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EVALUATION REPORT

Mule-Hide Products Co., Inc.

1195 Prince Hall Dr

Beloit, WI 53511

Evaluation Report 10570.12.15

FL19566

Date of Issuance: 12/16/2015

SCOPE:

This Evaluation Report is issued under Rule 61G20-3 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 evaluated for compliance with the 5th Edition (2014) Florida Building Code, High Velocity Hurricane Zone (HVHZ) sections noted herein.

DESCRIPTION: Mule-Hide EPDM Single Ply Roof Systems

LABELING: Labeling shall be 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 "Engineer Evaluated, FBC (HVHZ)" 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 4, plus a 20-page Appendix.

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 12/16/2015. 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.
5. This is a building code evaluation. Neither Trinity|ERD nor Robert Nieminen, P.E. are, in any way, the Designer of Record for any project on which this Evaluation Report, or previous versions thereof, is/was used for permitting or design guidance unless retained specifically for that purpose.

ROOFING SYSTEMS EVALUATION:
1. SCOPE:

Product Category: Roofing
Sub-Category: Single Ply Roof Systems
Material: EPDM

Compliance Statement: Mule-Hide EPDM Single Ply Roof Systems, as produced by Mule-Hide Products Co., Inc., have demonstrated compliance with the following sections of the Florida Building Code, HVHZ through testing in accordance with the following Standards. 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>
1523.6.2	Testing Requirements	TAS 110	2000
TAS 110	System Performance	TAS 114	2011
TAS 110	Physical Properties	ASTM D4637	2008

3. REFERENCES:

<u>Entity</u>	<u>Examination</u>	<u>Reference</u>	<u>Date</u>
CTL (TST1577)	TAS 114	CTLA-105R	10/13/2008
CTL (TST1577)	TAS 114	CTLA-105R-1	10/13/2008
CTL (TST1577)	TAS 114	CTLA-105R-2	10/13/2008
CTL (TST1577)	TAS 114	CTLA-106R-2	10/16/2008
ERD (TST6049)	Physical Properties	C13920.10.09-1-R2	08/08/2011
ERD (TST6049)	Physical Properties	C13920.10.09-3-R1	11/10/2011
ERD (TST6049)	Physical Properties	C42950.10.13-1	10/02/2013
ERD (TST6049)	Physical Properties	C42950.12.13-2A-2	12/02/2013
FM Approvals (TST1867)	FM 4470 / TAS 114	3B5A1.AM	04/28/1997
FM Approvals (TST1867)	FM 4470 / TAS 114	2Z2A8.AM	05/16/1997
FM Approvals (TST1867)	FM 4470 / TAS 114	2B2A1.AM	05/29/1997
FM Approvals (TST1867)	FM 4470 / TAS 114	3B8Q4.AM	06/04/1997
FM Approvals (TST1867)	FM 4470 / TAS 114	4B2A1.AM	06/11/1997
FM Approvals (TST1867)	FM 4470 / TAS 114	2Z3A9.AM	07/30/1997
FM Approvals (TST1867)	FM 4470 / TAS 114	1B7A5.AM	02/23/1998
FM Approvals (TST1867)	FM 4470 / TAS 114	4D9A6.AM	08/03/1998
FM Approvals (TST1867)	FM 4470 / TAS 114	2D6A6.AM	10/07/1998
FM Approvals (TST1867)	FM 4470 / TAS 114	3003326	04/12/1999
FM Approvals (TST1867)	FM 4470 / TAS 114	3000348	04/19/1999
FM Approvals (TST1867)	FM 4470 / TAS 114	1B7A4.AM	07/08/1999
FM Approvals (TST1867)	FM 4470 / TAS 114	3009502	12/21/2000
FM Approvals (TST1867)	FM 4470 / TAS 114	3012458	02/23/2002
FM Approvals (TST1867)	FM 4470 / TAS 114	3013584	06/27/2003
FM Approvals (TST1867)	FM 4470 / TAS 114	3014692	08/05/2003
FM Approvals (TST1867)	FM 4470 / TAS 114	3016162	11/25/2003
FM Approvals (TST1867)	FM 4470 / TAS 114	3020353	03/25/2004
FM Approvals (TST1867)	FM 4470 / TAS 114	3016161	06/04/2004
FM Approvals (TST1867)	FM 4470 / TAS 114	3022181	09/01/2005
FM Approvals (TST1867)	FM 4470 / TAS 114	3022187	09/15/2005
FM Approvals (TST1867)	FM 4470 / TAS 114	3019897	10/07/2005
FM Approvals (TST1867)	FM 4470 / TAS 114	3024994	02/28/2006
FM Approvals (TST1867)	FM 4470 / TAS 114	3021941	03/20/2006
FM Approvals (TST1867)	FM 4470 / TAS 114	3024593	07/27/2006
FM Approvals (TST1867)	FM 4470 / TAS 114	3025930	08/30/2006
FM Approvals (TST1867)	FM 4470 / TAS 114	3022174	09/25/2006
FM Approvals (TST1867)	FM 4470 / TAS 114	3021235	06/01/2007
FM Approvals (TST1867)	FM 4470 / TAS 114	3026964	07/25/2007
FM Approvals (TST1867)	FM 4470 / TAS 114	3028441	10/16/2007
FM Approvals (TST1867)	FM 4470 / TAS 114	3031511	08/28/2008
FM Approvals (TST1867)	FM 4470 / TAS 114	797-04381-267	03/12/2009

<u>Entity</u>	<u>Examination</u>	<u>Reference</u>	<u>Date</u>
FM Approvals (TST1867)	FM 4470 / TAS 114	3034066	04/14/2009
FM Approvals (TST1867)	FM 4470 / TAS 114	3034776	08/07/2009
FM Approvals (TST1867)	FM 4470 / TAS 114	3035794	08/07/2009
FM Approvals (TST1867)	FM 4470 / TAS 114	3034977	04/09/2010
FM Approvals (TST1867)	FM 4470 / TAS 114	3038140	08/04/2010
FM Approvals (TST1867)	FM 4470 / TAS 114	3041535	06/08/2011
FM Approvals (TST1867)	FM 4470 / TAS 114	3039340	06/24/2011
FM Approvals (TST1867)	FM 4470 / TAS 114	797-06605-267	07/06/2011
FM Approvals (TST1867)	FM 4470 / TAS 114	3043858	08/25/2011
FM Approvals (TST1867)	FM 4470 / TAS 114	3041797	10/13/2011
FM Approvals (TST1867)	FM 4470 / TAS 114	3039073	11/22/2011
FM Approvals (TST1867)	FM 4470 / TAS 114	3043710	03/23/2012
FM Approvals (TST1867)	FM 4470 / TAS 114	3042075	10/23/2012
FM Approvals (TST1867)	FM 4470 / TAS 114	3040260	02/27/2012
UL LLC (TST9628)	Wind Uplift	03CA16620	12/05/2003
UL LLC (TST9628)	Wind Uplift	11CA16620	08/12/2013
UL, LLC (QUA9625)	Quality Control	ML R13850	09/27/2007
UL, LLC (QUA9625)	Quality Control	Inspection Report, R8103	05/22/2015

4. PRODUCT DESCRIPTION:

The following roof covers are mechanically attached or fully adhered to Approved substrates using fasteners, stress plates and adhesives, as outlined in the Limitations / Conditions of Use herein.

- 4.1 **MULE-HIDE STANDARD BLACK EPDM** are nominal 45-mil (1.1 mm), 60-mil (1.5 mm) or 90-mil (2.2 mm) thick, non-reinforced Ethylene Propylene Diene Monomer based roof membranes.
- 4.2 **MULE-HIDE WHITE-ON-BLACK EPDM** is a nominal 60-mil (1.5 mm) or 90-mil (2.2 mm) thick non-reinforced, bi-laminate, white-on-black, Ethylene Propylene Diene Monomer based roof membrane.
- 4.3 **MULE-HIDE STANDARD REINFORCED EPDM** and **MULE-HIDE FR REINFORCED EPDM** are nominal 45-mil (1.1 mm), 60-mil (1.5 mm) or 75-mil (1.9 mm) thick, internally-reinforced Ethylene Propylene Diene Monomer based roof membranes.

5. LIMITATIONS:

- 5.1 This is a building code evaluation. Neither Trinity|ERD nor Robert Nieminen, P.E. are, in any way, the Designer of Record for any project on which this Evaluation Report, or previous versions thereof, is/was used for permitting or design guidance unless retained specifically for that purpose.
- 5.2 Fire classification is not part of this Evaluation Report; refer to a current Approved Roofing Materials Directory for fire ratings of this product.
- 5.3 For steel deck installations, foam plastic insulation shall be separated from the building interior in accordance with FBC 2603.4 unless the exceptions stated in FBC 2603.4.1 and 2603.6 apply.
- 5.4 The evaluation herein pertains to above-deck roof components; deck-attachment details pertain to 'as-tested' conditions under TAS 114, Appendix J. Roof decks shall be in accordance with FBC (HVHZ) requirements to the satisfaction of the AHJ.
- 5.5 Fastener spacing for mechanical attachment of anchor/base sheet or membrane is based on a minimum fastener resistance value in conjunction with the maximum design pressure (MDP) listed for 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 qualified design professional – may be submitted. Said revised fastener spacing shall utilize the withdrawal resistance value taken from Testing Application Standard TAS 105 and calculations in compliance with Roofing Application Standard RAS 117 or RAS 137.

