



DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION

MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION

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NOTICE OF ACCEPTANCE (NOA)

Mule-Hide Products Co., Inc.
1195 Prince Hall Dr.
Beloit, WI 53511

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER - Product Control Section to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the Florida Building Code including the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: Mule-Hide Single Ply TPO Roof Systems over Poured Gypsum Decks

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA renews NOA# 14-0326.07 and consists of pages 1 through 7.
The submitted documentation was reviewed by Alex Tigera.



NOA No: 18-0109.13
Expiration Date: 08/31/23
Approval Date: 08/23/18
Page 1 of 7

ROOFING SYSTEM APPROVAL

Category: Roofing
Sub-Category: Single Ply
Material: TPO
Deck Type: Poured Gypsum
Maximum Design Pressure -295 psf
Fire Classification: See General Limitation #1

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

<u>Product Name</u>	<u>Dimensions</u>	<u>Test Specifications</u>	<u>Product Description</u>
TPO-c	various	TAS 131	Reinforced white or colored TPO membrane.
TPO-c EXTRA	various	TAS 131	Reinforced white or colored TPO membrane.
TPO-c Fleece Back	various	TAS 131	Reinforced white or colored TPO membrane.
TPO-c FR	various	TAS 131	Reinforced white or colored FR TPO membrane.
Carlisle FAST 100 Adhesive	various	TAS 110	Polyurethane Adhesive
OMG OlyBond 500	various	TAS 110	Polyurethane Adhesive
Millennium One Step Foamable Adhesive	various	TAS 110	Polyurethane Adhesive
Mule-Hide TPO Bonding Adhesive	various	TAS 110	Solvent-based bonding adhesive.
WBBA 2000	Various	TAS 110	Water-based bonding adhesive



APPROVED INSULATIONS:

TABLE 2

<u>Product Name</u>	<u>Product Description</u>	<u>Manufacturer (With Current NOA)</u>
Mule-Hide Poly ISO 1, Poly ISO 1-NB	Polyisocyanurate roof insulation.	Mule-Hide Products Co., Inc.
DensDeck	Silicon treated gypsum	Georgia-Pacific gypsum, LLC.

APPROVED FASTENERS:

TABLE 3

<u>Fastener Number</u>	<u>Product Name</u>	<u>Product Description</u>	<u>Dimensions</u>	<u>Manufacturer (With Current NOA)</u>
1.	N/A	N/A	N/A	N/A

EVIDENCE SUBMITTED:

<u>Test Agency</u>	<u>Test Identifier</u>	<u>Description</u>	<u>Date</u>
Atlantic & Caribbean Roof Consulting LLC.	11-037	TAS 114 Appendix D	06/29/11
Architectural Testing Inc.	ATI-37490.01	Membrane Brittleness Testing	7/7/00
Factory Mutual Research Corp.	3Z9A1.AM	Wind Uplift and Fire Classification	10/15/97
	Approval Guide Excerpt	Wind Uplift and Fire Classifications	5/00
	3011220	Class 4470	08/16/01
	3012879	Class 4470	04/04/03
	3024994	Class 4470	02/28/06
	3014692	Class 4470	08/05/03
Celotex Corporation Testing Services	3018579	Class 4470	10/09/03
	520257	Membrane Physical Property Testing	4/19/00
SGS U.S. Testing Company Incorporated	131248-R2	Membrane Ozone Resistance Testing	1/6/00
Trinity ERD	C46470.07.14-1A	TAS 131	07/16/14
	C46470.07.14-1B	TAS 131	07/16/14
	C46470.07.14-2A	TAS 131	07/30/14
	C46470.07.14-4-R1	TAS 131	07/21/14



APPROVED ASSEMBLIES

- Membrane Type:** Single Ply, Thermoplastic, TPO, Reinforced, Fleece Back
- Deck Type 6I:** Poured Gypsum, Insulated
- Deck Description:** Poured Gypsum Concrete
- System Type C(1):** One or more layers of insulation adhered with OMG OlyBond 500, Millennium One Step Foamable Adhesive or Carlisle FAST 100 Adhesive; membrane fully adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Note: All layers shall be adhered to the deck in OMG OlyBond 500 at a rate of 1 gal/sq, or Carlisle FAST 100 Adhesive at a rate of 1 gal/sq or Millennium One Step Foamable Adhesive at a rate of 1/3 gal/sq. Please refer to Roofing Application Standard RAS 117 for insulation attachment. See Maximum Design Pressures below for the pressures allowed with each adhesive.

<u>Base or Top Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
Mule-Hide Poly ISO 1, Poly ISO 1-NB Minimum 1.4” thick	N/A	N/A

<u>Top Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
Required over the insulations listed in Base Layer or optional over any of the insulations listed as Base or Top Layer: Dens Deck, Dens Deck Prime Minimum 1/4” thick	N/A	N/A

Note: Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

- Vapor Retarders:** (Optional) Any UL or FM approved vapor retarder applied to the roof deck or over a base layer of insulation.
- Barrier:** None.



