



EXTERIOR RESEARCH & DESIGN, LLC.  
 Certificate of Authorization #9503  
 353 CHRISTIAN STREET  
 OXFORD, CT 06478  
 PHONE: (203) 262-9245  
 FAX: (203) 262-9243

**EVALUATION REPORT**

**Mule-Hide Products Co., Inc.**  
**1195 Prince Hall Drive, Suite A**  
**Beloit, WI 53511-5481**

**Evaluation Report M9990.03.08**  
**FL10487**  
**Date of Issuance: 03/26/2008**

**SCOPE:**

This Evaluation Report is issued under Rule 9B-72 and the applicable rules and regulations governing the use of construction materials in the State of Florida. The documentation submitted has been reviewed by Robert Nieminen, P.E. for use of the product under the Florida Building Code. The product described herein has been designed to comply with the 2004 & 2007 FBC.

**DESCRIPTION: Mule-Hide Cements, Adhesives and Coatings**

**LABELING:** Each unit shall bear labeling in accordance with the requirements the Accredited Quality Assurance Agency noted herein.

**CONTINUED COMPLIANCE:** This Evaluation Report is valid until such time as the named product(s) changes, the referenced Quality Assurance documentation changes, or provisions of the Code that relate to the product change. Acceptance of this Evaluation Report by the named client constitutes agreement to notify Robert Nieminen, P.E. if the product changes or the referenced Quality Assurance documentation changes. Trinity|ERD requires a complete review of this Evaluation Report relative to updated Code requirements with each Code Cycle.

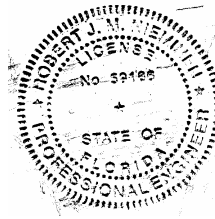
**ADVERTISEMENT:** The Evaluation Report number preceded by the words "Trinity | ERD Evaluated" may be displayed in advertising literature. If any portion of the Evaluation Report is displayed, then it shall be done in its entirety.

**INSPECTION:** Upon request, a copy of this entire Evaluation Report 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 Evaluation Report consists of pages 1 through 6.

**Prepared by:**

**Robert J.M. Nieminen, P.E.**  
 Florida Registration No. 59166, Florida DCA ANE1983



The facsimile seal appearing was authorized by Robert Nieminen, P.E. on 03/26/2008. This does not serve as an electronically signed document. Signed, sealed hardcopies have been transmitted to the Product Approval Administrator and to the named client.

**CERTIFICATION OF INDEPENDENCE:**

1. Exterior Research & Design, LLC. d/b/a Trinity | ERD does not have, nor does it intend to acquire or will it acquire, a financial interest in any company manufacturing or distributing products it evaluates.
2. Exterior Research & Design, LLC. d/b/a Trinity | ERD is not owned, operated or controlled by any company manufacturing or distributing products it evaluates.
3. Robert Nieminen, P.E. does not have nor will acquire, a financial interest in any company manufacturing or distributing products for which the evaluation reports are being issued.
4. Robert Nieminen, P.E. does not have, nor will acquire, a financial interest in any other entity involved in the approval process of the product.

**ROOFING COMPONENT EVALUATION:**

**1. SCOPE:**

**Product Category:** Roofing  
**Sub-Category:** Cements – Adhesives - Coatings  
**Compliance Statement:** Mule-Hide Cements, Adhesives and Coatings, as produced by Mule-Hide Products Co., Inc. have demonstrated compliance with the Florida Building Code through testing in accordance with the Standards set forth herein. Compliance is subject to the Installation Requirements and Limitations / Conditions of Use set forth herein.

**2. STANDARDS:**

<u>Section</u>	<u>Property</u>	<u>Standard</u>	<u>Year</u>
1507.10.2	Physical Properties	ASTM D41	2000e01
1507.10.2	Physical Properties	ASTM D1227	2000
1507.15.2	Physical Properties	ASTM D1227	2000
1507.10.2	Physical Properties	ASTM D4479	2000
1507.10.2	Physical Properties	ASTM D3019	2001
1507.10.2	Physical Properties	ASTM D4586	2000
1507.10.2	Physical Properties	ASTM D6083	1997
1523.1.1	Physical Properties	TAS 110 / TAS 140	2000

**3. REFERENCES:**

<u>Entity</u>	<u>Examination</u>	<u>Reference</u>	<u>Date</u>	
PRI (TST5878)	ASTM D41	PUSA-039-02-01	09/11/2007	
	TAS 140	PUSA-040-02-01	09/11/2007	
	ASTM D4479	PUSA-041-02-01	09/11/2007	
	ASTM D3019	PUSA-042-02-01	09/11/2007	
	ASTM D3019	PUSA-043-02-01	09/11/2007	
	ASTM D4586	PUSA-044-02-01	09/11/2007	
	ASTM D4586	PUSA-045-02-01	09/11/2007	
	ASTM D4586	PUSA-046-02-01	09/11/2007	
	ASTM D4586/D3409	PUSA-047-02-01	09/11/2007	
	ASTM D2824	PUSA-048-02-01	09/11/2007	
	ASTM D2824	PUSA-049-02-01	09/11/2007	
	ASTM D2824	PUSA-051-02-01	09/11/2007	
	ASTM D3019	PUSA-054-02-01	09/11/2007	
	ASTM D4586	PUSA-079-02-01	03/14/2008	
	ASTM D6083	PUSA-053-02-01	10/22/2007	
	Underwriters Labs	Quality Control	R14571, Vol 1	03/21/2008

