (-45)
Resistance to Water Absorption* After 7 days immersion @ 158°F (70°C), Change in mass, max, %	ASTM D 471	+8, -2	+2.0
Water Vapor Permeability* MAX. perm mils	ASTM E 96 (Proc. B or BW)	0.10	0.03
Flexibility / Torsion DMA @ -40°F	ASTM D5279	N/A	225 MPa
Resistance to Outdoor (Ultraviolet) Weathering Xenon-Arc, total irradiate exposure at 0.70 W/m <sup>2</sup> irradiance,176°F (80°C) black panel temperature	ASTM G 155	No Cracks No Cracking 7,560 kJ/m <sup>2</sup> 3,000 hours	No Cracks No Cracking 41,580 kJ/m <sup>2</sup> 16,500 hours
At 0.35 W/m <sup>2</sup> irradiance, 176°F (80°C) black panel temperature		6,000 hours	33,000 hours

--See continued on next page--



# Product Data Sheet

## MULE-HIDE FR 60 AND 90 MIL EPDM MEMBRANE (PRE-CLEANED)

### SPECIFICATIONS (Continued)

\*Not a Quality Control Test due to the time required for the test or complexity of the test. However, all tests are run on a statistical basis to ensure overall long-term performance of the sheeting.

Typical properties and characteristics are based on samples tested and are not guaranteed for all samples of this product. This data and information is intended as a guide and does not reflect the specification range for any particular property of this product.

### LEED Information

Recycle Content – Pre-consumer	5%
Recycle Content – Post-consumer	0%
Manufacturing Locations	Carlisle, PA Greenville, IL
Solar Reflectance Index	9

### PACKAGING

Mule-Hide 0.060" and 0.090" FR EPDM Membranes (with and with-out tape) are available in a variety of sheet sizes with widths up to 40' and lengths up to 100' long. Contact Mule-Hide Products for specific sheet sizes.

### BENEFITS & SUPPLEMENTAL STATEMENTS

- Can be installed over a variety of roof decks
- Outstanding weatherability
- Sheets can be pre-taped
- Requires no special equipment to install
- Available as a lightweight system
- Full line of pre-taped accessories available

### CODE APPROVALS/COMPLIANCE

A variety of Factory Mutual Ratings, Underwriters Laboratories Classifications and Miami-Dade Approvals are available. Contact Mule-Hide Warranty Department for additional information. Meets or exceeds requirements of ASTM D 4637 for Type 1 non-reinforced EPDM single-ply roofing membranes.

### INSTALLATION INSTRUCTIONS

- 1) Fully Adhered Roofing System
  - a) Approved insulation shall be attached to the roof deck with an approved insulation adhesive or approved fasteners and plates.
  - b) The field of the roof is fully adhered to the substrate with Mule-Hide Bonding Adhesive.
- 2) Ballasted Roofing System
  - a) Approved insulation to be loosely laid to the deck.
  - b) Roofing membrane is loosely laid over insulation and ballasted with washed river rock or pavers.
- 3) The membrane is required to be mechanically attached at the base of all vertical surfaces, roof edges, and angle changes greater than 2:12.
- 4) All seams are to be constructed with seam tape and tape primer, and checked for voids.
- 5) All details will be done in accordance with Mule-Hide details.
- 6) On projects where a Mule-Hide Standard or Premium Warranty is requested, an authorized Mule-Hide representative shall inspect all completed work. This is only a brief summary and not the complete specification. The Mule-Hide Specifications, Details, Technical Bulletins, and associated documents should be thoroughly reviewed prior to starting any project. Contact Mule-Hide Products for additional information.



# Product Data Sheet

## MULE-HIDE FR 60 AND 90 MIL EPDM MEMBRANE (PRE-CLEANED)

### **STORAGE & HANDLING**

- Use proper stacking procedures to ensure sufficient stability of the materials.
- Surfaces may be slippery when wet, or due to frost and ice build-up. Exercise caution to prevent falls.
- Exercise care when working near edge of roof.
- Store Mule-Hide membrane in original wrappings in a cool, shaded area. Cover with light colored, breathable, waterproof tarpaulins.
- Pre-Taped membranes should not be exposed to prolonged jobsite storage temperatures in excess of 90°F (32°C), otherwise the shelf life of the Pre-Tape may be affected.
- When using pre-taped membranes in warm, sunny weather, shade the tape end of the rolls until ready to use.

### **PROTECTION & SAFETY**

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

### **ADDITIONAL INFORMATION**

The information given on this PDS is subject to change without notice. Always check the Mule-Hide website at [www.mulehide.com](http://www.mulehide.com) for the latest information, changes and updates or contact Mule-Hide Products Company at 800-786-1492.

### **DISCLAIMER**

The statements provided concerning the material shown are intended as a guide for material usage and are believed to be true and accurate at the time of printing. No statement made by anyone may supersede this information, except when done in writing by Mule-Hide Products Co., Inc. Since the manner of use is beyond our control, Mule-Hide does not authorize anyone to make any warranty of merchantability or fitness for any particular purpose or any other warranty, guarantee or representation, expressed or implied, concerning this material. This product may be eligible for a Mule-Hide warranty, please check the Mule-Hide website at [www.mulehide.com](http://www.mulehide.com) or contact Mule-Hide directly at 800-786-1492 for details. Buyer and user accept the product under these conditions and assume the risk of any failure, any injury person or property (including that of the user), loss or liability resulting from the handling, storage or use of the product whether or not it is handled, stored or used in accordance with the directions or specifications. Mule-Hide must be notified in writing of any claims and be given the opportunity to inspect the alleged failure before repairs are made.