- 5.5.1 If mechanical attachment to the structural deck through lightweight insulating concrete is proposed, field withdrawal resistance testing shall be performed to confirm equivalent or determine enhanced fastening patterns and density. All testing and fastening design shall be in compliance with Testing Application Standard TAS 105 and Roofing Application Standard RAS 117 and/or RAS 137. Calculations shall be prepared, signed and sealed by a qualified design professional.
- 5.6 For systems where specific lightweight insulating concrete is referenced, consult the current HVHZ product approval documentation for specific deck construction and limitations. For systems where specific lightweight insulating concrete is not referenced, the minimum design mix shall be for minimum 300 psi cellular material.
- 5.7 For recover installations, the existing roof shall be examined in accordance with FBC 1521.
- 5.8 Perimeter and corner areas shall comply with the enhanced uplift pressure requirements of these areas. Fastener densities shall be increased, as calculated in compliance with Roofing Application Standard RAS 117 and/or RAS 137 by a qualified design professional. ****This extrapolation is not permitted for systems marked with an asterisk*.***
- 5.9 All attachment and sizing of perimeter nailers, metal profile and/or flashing termination designs shall conform to Roofing Application Standard RAS 111 and applicable wind load requirements.
- 5.10 For assemblies marked with an asterisk*, the maximum design pressure (MDP) limitation listed shall be applicable to all roof pressure zones (i.e., field, perimeters and corners). Neither rational analysis, nor extrapolation is permitted for enhanced attachment at enhanced pressure zones (i.e., perimeters, corners and extended corners).
- 5.11 For bonded insulation or membrane over existing substrates in a recover installation, the existing roof system shall be capable of resisting project design pressures on its own merit to the satisfaction of the AHJ, as documented through field uplift testing in accordance with TAS 124.
- 5.12 All products listed herein shall have quality assurance audit in accordance with the Florida Building Code and Florida Administrative Code Rule 61G20-3.

6. INSTALLATION:

- 6.1 Mule-Hide EPDM Single Ply Roof Systems shall be installed in accordance with Mule-Hide Products Co., Inc. published installation instructions, subject to the Limitations / Conditions of Use noted below.
- 6.2 System attachment requirements for wind load resistance are set forth in Appendix 1. "MDP" = Maximum Design Pressure is the result of testing for wind load resistance based on allowable wind loads, and reflects the ultimate passing pressure divided by 2 (the 2 to 1 margin of safety per FBC TAS 114 has already been applied). Refer to FBC 1620 and RAS 128 for determination of design wind loads.
- 6.3 For mechanically fastened membrane systems (Type D) over profiled steel deck, membrane shall be installed running perpendicular to steel deck flutes.

7. QUALITY ASSURANCE ENTITY:

UL, LLC. – QUA9625; (414) 248-6409; karen.buchmann@ul.com

- THE 20-PAGES THAT FOLLOW FORM PART OF THIS EVALUATION REPORT -

APPENDIX 1: ATTACHMENT REQUIREMENTS FOR WIND UPLIFT RESISTANCE

Table	Deck	Application	Type	Description	Page
1A	Wood	New, Reroof (Tear-Off), Recover	C	Mechanically Attached Insulation, Bonded Roof Cover	3-4
2A	Steel or Conc.	New, Reroof (Tear-Off), Recover	B-1	Mechanically Attached Base Insulation, Bonded Top Insulation, Bonded Roof Cover	5
2B	Steel or Conc.	New, Reroof (Tear-Off), Recover	C	Mechanically Attached Insulation, Bonded Roof Cover	5-10
2C-1	Steel or Conc.	New, Reroof (Tear-Off), Recover	D	Insulated, Mechanically Attached Roof Cover (Stress Plates)	11
2C-2	Steel or Conc.	New, Reroof (Tear-Off), Recover	D	Insulated, Mechanically Attached Roof Cover (Battens)	12
3A-1	Concrete	New, Reroof (Tear-Off)	A-1A	Bonded Insulation, Bonded Roof Cover	13-17
3A-2	Concrete	New, Reroof (Tear-Off)	A-1B	Bonded Temp Roof, Bonded Insulation, Bonded Roof Cover	18
3B	Concrete	New, Reroof (Tear-Off)	F	Non-Insulated, Bonded Roof Cover	18
4A	Various	Recover	A-1	Bonded Insulation, Bonded Roof Cover	19-20

The following notes apply to the systems outlined herein:

- The evaluation herein pertains to above-deck roof components; deck-attachment details pertain to 'as-tested' conditions under TAS 114, Appendix J. Roof decks shall be in accordance with FBC (HVHZ) requirements to the satisfaction of the AHJ.
- Unless otherwise noted, fasteners and stress plates for insulation attachment shall be as follows. Fasteners shall be of sufficient length for the following engagements:
 - Wood Deck: Mule-Hide HDP Fastener with Mule-Hide 3 in. Insulation Plate, OMG #12 or #14 Roofgrip with Flat Bottom Plate, OMG #12 Standard or #14 HD with OMG Standard metal plate, Dekfast #12 or #14 with Hex Plate, Trufast DP or HD with Trufast 3" Metal Insulation Plate Plates. Minimum 1-inch wood penetration.
 - Steel Deck: Mule-Hide HDP Fastener with Mule-Hide 3 in. Insulation Plate, OMG #12 or #14 Roofgrip with Flat Bottom Plate, OMG #12 Standard or #14 HD with OMG Standard metal plate, Dekfast #12 or #14 with Hex Plate, Trufast DP or HD with Trufast 3" Metal Insulation Plate Plates. Minimum ¾-inch steel penetration, engage the top flute of the steel deck.
 - Concrete Deck: Mule-Hide HDP Fastener or Mule-Hide CF with Mule-Hide 3 in. Insulation Plate, OMG #14 Roofgrip with Flat Bottom Plate, OMG #14 HD or CD-10 with OMG Standard metal plate, Dekfast #14 or Dekspike with Hex Plate, Trufast HD or CF with Trufast 3" Metal Insulation Plate Plates. Minimum 1.25-inch embedment. Fasteners installed with a pilot hole in accordance with the fastener manufacturer's published installation instructions
- Unless otherwise noted, insulation may be any one layer or combination of polyisocyanurate, polystyrene, wood fiberboard, perlite, Dens Deck, Dens Deck Prime, SECUROCK Gypsum-Fiber Roof Board or SECUROCK Glass-Mat Roof Board that meets the QA requirements of F.A.C. Rule 61G20-3 and is documented as meeting FBC (HVHZ) 1516 and, for foam plastic, FBC 2603.4.1 or 2603.6, when installed with the roof cover.
- If mechanical attachment to the structural deck through lightweight insulating concrete is proposed, field withdrawal resistance testing shall be performed to confirm equivalent or determine enhanced fastening patterns and density. All testing and fastening design shall be in compliance with Testing Application Standard TAS 105 and Roofing Application Standard RAS 117 and/or RAS 137. Calculations shall be prepared, signed and sealed by a qualified design professional.
- Preliminary insulation attachment for System Type D = Minimum four fasteners per 4 x 8 ft board or minimum two fasteners per 4 x 4 ft board.
- Unless otherwise noted, insulation adhesive application rates are as follows. Ribbon or bead width is at the time of application; the ribbons/beads shall expand as noted in the manufacturer's published instructions:
 - Hot Asphalt: Applied at a rate of 20-40 lbs./sq.
 - FAST 100 LV (full): Full-coverage at 1 gal./square.
 - FAST 100 LV (ribbon): Continuous 0.75 to 1-inch wide ribbons, 12-inch o.c.
 - Flexible Fast (Full): Full-coverage at 1 gal./square.
 - Flexible Fast (Ribbon): Continuous 1-inch wide ribbons, which spread to 2-3 inch wide, 12-inch o.c.
 - OlyBond 500: Continuous ¾ to 1-inch wide ribbons, 12-inch o.c. using PaceCart or SpotShot application devices.
 - Note: When multiple layers(s) of insulation and/or coverboard are installed in ribbon-applied adhesive, board joints shall be staggered.
 - Note: The maximum edge distance from the adhesive ribbon to the edge of the insulation board shall be not less than one-half the specified ribbons spacing
- Unless otherwise noted, all insulations are flat stock or taper board of the minimum thickness noted. Tapered polyisocyanurate may be substituted for the flat stock board with the following Maximum Design Pressure (MDP) limitations:
 - FAST 100 LV or Flexible Fast (full or ribbon): MDP -157.5 psf (Min. 0.5-inch thick)
 - OlyBond 500: MDP -187.5 psf (Min. 0.5-inch thick)

8. Bonded polyisocyanurate insulation boards shall be maximum 4 x 4 ft.
9. Perimeter and corner areas shall comply with the enhanced uplift pressure requirements of these areas. Fastener densities shall be increased, as calculated in compliance with Roofing Application Standard RAS 117 and/or RAS 137 by a qualified design professional. ****This extrapolation is not permitted for systems marked with an asterisk*.***
10. For assemblies marked with an asterisk*, the maximum design pressure (MDP) limitation listed shall be applicable to all roof pressure zones (i.e., field, perimeters and corners). Neither rational analysis, nor extrapolation is permitted for enhanced attachment at enhanced pressure zones (i.e., perimeters, corners and extended corners).
11. Fastener spacing for mechanical attachment of anchor/base sheet or membrane is based on a minimum fastener resistance value in conjunction with the maximum design pressure (MDP) listed for 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 qualified design professional – may be submitted. Said revised fastener spacing shall utilize the withdrawal resistance value taken from Testing Application Standard TAS 105 and calculations in compliance with Roofing Application Standard RAS 117 or RAS 137.
12. For bonded insulation or membrane over existing substrates in a recover installation, the existing roof system shall be capable of resisting project design pressures on its own merit to the satisfaction of the AHJ, as documented through field uplift testing in accordance with TAS 124.
13. For System Type D, steel deck applications, the roof membrane shall be run with its length perpendicular to the steel deck flutes.
14. For recover installations, the existing roof shall be examined in accordance with FBC 1521. For Recover Applications using System Type D, the insulation is optional. Alternatively, min. 0.5-inch HP Recovery Board, Poly ISO 1-HD, SecurShield HD or H-Shield HD or min. 0.25-inch to 0.625-inch Dens Deck, Dens Deck Prime, SECUROCK Gypsum-Fiber Roof Board or SECUROCK Glass-Mat Roof Board or min. 3/8-inch Insulfoam R-Tech EPS or Fan-Fold may be used as a separator board, preliminarily attached prior to roof cover installation.
15. For membrane attachment using batten-strips, end laps shall be spliced with sufficient dimension to allow for minimum 2-fasteners at each batten-strip lap.
16. Side laps shall be sealed in accordance with Mule-Hide requirements:
 - Primed with Mule-Hide Tape Primer and adhered with Mule-Hide In-Seam Tape.
 - Cleaned with Mule-Hide Splice Cleaner and adhered with Mule-Hide Black or White Splice Adhesive.
17. Unless otherwise noted, membrane adhesive application rates are as follows:

Membrane	Adhesive	Method	Rate
Non-Fleece Roof Covers	Mule-Hide Bonding Adhesive	Contact (both sides)	1.67 gal/square
Non-Fleece Roof Covers	WBBA 2000	Contact (both sides)	1.67 to 2.0 gal/square
Non-Fleece Roof Covers	Mule-Hide Low VOC Bonding Adhesive	Contact (both sides)	1.67 gal/square
Non-Fleece Roof Covers	Mule-Hide Acrylic Water Base Bonding Adhesive	Wet-lay (substrate)	1 gal/square

18. “MDP” = Maximum Design Pressure is the result of testing for wind load resistance based on allowable wind loads. Refer to FBC (HVHZ) 1620 and RAS 128 for determination of design wind loads.