**4. PRODUCT DESCRIPTION:**

- 4.1 **Mule-Hide 121 Asphalt Primer, 121 Asphalt Spray Primer** is a penetrating solution of solvent and a blend of selected asphalts used to promote adhesion
- 4.1.1 Specification: ASTM D41
- 4.1.2 Application Rate: ½ gallon per 100 sq ft, varies with substrate porosity.
- 4.1.3 Container Size: 5 gallon pail or 14 oz. spray can.
- 4.1.4 Approved Use: Acceptable for use in any roof system approval that refers to Mule-Hide 121 Asphalt Primer, 121 Asphalt Spray Primer or ASTM D41 primer.

- 4.2 **Mule-Hide 111 Non-Fibrated Roof Coating** is a non fibered asphaltic roof coating used to resaturate existing built-up roof surfaces.
- 4.2.1 Specification: TAS 140
- 4.2.2 Application Rate: 1.5 to 2.0 gallon per 100 sq ft, depending on surface texture of roof.
- 4.2.3 Container Size: 5 gallon pails
- 4.2.4 Approved Use: Acceptable for use atop any roof system approval or fire rating directory listing that refers to Mule-Hide 111, TAS 140 coating or ASTM D4479 coating.
- 4.3 **Mule-Hide 102 Fibrated Roof Coating** is a fibered asphalt cutback roof coating used to resaturate existing built-up roof surfaces.
- 4.3.1 Specification: ASTM D4479
- 4.3.2 Application Rate: 2.0 to 3.0 gallon per 100 sq ft, depending on surface texture of roof.
- 4.3.3 Container Size: 5 gallon pails.
- 4.3.4 Approved Use: Acceptable for use atop any roof system approval or fire rating directory listing that refers to Mule-Hide 102 or ASTM D4479 coating. Not for use as an adhesive unless noted as such in the roof system Product Approval.
- 4.4 **Mule-Hide 420 Mod Bit Adhesive Brush Grade** is a fibered rubberized adhesive for use with modified bitumen membranes.
- 4.4.1 Specification: ASTM D3019, Type III
- 4.4.2 Application Rate: 1.5 to 2 gallon per 100 sq ft
- 4.4.3 Container Size: 5 gallon pails.
- 4.4.4 Approved Use: Acceptable for use within any roof system approval that refers to Mule-Hide 420 Mod Bit Adhesive Brush Grade.
- 4.5 **Mule-Hide 211 Plastic Cement** is a fibered rubberized flashing cement.
- 4.5.1 Specification: ASTM D4586
- 4.5.2 Application Rate: 8 gallon per 100 sq ft for a 1/8" coat applied to both surfaces.
- 4.5.3 Container Size: 3 or 5 gallon pails.
- 4.5.4 Approved Use: Acceptable for use within any asphaltic roof system compatible with D4586 roof cement.
- 4.6 **Mule-Hide 221 Wet/Dry Plastic Cement** is a fibered rubberized flashing cement specially formulated to be used in damp or dry conditions.
- 4.6.1 Specification: ASTM D4586
- 4.6.2 Application Rate: 8 gallon per 100 sq ft for a 1/4" coat.
- 4.6.3 Container Size: 3 and 5 gallon pails.
- 4.6.4 Approved Use: Acceptable for use within any asphaltic roof system compatible with D4586 roof cement.

- 4.7 **Mule-Hide 231 Flashing Cement** is a fibered rubberized flashing cement.
- 4.7.1 Specification: ASTM D4586
  - 4.7.2 Application Rate: 8 gallon per 100 sq ft for a 1/8" coat applied to both surfaces.
  - 4.7.3 Container Size: 3 or 5 gallon pails
  - 4.7.4 Approved Use: Acceptable for use within any asphaltic roof system compatible with D4586 roof cement.
- 4.8 **Mule-Hide 251 Premium Wet/Dry Elastomeric Flashing Cement** is a fibered rubberized flashing cement for use with modified bitumen roof systems.
- 4.8.1 Specification: ASTM D4586
  - 4.8.2 Application Rate: 8 gallon per 100 sq ft for 1/8" coat applied to both surfaces.
  - 4.8.3 Container Size: 10.3 oz. tubes or 3 or 5 gallon pails
  - 4.8.4 Approved Use: Acceptable for use within any modified bitumen roof system compatible with D4586 roof cement.
- 4.9 **Mule-Hide 271 Mod Bit Sealant (Tubes)** is a fibered rubberized flashing cement for use with modified bitumen roof systems.
- 4.9.1 Specification: ASTM D4586
  - 4.9.2 Application Rate: ½" bead of sealant to areas to be sealed. If cracks/joints are large, trowel on and reinforce with polyester or glass fabric in accordance with Mule-Hide details.
  - 4.9.3 Container Size: 10.3 oz. tubes
  - 4.9.4 Approved Use: Acceptable for use within any modified bitumen roof system compatible with D4586 roof cement.
- 4.10 **Mule-Hide 421 Mod Bit Flashing Adhesive Trowel Grade** is a fibered rubberized flashing cement for use with modified bitumen roof systems.
- 4.10.1 Specification: ASTM D4586
  - 4.10.2 Application Rate: 8 gallon per 100 sq ft for 1/8" coat applied to both surfaces.
  - 4.10.3 Container Size: 3 gallon pails
  - 4.10.4 Approved Use: Acceptable for use within any modified bitumen roof system compatible with D4586 roof cement.

