

# Technical Guide

*"The name trusted in roofing since 1906"*



## How to Install Fully Adhered TPO over FR Deck Panel

### **PRODUCT DESCRIPTION**

The following application guidelines cover the installation of Mule-Hide FR Deck Panels Class A and the installation of TPO membranes to the FR Deck Panels. The FR Deck panel is a composite panel consisting of a layer of Pyrotite - an inert, inorganic fire-shield, factory applied to either plywood or oriented strand board (OSB). The FR Deck Panels are available in a sheet size of 4' x 8' and nominal thickness ranging from 7/16"(OSB) to 23/32"(plywood). Aqua Base 120 is a water based adhesive used to adhere the TPO membrane to the FR Deck Panel.

### **BASIC USES: FOR HORIZONTAL ROOF DECK APPLICATION ONLY!**

FR Deck Panel Installation (OSB or Plywood):

The FR Deck panel is supplied with the same dimensions (4' x 8' sheets) as standard plywood and OSB panels and is installed in the same manner. The long dimension of the panel shall run perpendicular to the roof supports with end joints staggered between courses. FR Deck Panels are installed with the pyrotite coating facing up and secured to the deck supports in compliance with applicable building code requirements.

When addressing fire and wind uplift, the FR Deck Panel (plywood based) may be substituted with the FR Deck Panel (OSB based) provided the OSB panel is of the same thickness. This applies only when adhering the EPDM membrane directly to the FR Deck Panel with the Mule-Hide Acrylic Water Base Bonding Adhesive.

**Note:** When installing FR Deck Panel Class A (plywood or OSB) to comply with a UL Class A assembly, all deck joints shall be blocked with nominal 2" x 4" lumber. Gaps in the deck panels shall be caulked RectorSeal FlameSafe FS900+ sealant, recognized in evaluation report ESR-1043.

TPO Membrane installation using Aqua Base 120 water based contact adhesive:

The Aqua Base 120 adhesive is used as a contact adhesive when adhering the TPO membrane to the FR Deck Panel (A or C).

1. Align the TPO membrane on the deck. Allow the membrane to relax for several minutes prior to applying adhesive.
2. Fold the TPO sheet in half, taking the front to rear or vice versa, or fold in half lengthwise. Make sure not to move the material out of alignment.
3. Always thoroughly stir the adhesive before application. Adhesive should be applied with a thin napped or synthetic paint roller. The adhesive shall be applied at an approximate rate of 100 to 120 square feet per gallon of finished surface. The adhesive must be applied to both the deck and the backside of the TPO membrane. Leave no voids when spreading the adhesive. Actual drying time is dependent on temperature and humidity.
4. The adhesive must be allowed to dry until the adhesive turns translucent and does not transfer to a dry finger touch or pull away from the membrane. The dried adhesive should remain tacky before assembly.
5. When the adhesive is ready, roll the membrane back in place. Avoid wrinkling and trapping air under the membrane. Using moderate pressure, immediately broom the membrane to ensure good contact.

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6. Repeat this procedure with the second half of the sheet. Once the sheet is down, thoroughly broom the entire surface again using sufficient pressure to work out any bubbles or wrinkles.
7. When brooming the membrane, always broom starting in the center of the sheet working toward the ends of the sheet.
8. Repeat this procedure with the remaining sheets till the deck is covered. Overlap adjoining sheets 2" inches to allow for welding of the seams. Do not get any adhesive on the areas of the TPO membrane where the seams will be hot air welded.

### **APPLICATION/COVERAGE RATES**

The estimated (theoretical) coverage rate at room temperature is 50 to 60 square feet per gallon as a 2-sided, contact adhesive.

### **INSTALLATION TEMPERATURE**

Do not use adhesive if ambient temperature is below 40°F or if nighttime temperatures are expected to fall below 32°F before adhesive completely dries. **DO NOT ALLOW ADHESIVE TO FREEZE!**

### **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.

### **HANDLING**

Mule-Hide maintains Material Safety Data Sheets on all of its products that 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.

### **STORAGE**

Store in unopened original containers at 60° F - 80° F for maximum storage life. Higher temperatures reduce normal storage life. Rotate stock.

**CAUTION: Adhesive Product must be stored above 60° F. The adhesive cannot be used once frozen. Do not let Aqua Base 120 Adhesive freeze. It is difficult to clean up when spilled on unrelated surfaces if left to dry. Do not double-stack pallets of adhesive pails. (See Produce Data Sheet and MSDS for additional information).**

The information given 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.