**TABLE 1A: WOOD DECKS - NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER
SYSTEM TYPE C: MECHANICALLY ATTACHED INSULATION, BONDED ROOF COVER**

System No.	Deck (See Note 1)	Base Insulation Layer	Top Insulation Layer			Roof Cover / Adhesive	MDP (psf)
			Type	Fasteners	Attach		
MEMBRANE APPLIED IN MULE-HIDE BONDING ADHESIVE:							
W-1	Min. 19/32" plywood or wood plank	(Optional) One or more layers, any combination, loose laid	Min. 0.5-inch thick HP Recovery Board, min. 0.25-inch thick Dens Deck, Dens Deck Prime or SECUROCK Gypsum-Fiber Roof Board, min. 1.5-inch Poly ISO 2, ACFoam II, ACFoam III, Polyiso HP-H, HP-N, HP-W, Poly ISO 1, H-Shield, H-Shield CG, ENRGY 3, PSI-25, Multi-Max FA-3	See Note 2	1 per 2 ft ²	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM / Mule-Hide Bonding Adhesive	-45.0*
W-2	Min. 19/32" plywood or wood plank	(Optional) One or more layers, any combination, loose laid	Min. 1.5-inch ACFoam Composite/FB, Polyiso HP-H Composite, Poly ISO 1-WF, H-Shield-WF, ENRGY 3 Plus	See Note 2	1 per 3 ft ²	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM / Mule-Hide Bonding Adhesive	-45.0*
W-3	Min. 19/32" plywood or wood plank	(Optional) One or more layers, any combination, loose laid	Min. 2.0-inch Poly ISO 2, ACFoam II, ACFoam III, Polyiso HP-H, HP-N, HP-W, Poly ISO 1, H-Shield, H-Shield CG, ENRGY 3, PSI-25, Multi-Max FA-3	See Note 2	1 per 4 ft ²	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM / Mule-Hide Bonding Adhesive	-45.0*
W-4	Min. 23/32-inch plywood	(Optional) One or more layers, any combination, loose laid	Min 0.5-inch SECUROCK Gypsum-Fiber Roof Board	See Note 2	1 per 3.2 ft ²	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM / Mule-Hide Bonding Adhesive	-45.0*
MEMBRANE APPLIED IN LOW VOC BONDING ADHESIVE:							
W-5	Min. 23/32-inch plywood	(Optional) One or more layers, any combination, loose laid	Min 0.5-inch SECUROCK Gypsum-Fiber Roof Board	See Note 2	1 per 3.2 ft ²	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM / Mule-Hide Low VOC Bonding Adhesive	-45.0*
MEMBRANE APPLIED IN MULE-HIDE ACRYLIC WATER BASE BONDING ADHESIVE:							
W-6	Min. 19/32" plywood or wood plank, max. 24" spans	(Optional) One or more layers, any combination, loose laid	Min. 19/32-inch Mule-Hide FR Deck Panel A (plywood version), FR Deck Panel C (plywood version) or PyroXL®	See Note 2	1 per 4 ft ²	Mule-Hide Standard Black EPDM or Mule-Hide White-on-Black EPDM / Mule-Hide Acrylic Water Base Bonding Adhesive	-45.0*
W-7	Min. 19/32" plywood or wood plank, max. 24" spans	None	Min. 19/32" thick Mule-Hide PyroXL® attached through to engage wood supports	FBC HVHZ listed 10d ring shank nails	Edges: 6" o.c. Center: 12" o.c.	Mule-Hide Standard Black EPDM or Mule-Hide White-on-Black EPDM / Mule-Hide Acrylic Water Base Bonding Adhesive	-75.0*
W-8	Min. 19/32" plywood or wood plank, max. 24" spans	(Optional) One or more layers, any combination, loose laid	Min. 19/32" thick Mule-Hide PyroXL® attached through to engage wood supports	FBC HVHZ listed No. 8 course thread screws, min. 2-inch embedment	Edges: 6" o.c. Center: 12" o.c.	Mule-Hide Standard Black EPDM or Mule-Hide White-on-Black EPDM / Mule-Hide Acrylic Water Base Bonding Adhesive	-97.5*
W-9	Min. 19/32" plywood or wood plank, max. 12" spans	None	Min. 19/32" thick Mule-Hide PyroXL® attached through to engage wood supports	FBC HVHZ listed 10d ring shank nails	Edges: 6" o.c. Center: 12" o.c.	Mule-Hide Standard Black EPDM or Mule-Hide White-on-Black EPDM / Mule-Hide Acrylic Water Base Bonding Adhesive	-105.0*

**TABLE 1A: WOOD DECKS - NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER
SYSTEM TYPE C: MECHANICALLY ATTACHED INSULATION, BONDED ROOF COVER**

System No.	Deck (See Note 1)	Base Insulation Layer	Top Insulation Layer			Roof Cover / Adhesive	MDP (psf)
			Type	Fasteners	Attach		
W-10	Min. 19/32" plywood or wood plank, max. 24" spans	(Optional) One or more layers, any combination, loose laid	Min. 19/32-inch Mule-Hide FR Deck Panel A (plywood version) or FR Deck Panel C (plywood version) attached through to engage wood supports	FBC HVHZ listed No. 8 course thread screws, min. 2-inch embedment	Edges: 6" o.c. Center: 6" o.c.	Mule-Hide Standard Black EPDM or Mule-Hide White-on-Black EPDM / Mule-Hide Acrylic Water Base Bonding Adhesive	-120.0*
W-11	Min. 19/32" plywood or wood plank, max. 12" spans	(Optional) One or more layers, any combination, loose laid	Min. 23/32" thick Mule-Hide PyroXL® attached through to engage wood supports	FBC HVHZ listed No. 8 course thread screws, min. 1¼-inch embedment	Edges: 6" o.c. Center: 6" o.c.	Mule-Hide Standard Black EPDM or Mule-Hide White-on-Black EPDM / Mule-Hide Acrylic Water Base Bonding Adhesive	-135.0*
W-12	Min. 19/32" plywood or wood plank, max. 12" spans	(Optional) One or more layers, any combination, loose laid	Min. 19/32" thick Mule-Hide PyroXL® attached through to engage wood supports	FBC HVHZ listed No. 8 course thread screws, min. 2-inch embedment	Edges: 6" o.c. Center: 12" o.c.	Mule-Hide Standard Black EPDM or Mule-Hide White-on-Black EPDM / Mule-Hide Acrylic Water Base Bonding Adhesive	-140.0*

TABLE 2A: STEEL OR CONCRETE DECKS - NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER
SYSTEM TYPE B-1: MECHANICALLY ATTACHED BASE INSULATION, BONDED TOP INSULATION, BONDED ROOF COVER

System No.	Deck (See Note 1)	Base Insulation Layer			Top Insulation Layer		Roof Cover / Adhesive	MDP (psf)
		Type	Fasten	Attach	Type	Attach		
MEMBRANE APPLIED IN MULE-HIDE BONDING ADHESIVE:								
SC-1	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi concrete	Min. 0.5-inch Dens Deck followed by min. 2-inch Insulfoam VIII	See Note 2	1 per 2.0 ft ²	Min. 2-inch Insulfoam HD Composite	Flexible Fast (Ribbon, 6-inch o.c.)	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM / Mule-Hide Bonding Adhesive	-45.0*
SC-2	Min. 22 ga., type B, Grade 33 steel; 6' spans, Traxx/5 screws 6" o.c. or min. 2,500 psi concrete	Min. 2-inch Polyiso HP-H or Poly ISO 1, H-Shield	See Note 2	1 per 1.33 ft ²	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	OB500	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM / Mule-Hide Bonding Adhesive	-60.0

TABLE 2B: STEEL OR CONCRETE DECKS - NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER
SYSTEM TYPE C: MECHANICALLY ATTACHED INSULATION, BONDED ROOF COVER

System No.	Deck (See Note 1)	Base Insulation Layer	Top Insulation Layer			Roof Cover / Adhesive	MDP (psf)
			Type	Fasteners	Attach		
MEMBRANE APPLIED IN MULE-HIDE BONDING ADHESIVE:							
SC-3	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi concrete	(Optional) One or more layers, any combination, loose laid	Min. 0.5-inch thick HP Recovery Board	See Note 2	1 per 2 ft ²	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM / Mule-Hide Bonding Adhesive	-45.0*
SC-4	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi concrete	(Optional) One or more layers, any combination, loose laid	Min. 0.25-inch thick Dens Deck, Dens Deck Prime or SECUROCK Gypsum-Fiber Roof Board	See Note 2	1 per 2 ft ²	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM / Mule-Hide Bonding Adhesive	-45.0*
SC-5	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi concrete	(Optional) One or more layers, any combination, loose laid	Min. 1-inch Polyiso HP-H or Poly ISO 1, H-Shield	See Note 2	1 per 1.6 ft ²	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM / Mule-Hide Bonding Adhesive	-45.0*
SC-6	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi concrete	(Optional) One or more layers, any combination, loose laid	Min. 1.5-inch Polyiso HP-H, HP-N, HP-W, Poly ISO 1, H-Shield, Poly ISO 2, ACfoam II, ACfoam III, H-Shield CG, ENRGY 3, PSI-25, Multi-Max FA-3	See Note 2	1 per 2 ft ²	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM / Mule-Hide Bonding Adhesive	-45.0*

