PRODUCT DESCRIPTION
FR Adhesive is an acrylic latex-based adhesive with superior bonding performance used to bond EPDM membranes to approved horizontal substrates. The product is pink in color when wet and red when dry. The solids content is approximately 62%, and the overall texture is similar to latex paint.

BASIC USES
Used as a single-side (wet lay-in) adhesive over plywood and OSB decks (up to a maximum slope of 1:12) in Modular Construction to obtain a Class C fire resistance rating. Adhesive is applied to the substrate and the sheet is immediately rolled in place into the wet adhesive. While the adhesive is still wet, the EPDM membrane may be moved and adjusted to remove any wrinkles. Working time before set-up takes place is approximately 15 to 20 minutes. As this product is water based and contains no solvents, actual drying time will vary with temperature and humidity conditions.

TYPICAL PHYSICAL PROPERTIES

<table>
<thead>
<tr>
<th>Typical values*</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Material</td>
<td>Acrylic</td>
</tr>
<tr>
<td>Color</td>
<td>Pink when wet, Red when dry</td>
</tr>
<tr>
<td>Solids</td>
<td>62%</td>
</tr>
<tr>
<td>Brookfield Viscosity</td>
<td>10,000 Centipoises(cps)</td>
</tr>
<tr>
<td>Avg Net Weight</td>
<td>8.6 lbs. / gallon</td>
</tr>
<tr>
<td>Shelf Life</td>
<td>1 Year</td>
</tr>
</tbody>
</table>

*General properties. 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 or specification range for any particular property of this product.

PACKAGING
Packaged in 5 gallon pails, 55 gallon drums and 275 gallon totes.

BENEFITS & SUPPLEMENTAL STATEMENTS
• Non-flammable and non-toxic
• Once set, will not break down when immersed in water for prolonged periods of time
• Application temperature performance is satisfactory above 45°F and below 165°F
• Installs easily and smoothly, which speeds up operations
• Available in re-sealable containers so product will not take set
• May be used as a component in Mule-Hide warranted systems up to 20 years

CODE APPROVALS/COMPLIANCE
The Mule-Hide EPDM Roof System utilizing the FR Adhesive has been evaluated for fire classification and wind uplift resistance. Information regarding the evaluation may be found in Mule-Hide’s Code Compliance Research Report CCRR-1078 which is available on Mule-Hide’s website (www.mulehide.com). Contact Mule-Hide Technical Department for additional information.
Product Data Sheet
MULE-HIDE FR ADHESIVE

COVERAGE RATES

Approximately 100 ft² to 120 ft² per gallon. This coverage rate is an average and may vary due to job site conditions and the porosity of the surface to which it is being applied.

INSTALLATION TEMPERATURE

Do not use adhesive if ambient temperature is below 45°F or if night time temperatures are expected to fall below 40°F within 48 hours after application.

CAUTION: Product must be stored above 60°F. **Product cannot be used once frozen.**

**Do not let Mule-Hide FR Adhesive freeze**

INSTALLATION INSTRUCTIONS

Surface Preparation

1. The surface on which adhesive is to be applied shall be clean, smooth, dry, free of fins, sharp edges, loose and foreign materials, oil and grease. Depressions greater than 1/4” should be feathered; using epoxy, mortar or other approved patching material. All sharp projections shall be removed by sweeping, blowing or vacuum cleaning.

Application (wet lay-in only to horizontal surfaces)

1. Adhesive can be sprayed, rolled or brushed on to acceptable substrates.

2. Once the EPDM membrane has been positioned and given sufficient time to relax, fold the membrane in half exposing the acceptable substrate to be adhered. Starting at the fold, apply FR Adhesive to substrate only at the rate of 100 to 120 square feet per gallon. As you proceed with the adhesive, immediately roll membrane into wet adhesive. Lay the membrane into the adhesive as soon as possible. This ensures the wetting of the EPDM surface. Do not apply to a large area that will permit the adhesive to start to tack before you can lay the membrane into it. The membrane must be laid into the adhesive while it is wet. If the adhesive starts to dry and turn red you must apply more adhesive.

3. Once half of the sheet is in place, use a push broom to sweep the surface, keeping a steady pressure with the broom against the surface of the sheet, mating surfaces and eliminating captured air between the membrane and substrate (deck). If any wrinkles are present, re-position the sheet by using a push broom or by hand to remove the wrinkle. Repeat the procedure for the second half of the sheet.

4. **NOTE:** Traffic over membrane should be held to a minimum. Footprints will be evident on surface of sheet if foot traffic occurs. Footprints should be immediately broomed and will be less visible once the adhesive cures.

Precautions

1. Review the applicable Safety Data Sheet for complete safety information prior to use.

2. If swallowed, **DO NOT INDUCE VOMITING.** Call a physician immediately.

3. Avoid contact with skin. Wash hands thoroughly after handling. In case of contact with skin, thoroughly wash affected area with soap and water. Contact physician if irritation persists.

4. Avoid contact with eyes. Safety glasses or goggles are recommended. If splashed in eyes, immediately flush eyes with plenty of clean water for at least 15 minutes. Contact a physician immediately.

5. Do not thin the FR Adhesive. Thinning will affect performance.
Precautions (continued)

6. Do not allow the FR Adhesive to freeze. Material that has frozen must be discarded.

7. Coverage rates are an average and may vary due to jobsite conditions.

8. When adhering to OSB, make sure the rough side of the OSB board is facing up. Do not adhere to the smooth side of the board.

KEEP OUT OF THE REACH OF CHILDREN

CLEAN UP

The adhesive can be removed from hands when wet with water and a light detergent. When dry, use a solvent followed by soap and water.

With spray equipment, use water followed by solvent cleaners, followed by water with detergent. Paint roller covers can be left in material until next usage or cleaned with water when wet.

Material spillage can be removed easily with water when wet. If adhesive has dried, peel off as much surface adhesive as possible and clean area with solvent until removed.

STORAGE & HANDLING

Store in unopened original containers at 60°F - 80°F for maximum storage life. Higher temperatures reduce normal storage life. DO NOT ALLOW TO FREEZE. Rotate stock. Do not double-stack pallets

PROTECTION & SAFETY

Mule-Hide 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. Mule-Hide's 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 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 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.