Membrane: TPO-c, TPO-c FR, Reinforced, 45 or 60 mil membrane or TPO-c EXTRA 80 mil membrane fully adhered to the insulation using Mule-Hide TPO Bonding Adhesive applied to the substrate at a rate of 1 gal/60 ft.² (finished surface) or WBBA 2000 bonding adhesive applied to the substrate at a rate of 1 gal/120 ft.² (finished surface). Outside 1.5” of side laps are heat welded
Or

TPO-c Fleece Back 100 or 115 mil membrane fully adhered to the insulation using FAST Adhesive applied to the substrate at a rate of 1 gal/sq. or WBBA 2000 bonding adhesive applied to the substrate at a rate of 1 gal/120 ft.² Outside 1.5” of side laps are heat welded

Maximum Design Pressure: -45 psf (See General Limitation #9) when insulation adhered with Carlisle FAST 100 Adhesive
-112.5 psf (See General Limitation #9) when polyisocyanurate insulation adhered with OMG Olybond 500 Adhesive
-135 psf (See General Limitation #9) when wood fiberboard insulation adhered with OMG Olybond 500 Adhesive
-202.5 psf (See General Limitation #9) when insulation adhered with Millennium One Step Foamable Adhesive



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced, Fleece Back
Deck Type 6: Poured Gypsum, Non-Insulated
Deck Description: Poured Gypsum Concrete
System Type F(1): Membrane fully adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Vapor Retarders: None.

Barrier: None.

Membrane: TPO-c Fleece Back 100 or 115 mil membrane fully adhered to the substrate using Carlisle FAST 100 Adhesive applied to the substrate at a rate of 1 gal/sq. Outside 1.5" of side laps are heat welded

Maximum Design Pressure: -295 psf (See General Limitation #9)



GENERAL LIMITATIONS:

1. Fire classification is not part of this acceptance, refer to a current Approved Roofing Materials Directory for fire ratings of this product.
2. Insulation may be installed in multiple layers. The first layer shall be attached in compliance with Product Control Approval guidelines. All other layers shall be adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq., or mechanically attached using the fastening pattern of the top layer
3. All standard panel sizes are acceptable for mechanical attachment. When applied in approved asphalt, panel size shall be 4' x 4' maximum.
4. An overlay and/or recovery board insulation panel is required on all applications over closed cell foam insulations when the base sheet is fully mopped. If no recovery board is used the base sheet shall be applied using spot mopping with approved asphalt, 12" diameter circles, 24" o.c.; or strip mopped 8" ribbons in three rows, one at each sidelap and one down the center of the sheet allowing a continuous area of ventilation. Encircling of the strips is not acceptable. A 6" break shall be placed every 12' in each ribbon to allow cross ventilation. Asphalt application of either system shall be at a minimum rate of 12 lbs./sq. **Note: Spot attached systems shall be limited to a maximum design pressure of -45 psf.**
5. Fastener spacing for insulation attachment is based on a Minimum Characteristic Force (F') value of 275 lbf., as tested in compliance with Testing Application Standard TAS 105. If the fastener value, as field-tested, are below 275 lbf. insulation attachment shall not be acceptable.
6. Fastener spacing for mechanical attachment of anchor/base sheet or membrane attachment is based on a minimum fastener resistance value in conjunction with the maximum design value listed within a specific system. Should the fastener resistance be less than that required, as determined by the Building Official, a revised fastener spacing, prepared, signed and sealed by a Florida Registered Engineer, Architect, or Registered Roof Consultant may be submitted. Said revised fastener spacing shall utilize the withdrawal resistance value taken from Testing Application Standards TAS 105 and calculations in compliance with Roofing Application Standard RAS 117.
7. Perimeter and corner areas shall comply with the enhanced uplift pressure requirements of these areas. Fastener densities shall be increased for both insulation and base sheet as calculated in compliance with Roofing Application Standard RAS 117 and/or RAS 137. Calculations prepared, signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant **(When this limitation is specifically referred within this NOA, General Limitation #9 will not be applicable.)**
8. All attachment and sizing of perimeter nailers, metal profile, and/or flashing termination designs shall conform with Roofing Application Standard RAS 111 and applicable wind load requirements.
9. The maximum designed pressure limitation listed shall be applicable to all roof pressure zones (i.e. field, perimeters, and corners). Neither rational analysis, nor extrapolation shall be permitted for enhanced fastening at enhanced pressure zones (i.e. perimeters, extended corners and corners). **(When this limitation is specifically referred within this NOA, General Limitation #7 will not be applicable.)**
10. All membranes or packaging shall bear the imprint or identifiable marking of the manufacturer's name or logo and the following statement: "Miami-Dade County Product Control Approved" or the Miami-Dade County Product Control Seal as shown below.



11. All products listed herein shall have a quality assurance audit in accordance with the Florida Building Code and Rule 61G20-3 of the Florida Administrative Code.

END OF THIS ACCEPTANCE