**TABLE 2B: STEEL OR CONCRETE DECKS - NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER
SYSTEM TYPE C: MECHANICALLY ATTACHED INSULATION, BONDED ROOF COVER**

System No.	Deck (See Note 1)	Base Insulation Layer	Top Insulation Layer			Roof Cover / Adhesive	MDP (psf)
			Type	Fasteners	Attach		
SC-7	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi concrete	(Optional) One or more layers, any combination, loose laid concrete	Min. 2.0-inch Polyiso HP-H, HP-N, HP-W, Poly ISO 1, H-Shield, Poly ISO 2, ACFoam II, ACFoam III, H-Shield CG, ENRGY 3, PSI-25, Multi-Max FA-3	See Note 2	1 per 4 ft ²	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM / Mule-Hide Bonding Adhesive	-45.0*
SC-8	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi concrete	(Optional) One or more layers, any combination, loose laid concrete	Min. 1.5-inch Polyiso HP-H Composite, ACFoam Composite/FB, Poly ISO 1-WF, H-Shield-WF, ENRGY 3 Plus	See Note 2	1 per 3 ft ²	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM / Mule-Hide Bonding Adhesive	-45.0*
SC-9	Min. 22 ga., type B, Grade 33 steel or structural concrete	Min. 1.5-inch Polyiso HP-H, HP-N or HP-W, Poly ISO 1, H-Shield, ENRGY 3 or Poly ISO 2, ACFoam II	Min. 0.5-inch Poly ISO 1-HD, SecurShield HD Plus	See Note 2	1 per 4 ft ²	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM / Mule-Hide Bonding Adhesive	-45.0*
SC-10	Min. 22 ga., type B, Grade 33 steel; 6' spans, Traxx/5 screws 6" o.c. or min. 2,500 psi concrete	Min. 1-inch Approved polyisocyanurate	Min. 0.5-inch Dens Deck Prime	See Note 2	1 per 1.6 ft ²	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM / Mule-Hide Bonding Adhesive	-52.5
SC-11	Min. 22 ga., type B, Grade 33 steel; 6' spans, Traxx/5 screws 6" o.c. or structural concrete	Min. 1.5-inch Polyiso HP-H, HP-N or HP-W, Poly ISO 1, H-Shield, ENRGY 3 or Poly ISO 2, ACFoam II	Min. 0.5-inch Poly ISO 1-HD, SecurShield HD Plus	See Note 2	1 per 1.78 ft ²	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM / Mule-Hide Bonding Adhesive	-60.0
SC-12	Min. 22 ga., type B, Grade 33 steel; 6' spans, Traxx/5 screws 6" o.c. or min. 2,500 psi concrete	(Optional) One or more layers, any combination, loose laid concrete	Min. 2-inch SecurShield	See Note 2	1 per 2 ft ²	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM / Mule-Hide Bonding Adhesive	-60.0
SC-13	Min. 22 ga., type B, Grade 33 steel; 6' spans, Traxx/5 screws 6" o.c. or min. 2,500 psi concrete	Min. 0.5-inch Dens Deck, Dens Deck Prime or SECUROCK Gypsum-Fiber Roof Board, followed by min. 1.5-inch STYROFOAM DECKMATE Plus FA	Min. 0.5-inch Dens Deck, Dens Deck Prime or SECUROCK Gypsum-Fiber Roof Board	See Note 2	1 per 1.3 ft ²	Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM / Mule-Hide Bonding Adhesive	-67.5
SC-14	Min. 22 ga., type B, Grade 33 steel; 6' spans, Traxx/5 screws 6" o.c. or min. 2,500 psi concrete	Min. 1.5-inch Approved polyisocyanurate	Min. 0.5-inch Dens Deck, Dens Deck Prime or SECUROCK Gypsum-Fiber Roof Board	See Note 2	1 per 1.3 ft ²	Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM / Mule-Hide Bonding Adhesive	-67.5

**TABLE 2B: STEEL OR CONCRETE DECKS - NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER
SYSTEM TYPE C: MECHANICALLY ATTACHED INSULATION, BONDED ROOF COVER**

System No.	Deck (See Note 1)	Base Insulation Layer	Top Insulation Layer			Roof Cover / Adhesive	MDP (psf)
			Type	Fasteners	Attach		
SC-15	Min. 22 ga., type B, Grade 33 steel; 6' spans, Traxx/5 screws 6" o.c. or min. 2,500 psi concrete	(Optional) One or more layers, any combination, loose laid	Min. 2.0-inch Polyiso HP-H, HP-N, HP-W, Poly ISO 2, ACFoam II, Poly ISO 1, H-Shield or ENRGY 3.	See Note 2	1 per 1.6 ft ²	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM / Mule-Hide Bonding Adhesive	-75.0
SC-16	Min. 22 ga., type B, Grade 33 steel; 6' spans, Traxx/5 screws 6" o.c. or min. 2,500 psi concrete	Min. 1-inch Approved polyisocyanurate	Min. 0.5-inch SECUROCK Gypsum-Fiber Roof Board	See Note 2	1 per 1.6 ft ²	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM / Mule-Hide Bonding Adhesive	-75.0
SC-17	Min. 22 ga., type B, Grade 33 steel; 6' spans, Traxx/5 screws 6" o.c. or min. 2,500 psi concrete	Min. 2-inch Approved polyisocyanurate	Min. 19/32-inch APA rated plywood	See Note 2	1 per 1.6 ft ²	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM / Mule-Hide Bonding Adhesive	-82.5
SC-18	Min. 22 ga., type B, Grade 33 steel; 6' spans, Traxx/5 screws 6" o.c. or min. 2,500 psi concrete	Min. 0.5-inch Dens Deck, Dens Deck Prime or SECUROCK Gypsum-Fiber Roof Board, followed by min. 1.5-inch STYROFOAM DECKMATE Plus FA	Min. 0.5-inch Dens Deck, Dens Deck Prime or SECUROCK Gypsum-Fiber Roof Board	See Note 2	1 per 1 ft ²	Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM / Mule-Hide Bonding Adhesive	-97.5
SC-19	Min. 22 ga., type B, Grade 33 steel; 6' spans, Traxx/5 screws 6" o.c. or min. 2,500 psi concrete	Min. 1.5-inch Approved polyisocyanurate	Min. 0.5-inch Dens Deck, Dens Deck Prime or SECUROCK Gypsum-Fiber Roof Board	See Note 2	1 per 1 ft ²	Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM / Mule-Hide Bonding Adhesive	-97.5
SC-20	Min. 22 ga., type B, Grade 33 steel; 6' spans, Traxx/5 screws 6" o.c. or min. 2,500 psi concrete	Min. 1.5-inch Approved polyisocyanurate	Min. 19/32-inch APA rated plywood	See Note 2	1 per 1 ft ²	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM / Mule-Hide Bonding Adhesive	-105.0
SC-21	Min. 22 ga., type B, Grade 33 steel; 6' spans, two (2) Traxx/5 screws 6" o.c. or min. 2,500 psi concrete	(Optional) One or more layers, any combination, loose laid	Min. 2-inch SecurShield, Poly ISO 1-HD Composite, SecurShield HD Composite or H-Shield HD Composite	See Note 2	1 per 1 ft ²	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM / Mule-Hide Bonding Adhesive	-112.5
SC-22	Min. 22 ga., type B, Grade 33 steel; 6' spans, two (2) Traxx/5 screws 6" o.c. or structural concrete	Min. 1.5-inch Polyiso HP-H, HP-N or HP-W, Poly ISO 1, H-Shield, ENRGY 3 or Poly ISO 2, ACFoam II	Min. 0.5-inch Poly ISO 1-HD, SecurShield HD Plus	See Note 2	1 per 1.33 ft ²	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM / Mule-Hide Bonding Adhesive	-112.5
SC-23	Min. 22 ga., type B, Grade 80 steel; 6' spans, two (2) Traxx/5 screws 6" o.c. or min. 2,500 psi concrete	(Optional) One or more layers, any combination, loose laid	Min. 2-inch SecurShield, Poly ISO 1-HD Composite, SecurShield HD Composite or H-Shield HD Composite	See Note 2	1 per 1 ft ²	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM / Mule-Hide Bonding Adhesive	-127.5

**TABLE 2B: STEEL OR CONCRETE DECKS - NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER
SYSTEM TYPE C: MECHANICALLY ATTACHED INSULATION, BONDED ROOF COVER**