- 4.11 **Mule-Hide 416 Standard Non-Fibrated Aluminum Roof Coating** or **Mule-Hide 410 Premium Non-Fibrated Aluminum Roof Coating** is a non-fibered aluminum roof coating.
- 4.11.1 Specification: ASTM D2824, Type I
- 4.11.2 Application Rate: 1 to 2 gallon per 100 sq ft, varies with substrate porosity.
- 4.11.3 Container Size: 5 gallon pails
- 4.11.4 Approved Use: Acceptable for use atop any roof system approval or fire rating directory listing that refers to Mule-Hide 416, Mule-Hide 410 or ASTM D2824, Type I coating.
- 4.12 **Mule-Hide 406 Standard Fibrated Aluminum Roof Coating** or **Mule-Hide 401 Premium Fibrated Aluminum Roof Coating** is a fibered aluminum roof coating.
- 4.12.1 Specification: ASTM D2824, Type III
- 4.12.2 Application Rate: 1.5 to 2.0 gallon per 100 sq ft, depending on substrate porosity.
- 4.12.3 Container Size: 5 gallon pails
- 4.12.4 Approved Use: Acceptable for use atop any roof system approval or fire rating directory listing that refers to Mule-Hide 406, Mule-Hide 401 or ASTM D2824, Type III coating.
- 4.13 **Mule-Hide 311 Non-Fibrated Emulsion Roof Coating** is an asphalt base, unfibered clay emulsion.
- 4.13.1 Specification: ASTM D1227
- 4.13.2 Application Rate: 3 to 4 gallon per 100 sq ft per coat; allow minimum 4 hours between coats.
- 4.13.3 Container Size: 5 gallon pails.
- 4.13.4 Approved Use: Acceptable for use atop any roof system approval or fire rating directory listing that refers to Mule-Hide 311 or ASTM D1227 coating.
- 4.14 **Mule-Hide 301 Fibrated Emulsion Roof Coating** is an asphalt base, fibered clay emulsion.
- 4.14.1 Specification: ASTM D1227
- 4.14.2 Application Rate: 3 to 4 gallon per 100 sq ft per coat; allow minimum 4 hours between coats.
- 4.14.3 Container Size: 5 gallon pails
- 4.14.4 Approved Use: Acceptable for use atop any roof system approval or fire rating directory listing that refers to Mule-Hide 301 or ASTM D1227 coating.
- 4.15 **Mule-Hide 241 Premium Modified Flashing Cement** is a mastic compound for use as a roof flashing adhesive.
- 4.15.1 Specification: ASTM D4586, Type I
- 4.15.2 Application Rate: 8 gallon per 100 sq ft for 1/8" coat applied to both surfaces.
- 4.15.3 Container Size: 3 or 5 gallon pails
- 4.15.4 Approved Use: Acceptable within any roof system compatible with D4586 roof cement.

**5. LIMITATIONS:**

- 5.1 This Evaluation Report is not for use in HVHZ.
- 5.2 First classification is not part of this Evaluation Report. Refer to a current Roofing Materials directory for fire classifications of roof assemblies using the components outlined herein.
- 5.3 Mule-Hide Cements, Adhesives and Coatings shall be applied in strict accordance with Mule-Hide Products Co., Inc. published installation instructions, and Section 4 herein.
- 5.4 Mule-Hide Cements, Adhesives and Coatings are components for use in Approved roof assemblies. Refer to the "Approved Use" in Section 4 for each component. The Cements, Adhesives and Coatings noted herein are not purported to be Roofing Systems, and their use shall be governed by and limited to applications where Roof System Product Approval is not necessary (e.g., maintenance and repair) or where the components are called out in a Roof System Product Approval.
- 5.5 All products listed herein shall have quality assurance audit in accordance with F.A.C. Rule 9B-72 requirements.

**6. INSTALLATION:**

Mule-Hide Coatings and Mastics shall be installed in accordance with Mule-Hide Products Co., Inc. published installation instructions, subject to the Limitations in Section 5.

**7. BUILDING PERMIT REQUIREMENTS:**

As required by the Building Official or Authority Having Jurisdiction in order to properly evaluate the installation of this product.

**8. MANUFACTURING PLANTS:**

Winter Haven, Florida

**9. QUALITY ASSURANCE ENTITY:**

Underwriters Laboratories – QUA1743

**- END OF EVALUATION REPORT -**