System No.	Deck (See Note 1)	Base Insulation Layer	Top Insulation Layer			Roof Cover / Adhesive	MDP (psf)
			Type	Fasteners	Attach		
MEMBRANE APPLIED IN WBBA 2000:							
SC-24	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi concrete	Min. 1.5-inch Poly ISO 2, ACFoam II, Polyiso HP-H, HP-N, HP-W, Poly ISO 1, H-Shield, ENRGY 3	Min. 0.5-inch HP Recovery Board	See Note 2	1 per 2 ft ²	Mule-Hide Standard Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM / WBBA 2000	-45.0*
SC-25	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi concrete	(Optional) One or more layers, any combination, loose laid	Min. 0.25-inch Dens Deck Prime	See Note 2	1 per 2 ft ²	Mule-Hide Standard Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM / WBBA 2000	-45.0*
SC-26	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi concrete	(Optional) One or more layers, any combination, loose laid	Min. 19/32" APA Rated plywood	See Note 2	1 per 2 ft ²	Mule-Hide Standard Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM / WBBA 2000	-45.0*
SC-27	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi concrete	(Optional) One or more layers, any combination, loose laid	Min. 1-inch Polyiso HP-H or Poly ISO 1, H-Shield	See Note 2	1 per 1.6 ft ²	Mule-Hide Standard Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM / WBBA 2000	-45.0*
SC-28	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi concrete	(Optional) One or more layers, any combination, loose laid	Min. 1.5-inch Polyiso HP-H, HP-N, HP-W, Poly ISO 2, ACFoam II, Poly ISO 1, H-Shield, ENRGY 3	See Note 2	1 per 2 ft ²	Mule-Hide Standard Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM / WBBA 2000	-45.0*
MEMBRANE APPLIED IN LOW VOC BONDING ADHESIVE:							
SC-29	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi concrete	(Optional) One or more layers, any combination, loose laid	Min. 1.5-inch Polyiso HP-H or Poly ISO 1, H-Shield	See Note 2	1 per 3.2 ft ²	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM / Mule-Hide Low VOC Bonding Adhesive	-45.0*
SC-30	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi concrete	(Optional) One or more layers, any combination, loose laid	Min. 2.0-inch Polyiso HP-H or Poly ISO 1, H-Shield	See Note 2	1 per 4 ft ²	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM / Mule-Hide Low VOC Bonding Adhesive	-45.0*
SC-31	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi concrete	Min. 1.5-inch Poly ISO 2, ACFoam II, Polyiso HP-H, HP-N, HP-W, Poly ISO 1, H-Shield, ENRGY 3	Min. 0.5-inch HP Recovery Board	See Note 2	1 per 2 ft ²	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM / Mule-Hide Low VOC Bonding Adhesive	-45.0*
SC-32	Min. 22 ga., type B, Grade 33 steel; 6' spans, Traxx/5 screws 6" o.c. or min. 2,500 psi concrete	(Optional) One or more layers, any combination, loose laid	Min. 2.0-inch Polyiso HP-H or Poly ISO 1, H-Shield	See Note 2	1 per 1.6 ft ²	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM / Mule-Hide Low VOC Bonding Adhesive	-75.0

**TABLE 2B: STEEL OR CONCRETE DECKS - NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER
SYSTEM TYPE C: MECHANICALLY ATTACHED INSULATION, BONDED ROOF COVER**

System No.	Deck (See Note 1)	Base Insulation Layer	Top Insulation Layer			Roof Cover / Adhesive	MDP (psf)
			Type	Fasteners	Attach		
SC-33	Min. 22 ga., type B, Grade 33 steel; 6' spans, Traxx/5 screws 6" o.c. or min. 2,500 psi concrete	(Optional) One or more layers, any combination, loose laid	Min. 2-inch SecurShield	See Note 2	1 per 1 ft ²	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM / Mule-Hide Low VOC Bonding Adhesive	-75.0
MEMBRANE APPLIED IN MULE-HIDE ACRYLIC WATER BASE BONDING ADHESIVE:							
SC-34	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi concrete	Min. 0.25-inch Dens Deck or SECUROCK Gypsum-Fiber Roof Board or Min. 1.5-inch Poly ISO 1 or H-Shield, loose laid.	Min. 19/32-inch Mule-Hide FR Deck Panel A (plywood version), FR Deck Panel C (plywood version) or PyroXL®	See Note 2	1 per 2 ft ²	Mule-Hide Standard Black EPDM or Mule-Hide White-on-Black EPDM / Mule-Hide Acrylic Water Base Bonding Adhesive	-45.0*
SC-35	Min. 22 ga., type B, Grade 33 steel; 6' spans, Traxx/5 screws 6" o.c. or min. 2,500 psi concrete	Min. 0.25-inch Dens Deck or SECUROCK Gypsum-Fiber Roof Board or Min. 1.5-inch Poly ISO 1 or H-Shield, loose laid.	Min. 19/32-inch APA rated plywood, Mule-Hide FR Deck Panel A (plywood version), FR Deck Panel C (plywood version) or PyroXL®	See Note 2	1 per 1.6 ft ²	Mule-Hide Standard Black EPDM or Mule-Hide White-on-Black EPDM / Mule-Hide Acrylic Water Base Bonding Adhesive	-82.5
SC-36	Min. 22 ga., type B, Grade 33 steel at max. 5'-4" spans or Min. 22 ga., Type B, Grade 80 steel at max. 6' spans or Min. 20 ga., type B, Grade 33 steel max. 6' spans Attached with two (2) Traxx/5 screws with ¾" washers, 6" o.c. or min. 2,500 psi concrete	Min. 0.25-inch Dens Deck or SECUROCK Gypsum-Fiber Roof Board or Min. 1.5-inch Poly ISO 1 or H-Shield, loose laid.	Min. 19/32-inch APA rated plywood, Mule-Hide FR Deck Panel A (plywood version), FR Deck Panel C (plywood version) or PyroXL®	Mule-Hide HD Fasteners and Mule-Hide 3 in. Insulation Plates or Trufast HD Fasteners and Trufast 3" Metal Insulation Plate plates	1 per 1.33 ft ²	Mule-Hide Standard Black EPDM or Mule-Hide White-on-Black EPDM / Mule-Hide Acrylic Water Base Bonding Adhesive	-105.0
SC-37	Min. 22 ga., type B, Grade 33 steel at max. 5'-4" spans or Min. 22 ga., Type B, Grade 80 steel at max. 6' spans or Min. 20 ga., type B, Grade 33 steel max. 6' spans Attached with two (2) Traxx/5 screws with ¾" washers, 6" o.c. or min. 2,500 psi concrete	(Optional) Min. 0.25-inch Dens Deck or SECUROCK Gypsum-Fiber Roof Board or Min. 1.5-inch Poly ISO 1 or H-Shield, loose laid.	Min. 2-inch Poly ISO 1-NB (plywood top) or H-Shield NB (plywood top) or Min. 3-inch Poly ISO 1 Cool-Vent (plywood top) or Cool-Vent (plywood top)	Mule-Hide HD Fasteners and Mule-Hide 3 in. Insulation Plates or Trufast HD Fasteners and Trufast 3" Metal Insulation Plate plates	1 per 1.33 ft ²	Mule-Hide Standard Black EPDM or Mule-Hide White-on-Black EPDM / Mule-Hide Acrylic Water Base Bonding Adhesive	-105.0

**TABLE 2B: STEEL OR CONCRETE DECKS - NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER
SYSTEM TYPE C: MECHANICALLY ATTACHED INSULATION, BONDED ROOF COVER**

System No.	Deck (See Note 1)	Base Insulation Layer	Top Insulation Layer			Roof Cover / Adhesive	MDP (psf)
			Type	Fasteners	Attach		
SC-38	Min. 22 ga., type B, Grade 33 steel at max. 4'-6" spans or Min. 22 ga., Type B, Grade 80 steel at max. 6' spans or Min. 20 ga., type B, Grade 33 steel max. 5' spans Min. 18 ga., type B, Grade 33 steel max. 5'-10" spans Attached with two (2) Traxx/5 screws with 3/4" washers, 6" o.c. or min. 2,500 psi concrete	Min. 0.25-inch Dens Deck or SECUROCK Gypsum-Fiber Roof Board or Min. 1.5-inch Poly ISO 1 or H-Shield, loose laid.	Min. 19/32-inch APA rated plywood, Mule-Hide FR Deck Panel A (plywood version), FR Deck Panel C (plywood version) or PyroXL®	Mule-Hide HD Fasteners and Mule-Hide 3 in. Insulation Plates or Trufast HD Fasteners and Trufast 3" Metal Insulation Plate plates	1 per 1 ft ²	Mule-Hide Standard Black EPDM or Mule-Hide White-on-Black EPDM / Mule-Hide Acrylic Water Base Bonding Adhesive	-150.0
SC-39	Min. 22 ga., type B, Grade 33 steel at max. 4'-6" spans or Min. 22 ga., Type B, Grade 80 steel at max. 6' spans or Min. 20 ga., type B, Grade 33 steel max. 5' spans Min. 18 ga., type B, Grade 33 steel max. 5'-10" spans Attached with two (2) Traxx/5 screws with 3/4" washers, 6" o.c. or min. 2,500 psi concrete	(Optional) Min. 0.25-inch Dens Deck or SECUROCK Gypsum-Fiber Roof Board or Min. 1.5-inch Poly ISO 1 or H-Shield, loose laid.	Min. 2-inch Poly ISO 1-NB (plywood top) or H-Shield NB (plywood top) or Min. 3-inch Poly ISO 1 Cool-Vent (plywood top) or Cool-Vent (plywood top)	Mule-Hide HD Fasteners and Mule-Hide 3 in. Insulation Plates or Trufast HD Fasteners and Trufast 3" Metal Insulation Plate plates	1 per 1 ft ²	Mule-Hide Standard Black EPDM or Mule-Hide White-on-Black EPDM / Mule-Hide Acrylic Water Base Bonding Adhesive	-150.0

**TABLE 2C-1: STEEL OR CONCRETE DECKS - NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER
SYSTEM TYPE D: INSULATED, MECHANICALLY ATTACHED ROOF COVER (STRESS PLATES)**

System No.	Deck	Insulation		Roof Cover			MDP (psf)
		Type	Attach	Membrane	Fasteners	Attachment	
SC-40	Min. 22 ga, type B, Grade 40 steel; 6' spans, Traxx/5 screws 6" o.c. or structural concrete	Min. 1.5" thick, one or more layers, any combination	Prelim attach	Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM (0.070" thick)	Mule-Hide HD Fasteners or Mule-Hide CF (concrete only) with Mule-Hide Polymer Seam Plates	6-inch o.c. within 6-inch wide laps spaced 114-inch o.c.	-52.5
SC-41	Min. 22 ga, type B, Grade 80 steel; 6' spans, Traxx/5 screws 6" o.c. or structural concrete	Min. 1.5" thick, one or more layers, any combination	Prelim attach	Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	Mule-Hide HD Fasteners or Mule-Hide CF (concrete only) with Mule-Hide Polymer Seam Plates	6-inch o.c. within 6-inch wide laps spaced 114-inch o.c.	-52.5
SC-42	Min. 22 ga, type B, Grade 33 steel; 6' spans, Traxx/5 screws 6" o.c. or structural concrete	Min. 1.5" thick, one or more layers, any combination	Prelim attach	Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	Mule-Hide HD Fasteners or Mule-Hide CF (concrete only) with Mule-Hide Polymer Seam Plates	6-inch o.c. within 6-inch wide laps spaced 90-inch o.c.	-52.5
SC-43	Min. 22 ga, type B, Grade 80 steel; 6' spans, Traxx/5 screws 6" o.c. or structural concrete	Min. 1.5" thick, one or more layers, any combination	Prelim attach	Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM (0.070" thick)	Mule-Hide HD Fasteners or Mule-Hide CF (concrete only) with Mule-Hide Polymer Seam Plates	6-inch o.c. within 7-inch wide laps spaced 115-inch o.c.	-60.0

**TABLE 2C-2: STEEL OR CONCRETE DECKS - NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER
SYSTEM TYPE D: INSULATED, MECHANICALLY ATTACHED ROOF COVER (BATTENS)**

System No.	Deck	Insulation		Roof Cover			MDP (psf)
		Type	Attach	Membrane	Fasteners	Attachment	
SC-44	Min. 22 ga, type B, Grade 80 steel; 6' spans, Traxx/5 screws 6" o.c.	Min. 1.5" thick, one or more layers, any combination	Prelim attach	Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	Sure-Tite Fasteners (steel only) with ST Membrane Fastening Bars	Fasteners 12-inch o.c. through batten within 6-inch wide laps spaced 114-inch o.c.	-45.0
SC-45	Min. 22 ga, type B, Grade 33 steel; 6' spans, Traxx/5 screws 6" o.c.	Min. 1.5" thick, one or more layers, any combination	Prelim attach	Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	Sure-Tite Fasteners (steel only) with ST Membrane Fastening Bars	Fasteners 12-inch o.c. through batten within 6-inch wide laps spaced 90-inch o.c.	-45.0
SC-46	Min. 22 ga, type B, Grade 40 steel; 6' spans, Traxx/5 screws 6" o.c. or structural concrete	Min. 1.5" thick, one or more layers, any combination	Prelim attach	Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	Mule-Hide EHD Fasteners (steel only) or Mule-Hide CF (concrete only) with Mule-Hide Metal Batten Bars or Sure-Tite Fasteners (steel only) with ST Membrane Fastening Bars	Fasteners 6-inch o.c. through batten within 6-inch wide laps spaced 114-inch o.c.	-52.5
SC-47	Min. 22 ga, type B, Grade 80 steel; 6' spans, Traxx/5 screws 6" o.c.	Min. 1.5" thick, one or more layers, any combination	Prelim attach	Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	Sure-Tite Fasteners (steel only) with ST Membrane Fastening Bars	Fasteners 12-inch o.c. through batten within 6-inch wide laps spaced 90-inch o.c.	-52.5
SC-48	Min. 22 ga, type B, Grade 80 steel; 6' spans, Traxx/5 screws 6" o.c. or structural concrete	Min. 1.5" thick, one or more layers, any combination	Prelim attach	Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	Mule-Hide EHD Fasteners (steel only) or Mule-Hide CF (concrete only) with Mule-Hide Metal Batten Bars or Sure-Tite Fasteners (steel only) with ST Membrane Fastening Bars	Fasteners 6-inch o.c. through batten within min. 5-inch wide laps spaced max. 115-inch o.c.	-60.0
SC-49	Min. 22 ga, type B, Grade 33 steel; 6' spans, Traxx/5 screws 6" o.c. or structural concrete	Min. 1.5" thick, one or more layers, any combination	Prelim attach	Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	Mule-Hide EHD Fasteners (steel only) or Mule-Hide CF (concrete only) with OMG Polymer Batten Strip.	Fasteners 6-inch o.c. through batten within 6-inch wide laps spaced 90-inch o.c.	-60.0
SC-50	Min. 22 ga, type B, Grade 80 steel; 6' spans, Traxx/5 screws 6" o.c. or structural concrete	Min. 1.5" thick, one or more layers, any combination	Prelim attach	Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	Mule-Hide EHD Fasteners (steel only) or Mule-Hide CF (concrete only) with Mule-Hide Metal Batten Bars	Fasteners 6-inch o.c. through batten within 6-inch wide laps spaced 90-inch o.c.	-82.5

**TABLE 3A-1: CONCRETE DECKS – NEW CONSTRUCTION OR REROOF (TEAR-OFF)
SYSTEM TYPE A-1A: BONDED INSULATION, BONDED ROOF COVER**

System No.	Roof Deck	Base Insulation Layer		Top Insulation Layer		Roof Cover		MDP (psf)
		Type	Attach	Type	Attach	Membrane	Application	
MEMBRANE APPLIED IN MULE-HIDE BONDING ADHESIVE:								
C-1.	Min. 2,500 psi concrete (primed)	Min. 0.5-inch Polyiso HP-H or Poly ISO 1, H-Shield	Hot Asphalt	(Optional) Additional layers of base insulation	Hot Asphalt	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	Mule-Hide Bonding Adhesive	-157.5*
C-2.	Min. 2,500 psi concrete (primed)	Min. 1.5-inch Poly ISO 2, ACFoam II, ACFoam III, Polyiso HP-H, HP-N, HP-W, ENRGY 3	Hot Asphalt	(Optional) Additional layers of base insulation	Hot Asphalt	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	Mule-Hide Bonding Adhesive	-330.0*
C-3.	Min. 2,500 psi concrete (primed)	Min. 1.5-inch Poly ISO 2, ACFoam II, ACFoam III, Polyiso HP-H, HP-N, HP-W, ENRGY 3	Hot Asphalt	Min 0.5-inch HP Recovery Board	Hot Asphalt	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	Mule-Hide Bonding Adhesive	-330.0*
C-4.	Min. 2,500 psi concrete (primed)	Min. 1.5-inch Poly ISO 2, ACFoam II, ACFoam III, Polyiso HP-H, HP-N, HP-W, ENRGY 3	Hot Asphalt	Min. 0.25-inch Dens Deck, Dens Deck Prime	Hot Asphalt	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	Mule-Hide Bonding Adhesive	-352.5*
C-5.	Min. 2,500 psi concrete	Min. 0.5-inch Polyiso HP-H or Poly ISO 1, H-Shield	FAST 100 LV, Flexible Fast (full or ribbon)	(Optional) Additional layers of base insulation	FAST 100 LV, Flexible Fast (full or ribbon)	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	Mule-Hide Bonding Adhesive	-157.5*
C-6.	Min. 2,500 psi concrete	Min. 1.5-inch Poly ISO 2, ACFoam II, ACFoam III, Polyiso HP-H, HP-N, HP-W, ENRGY 3	FAST 100 LV, Flexible Fast (ribbon)	Min 0.5-inch HP Recovery Board	FAST 100 LV, Flexible Fast (ribbon)	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	Mule-Hide Bonding Adhesive	-157.5*
C-7.	Min. 2,500 psi concrete	Min. 0.5-inch Polyiso HP-H or Poly ISO 1, H-Shield	FAST 100 LV, Flexible Fast (full or ribbon)	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	FAST 100 LV, Flexible Fast (full or ribbon)	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	Mule-Hide Bonding Adhesive	-157.5*
C-8.	Min. 2,500 psi concrete	Min. 1.5-inch Insulam (GYP)	Flexible Fast (full)	None	N/A	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	Mule-Hide Bonding Adhesive	-157.5*
C-9.	Min. 2,500 psi concrete	Min. 1.5-inch Poly ISO 2, ACFoam II, ACFoam III, Polyiso HP-H, HP-N, HP-W, ENRGY 3	FAST 100 LV, Flexible Fast (full or ribbon)	Min. 0.25-inch Dens Deck, Dens Deck Prime	FAST 100 LV, Flexible Fast (full or ribbon)	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	Mule-Hide Bonding Adhesive	-232.5*

**TABLE 3A-1: CONCRETE DECKS – NEW CONSTRUCTION OR REROOF (TEAR-OFF)
SYSTEM TYPE A-1A: BONDED INSULATION, BONDED ROOF COVER**

System No.	Roof Deck	Base Insulation Layer		Top Insulation Layer		Roof Cover		MDP (psf)
		Type	Attach	Type	Attach	Membrane	Application	
C-10.	Min. 2,500 psi concrete	Min. 1.5-inch Poly ISO 2, ACFoam II, ACFoam III, Polyiso HP-H, HP-N, HP-W, ENRGY 3	FAST 100 LV, Flexible Fast (ribbon)	(Optional) Additional layers of base insulation	FAST 100 LV, Flexible Fast (ribbon)	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	Mule-Hide Bonding Adhesive	-240.0*
C-11.	Min. 2,500 psi concrete	Min. 1.5-inch Poly ISO 2, ACFoam II, ACFoam III, Polyiso HP-H, HP-N, HP-W, ENRGY 3	FAST 100 LV, Flexible Fast (ribbon)	Min. 2-inch Polyiso HP-H Composite	FAST 100 LV, Flexible Fast (ribbon)	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	Mule-Hide Bonding Adhesive	-240.0*
C-12.	Min. 2,500 psi concrete	Min. 1.5-inch Insulam (WF)	Flexible Fast (full)	None	N/A	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	Mule-Hide Bonding Adhesive	-255.0*
C-13.	Min. 2,500 psi concrete	(Optional) Min. 1.5-inch SecurShield or H-Shield CG	FAST 100 LV, Flexible Fast (full or ribbon)	Min. 1.5-inch Poly ISO 1-HD Composite, SecurShield HD Composite or H-Shield HD Composite	FAST 100 LV, Flexible Fast (full or ribbon)	Mule-Hide Standard Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	Mule-Hide Bonding Adhesive	-270.0*
C-14.	Min. 2,500 psi concrete	Min. 1.5-inch Insulfoam HD Composite	Flexible Fast (full)	None	N/A	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	Mule-Hide Bonding Adhesive	-270.0*
C-15.	Min. 2,500 psi concrete	Min. 1.5-inch Poly ISO 2, ACFoam II, ACFoam III, Polyiso HP-H, HP-N, HP-W, ENRGY 3	FAST 100 LV, Flexible Fast (full)	(Optional) Additional layers of base insulation	FAST 100 LV, Flexible Fast (full)	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	Mule-Hide Bonding Adhesive	-330.0*
C-16.	Min. 2,500 psi concrete	Min. 1.5-inch Poly ISO 2, ACFoam II, ACFoam III, Polyiso HP-H, HP-N, HP-W, ENRGY 3	FAST 100 LV, Flexible Fast (full)	Min 0.5-inch HP Recovery Board	FAST 100 LV, Flexible Fast (full)	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	Mule-Hide Bonding Adhesive	-330.0*
C-17.	Min. 2,500 psi concrete	Min. 1.5-inch Poly ISO 2, ACFoam II, ACFoam III, Polyiso HP-H, HP-N, HP-W, ENRGY 3	FAST 100 LV, Flexible Fast (full)	Min. 2-inch Polyiso HP-H Composite	FAST 100 LV, Flexible Fast (full)	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	Mule-Hide Bonding Adhesive	-330.0*
C-18.	Min. 2,500 psi concrete	Min. 1.5-inch Poly ISO 2, ACFoam II, ACFoam III, Polyiso HP-H, HP-N, HP-W, ENRGY 3	OB500	Min 0.5-inch HP Recovery Board	OB500	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	Mule-Hide Bonding Adhesive	-120.0*

**TABLE 3A-1: CONCRETE DECKS – NEW CONSTRUCTION OR REROOF (TEAR-OFF)
SYSTEM TYPE A-1A: BONDED INSULATION, BONDED ROOF COVER**

System No.	Roof Deck	Base Insulation Layer		Top Insulation Layer		Roof Cover		MDP (psf)
		Type	Attach	Type	Attach	Membrane	Application	
C-19.	Min. 2,500 psi concrete	Min. 1.0-inch Foamular 250	OB500	Min 0.5-inch HP Recovery Board	OB500	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	Mule-Hide Bonding Adhesive	-120.0*
C-20.	Min. 2,500 psi concrete	Min. 2.0-inch, min. 1.0 pcf, FM Approved ASTM C578 expanded polystyrene	OB500	Min. 0.25-inch Dens Deck or Dens Deck Prime or SECUROCK Gypsum-Fiber Roof Board	OB500	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	Mule-Hide Bonding Adhesive	-120.0*
C-21.	Min. 2,500 psi concrete	Min. 1.5-inch Poly ISO 2, ACFoam II, ACFoam III, HP-N, HP-W, ENRGY 3	OB500	(Optional) Additional layers of base insulation	OB500	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	Mule-Hide Bonding Adhesive	-150.0*
C-22.	Min. 2,500 psi concrete	Min. 1.5-inch Poly ISO 2, ACFoam II, ACFoam III, Polyiso HP-H, HP-N, HP-W, ENRGY 3	OB500	Min. 0.25-inch Dens Deck, Dens Deck Prime or SECUROCK Gypsum-Fiber Roof Board	OB500	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	Mule-Hide Bonding Adhesive	-150.0*
C-23.	Min. 2,500 psi concrete	Min. 0.5-inch Polyiso HP-H or Poly ISO 1, H-Shield	OB500	(Optional) Additional layers of base insulation	OB500	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	Mule-Hide Bonding Adhesive	-157.5*
C-24.	Min. 2,500 psi concrete	Min. 1.0-inch STYROFOAM DECKMATE Plus FA	OB500	Min. 0.25-inch Dens Deck, Dens Deck Prime	OB500	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	Mule-Hide Bonding Adhesive	-232.5*
C-25.	Min. 2,500 psi concrete	Min. 1.0-inch Foamular 250	OB500	Min. 0.25-inch Dens Deck or Dens Deck Prime	OB500	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	Mule-Hide Bonding Adhesive	-277.5*
MEMBRANE APPLIED IN WBBA 2000:								
C-26.	Min. 2,500 psi concrete (primed)	(Optional) Min. 1.5-inch Poly ISO 2, ACFoam II, Polyiso HP-H, HP-N, HP-W, Poly ISO 1, H-Shield, ENRGY 3	Hot Asphalt	Min. 0.5-inch HP Recovery Board	Hot Asphalt	Mule-Hide Standard Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	WBBA 2000	-90.0*
C-27.	Min. 2,500 psi concrete (primed)	Min. 0.5-inch Polyiso HP-H or Poly ISO 1, H-Shield	Hot Asphalt	(Optional) Additional layers of base insulation	Hot Asphalt	Mule-Hide Standard Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	WBBA 2000	-157.5*
C-28.	Min. 2,500 psi concrete (primed)	Min. 1.5-inch Poly ISO 2, ACFoam II, Polyiso HP-H, HP-N, HP-W, Poly ISO 1, H-Shield, ENRGY 3	Hot Asphalt	(Optional) Additional layers of base insulation	Hot Asphalt	Mule-Hide Standard Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	WBBA 2000	-165.0*

**TABLE 3A-1: CONCRETE DECKS – NEW CONSTRUCTION OR REROOF (TEAR-OFF)
SYSTEM TYPE A-1A: BONDED INSULATION, BONDED ROOF COVER**

System No.	Roof Deck	Base Insulation Layer		Top Insulation Layer		Roof Cover		MDP (psf)
		Type	Attach	Type	Attach	Membrane	Application	
C-29.	Min. 2,500 psi concrete (primed)	(Optional) Min. 1.5-inch Poly ISO 2, ACFoam II, Polyiso HP-H, HP-N, HP-W, Poly ISO 1, H-Shield, ENRGY 3	Hot Asphalt	Min. 0.25-inch Dens Deck Prime	Hot Asphalt	Mule-Hide Standard Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	WBBA 2000	-165.0*
C-30.	Min. 2,500 psi concrete	(Optional) Min. 1.5-inch Polyiso HP-H, HP-N, HP-W, Poly ISO 2, ACFoam II, Poly ISO 1, H-Shield, ENRGY 3	FAST 100 LV, Flexible Fast (full or ribbon)	Min. 0.5-inch HP Recovery Board	FAST 100 LV, Flexible Fast (full or ribbon)	Mule-Hide Standard Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	WBBA 2000	-90.0*
C-31.	Min. 2,500 psi concrete	Min. 1-inch Insulfoam I	Flexible Fast (full or ribbon)	Min. 0.5-inch HP Recovery Board	Flexible Fast (full or ribbon)	Mule-Hide Standard Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	WBBA 2000	-90.0*
C-32.	Min. 2,500 psi concrete	Min. 1.5-inch Insulam (WF)	Flexible Fast (full)	None	N/A	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	WBBA 2000	-90.0*
C-33.	Min. 2,500 psi concrete	Min. 0.5-inch Polyiso HP-H or Poly ISO 1, H-Shield	FAST 100 LV, Flexible Fast (full or ribbon)	(Optional) Additional layers of base insulation	FAST 100 LV, Flexible Fast (full or ribbon)	Mule-Hide Standard Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	WBBA 2000	-157.5*
C-34.	Min. 2,500 psi concrete	Min. 1.5-inch Polyiso HP-H, HP-N, HP-W, Poly ISO 2, ACFoam II, Poly ISO 1, H-Shield, ENRGY 3	FAST 100 LV, Flexible Fast (full or ribbon)	(Optional) Additional layers of base insulation	FAST 100 LV, Flexible Fast (full or ribbon)	Mule-Hide Standard Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	WBBA 2000	-165.0*
C-35.	Min. 2,500 psi concrete	(Optional) Min. 1.5-inch Polyiso HP-H, HP-N, HP-W, Poly ISO 2, ACFoam II, Poly ISO 1, H-Shield, ENRGY 3	FAST 100 LV, Flexible Fast (full or ribbon)	Min. 0.25-inch Dens Deck Prime	FAST 100 LV, Flexible Fast (full or ribbon)	Mule-Hide Standard Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	WBBA 2000	-165.0*
C-36.	Min. 2,500 psi concrete	Min. 1.5-inch Poly ISO 2, ACFoam II, Polyiso HP-H, HP-N, HP-W, Poly ISO 1, H-Shield, ENRGY 3	OB500	(Optional) Additional layers of base insulation	OB500	Mule-Hide Standard Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	WBBA 2000	-105.0*
C-37.	Min. 2,500 psi concrete	(Optional) Min. 1.5-inch Poly ISO 2, ACFoam II, Polyiso HP-H, HP-N, HP-W, Poly ISO 1, H-Shield, ENRGY 3	OB500	Min. 0.5-inch HP Recovery Board	OB500	Mule-Hide Standard Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	WBBA 2000	-90.0*

**TABLE 3A-1: CONCRETE DECKS – NEW CONSTRUCTION OR REROOF (TEAR-OFF)
SYSTEM TYPE A-1A: BONDED INSULATION, BONDED ROOF COVER**

System No.	Roof Deck	Base Insulation Layer		Top Insulation Layer		Roof Cover		MDP (psf)
		Type	Attach	Type	Attach	Membrane	Application	
C-38.	Min. 2,500 psi concrete	(Optional) Min. 1.5-inch Poly ISO 2, ACFoam II, Polyiso HP-H, HP-N, HP-W, Poly ISO 1, H-Shield, ENRGY 3	OB500	Min. 0.25-inch Dens Deck Prime	OB500	Mule-Hide Standard Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	WBBA 2000	-150.0*
MEMBRANE APPLIED IN LOW VOC BONDING ADHESIVE:								
C-39.	Min. 2,500 psi concrete	Min. 0.5-inch Polyiso HP-H or Poly ISO 1, H-Shield	FAST 100 LV, Flexible Fast (full or ribbon)	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	FAST 100 LV, Flexible Fast (full or ribbon)	Mule-Hide Standard Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	Low VOC Bonding Adhesive	-75.0*
C-40.	Min. 2,500 psi concrete	Min. 1.5-inch Insulam (GYP)	Flexible Fast (full)	None	N/A	Mule-Hide Standard Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	Low VOC Bonding Adhesive	-75.0*
C-41.	Min. 2,500 psi concrete	(Optional) Min. 1.5-inch SecurShield or H-Shield CG	FAST 100 LV, Flexible Fast (ribbon)	Min. 1.5-inch Poly ISO 1-HD Composite, SecurShield HD Composite or H-Shield HD Composite	FAST 100 LV, Flexible Fast (ribbon)	Mule-Hide Standard Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	Low VOC Bonding Adhesive	-285.0*
C-42.	Min. 2,500 psi concrete	Min. 1.5-inch Insulfoam HD Composite	Flexible Fast (full)	None	N/A	Mule-Hide Standard Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	Low VOC Bonding Adhesive	-472.5*
C-43.	Min. 2,500 psi concrete	(Optional) Min. 1.5-inch SecurShield or H-Shield CG	FAST 100 LV, Flexible Fast (full)	Min. 1.5-inch Poly ISO 1-HD Composite, SecurShield HD Composite or H-Shield HD Composite	FAST 100 LV, Flexible Fast (full)	Mule-Hide Standard Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	Low VOC Bonding Adhesive	-495.0*

TABLE 3A-2: CONCRETE DECKS - NEW CONSTRUCTION OR REROOF (TEAR-OFF)

SYSTEM TYPE A-1B: BONDED TEMP ROOF, BONDED INSULATION, BONDED ROOF COVER

System No.	Deck (See Note 1)	Primer	Vapor Barrier / Temporary Roof	Base Insulation Layer		Top Insulation Layer		Roof Cover / Adhesive	MDP (psf)
				Type	Attach	Type	Attach		
MEMBRANE APPLIED IN MULE-HIDE BONDING ADHESIVE:									
C-44.	Min. 2,500 psi concrete	ASTM D41	Elastophene SP, torch applied	Min. 1.5-inch Polyiso HP-H	Hot asphalt	(Optional) Additional layers(s) base insulation	Hot asphalt	Mule-Hide Standard Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM / Mule-Hide Bonding Adhesive	-232.5*
C-45.	Min. 2,500 psi concrete	CAV-GRIP or Carlisle 702 LV Primer	725TR Air & Vapor Barrier, self-adhered	Min. 1-inch Polyiso HP-H	FAST 100 LV, Flexible Fast (Full)	Min. 0.25-inch Dens Deck Prime	FAST 100 LV, Flexible Fast (Full)	Mule-Hide Standard Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM / Mule-Hide Bonding Adhesive	-232.5*
C-46.	Min. 2,500 psi concrete	CAV-GRIP or Carlisle 702 LV Primer	725TR Air & Vapor Barrier, self-adhered	Min. 2-inch SecurShield	FAST 100 LV, Flexible Fast (Full)	(Optional) Additional layers(s) base insulation	FAST 100 LV, Flexible Fast (Full)	Mule-Hide Standard Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM / Mule-Hide Bonding Adhesive	-270.0*
C-47.	Min. 2,500 psi concrete	ASTM D41	Elastophene SP, torch applied	Min. 1.5-inch Polyiso HP-H	OB500	(Optional) Additional layers(s) base insulation	OB500	Mule-Hide Standard Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM / Mule-Hide Bonding Adhesive	-232.5*

TABLE 3B: CONCRETE DECKS – NEW CONSTRUCTION OR REROOF (TEAR-OFF)

SYSTEM TYPE F: NON-INSULATED, BONDED ROOF COVER

System No.	Roof Deck	Roof Cover		MDP (psf)
		Membrane	Application	
C-48.	Min. 2,500 psi concrete	Mule-Hide White-on-Black EPDM	Mule-Hide Bonding Adhesive	-240.0*
C-49.	Min. 2,500 psi concrete	Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	Mule-Hide Bonding Adhesive	-240.0*
C-50.	Min. 2,500 psi concrete	Mule-Hide Standard Black EPDM	Mule-Hide Bonding Adhesive	-315.0*

TABLE 4A: RECOVER APPLICATIONS
SYSTEM TYPE A-1: BONDED INSULATION, BONDED ROOF COVER

System No.	Substrate (See Note 12)	Base Insulation Layer		Top Insulation Layer		Roof Cover		MDP (psf)
		Type	Attach	Type	Attach	Membrane	Application	
MEMBRANE APPLIED IN MULE-HIDE BONDING ADHESIVE:								
R-1	Existing asphaltic BUR	Min. 1.5-inch Poly ISO 2, ACFoam II, ACFoam III, Polyiso HP-H, HP-N, HP-W, ENRGY 3	Hot Asphalt	(Optional) Additional layers of base insulation	Hot Asphalt	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	Mule-Hide Bonding Adhesive	-330.0*
R-2	Existing asphaltic BUR	Min. 1.5-inch Poly ISO 2, ACFoam II, ACFoam III, Polyiso HP-H, HP-N, HP-W, ENRGY 3	Hot Asphalt	Min 0.5-inch HP Recovery Board	Hot Asphalt	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	Mule-Hide Bonding Adhesive	-330.0*
R-3	Existing asphaltic BUR	Min. 1.5-inch Poly ISO 2, ACFoam II, ACFoam III, Polyiso HP-H, HP-N, HP-W, ENRGY 3	Hot Asphalt	Min. 0.25-inch Dens Deck, Dens Deck Prime	Hot Asphalt	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	Mule-Hide Bonding Adhesive	-352.5*
R-4	Existing asphaltic BUR or mineral surface cap	Min. 1.5-inch Poly ISO 2, ACFoam II, ACFoam III, Polyiso HP-H, HP-N, HP-W, ENRGY 3	OB500	(Optional) Additional layers of base insulation	OB500	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	Mule-Hide Bonding Adhesive	-120.0*
R-5	Existing asphaltic BUR or mineral surface cap	Min. 1.5-inch Poly ISO 2, ACFoam II, ACFoam III, Polyiso HP-H, HP-N, HP-W, ENRGY 3	OB500	Min 0.5-inch HP Recovery Board or min. 0.25-inch Dens Deck or Dens Deck Prime	OB500	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	Mule-Hide Bonding Adhesive	-120.0*
R-6	Existing asphaltic BUR or mineral surface cap	Min. 1.0-inch Foamular 250 or STYROFOAM DECKMATE Plus FA or min. 2.0-inch, min. 1.0 pcf, FM Approved ASTM C578 expanded polystyrene	OB500	Min 0.5-inch HP Recovery Board or min. 0.25-inch Dens Deck or Dens Deck Prime	OB500	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	Mule-Hide Bonding Adhesive	-120.0*
R-7	Existing asphaltic BUR or mineral surface cap	Min. 1.0-inch Foamular 250	OB500	Min. 0.25-inch Dens Deck or Dens Deck Prime	OB500	Mule-Hide Standard Black EPDM, Mule-Hide White-on-Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	Mule-Hide Bonding Adhesive	-120.0*
MEMBRANE APPLIED IN WBBA 2000:								
R-8	Existing asphaltic BUR	Min. 1.5-inch Poly ISO 2, ACFoam II, Polyiso HP-H, HP-N, HP-W, Poly ISO 1, H-Shield, ENRGY 3	Hot Asphalt	(Optional) Additional layers of base insulation	Hot Asphalt	Mule-Hide Standard Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	WBBA 2000	-165.0*

TABLE 4A: RECOVER APPLICATIONS
SYSTEM TYPE A-1: BONDED INSULATION, BONDED ROOF COVER

System No.	Substrate (See Note 12)	Base Insulation Layer		Top Insulation Layer		Roof Cover		MDP (psf)
		Type	Attach	Type	Attach	Membrane	Application	
R-9	Existing asphaltic BUR	(Optional) Min. 1.5-inch Poly ISO 2, AC Foam II, Polyiso HP-H, HP-N, HP-W, Poly ISO 1, H-Shield, ENRGY 3	Hot Asphalt	Min. 0.5-inch HP Recovery Board	Hot Asphalt	Mule-Hide Standard Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	WBBA 2000	-90.0*
R-10	Existing asphaltic BUR	(Optional) Min. 1.5-inch Poly ISO 2, AC Foam II, Polyiso HP-H, HP-N, HP-W, Poly ISO 1, H-Shield, ENRGY 3	Hot Asphalt	Min. 0.25-inch Dens Deck Prime	Hot Asphalt	Mule-Hide Standard Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	WBBA 2000	-165.0*
R-11	Existing asphaltic BUR or mineral surface cap	Min. 1.5-inch Poly ISO 2, AC Foam II, Polyiso HP-H, HP-N, HP-W, Poly ISO 1, H-Shield, ENRGY 3	OB500	(Optional) Additional layers of base insulation	OB500	Mule-Hide Standard Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	WBBA 2000	-105.0*
R-12	Existing asphaltic BUR or mineral surface cap	(Optional) Min. 1.5-inch Poly ISO 2, AC Foam II, Polyiso HP-H, HP-N, HP-W, Poly ISO 1, H-Shield, ENRGY 3	OB500	Min. 0.5-inch HP Recovery Board	OB500	Mule-Hide Standard Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	WBBA 2000	-90.0*
R-13	Existing asphaltic BUR or mineral surface cap	(Optional) Min. 1.5-inch Poly ISO 2, AC Foam II, Polyiso HP-H, HP-N, HP-W, Poly ISO 1, H-Shield, ENRGY 3	OB500	Min. 0.25-inch Dens Deck Prime	OB500	Mule-Hide Standard Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	WBBA 2000	-150.0*
MEMBRANE APPLIED IN LOW VOC BONDING ADHESIVE:								
R-14	Existing asphaltic BUR or mineral surface cap	Min. 0.5-inch Polyiso HP-H or Poly ISO 1, H-Shield	OB500	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	OB500	Mule-Hide Standard Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	Mule-Hide Low VOC Bonding Adhesive	-75.0*
R-15	Existing asphaltic BUR or mineral surface cap	Min. 1.5-inch Insulam (GYP)	OB500	None	N/A	Mule-Hide Standard Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	Mule-Hide Low VOC Bonding Adhesive	-75.0*
R-16	Existing asphaltic BUR or mineral surface cap	Min. 1.5-inch Insulfoam HD Composite	OB500	None	N/A	Mule-Hide Standard Black EPDM, Mule-Hide Standard Reinforced EPDM or Mule-Hide FR Reinforced EPDM	Mule-Hide Low VOC Bonding Adhesive	-120.0*