



MULE-HIDE PRODUCTS Co., Inc.

“The name trusted in roofing since 1906”

**MULE-HIDE PRODUCTS, CO., INC.
UNDERWRITERS LABORATORIES (UL)
TGFU.R13850
ROOFING SYSTEMS - PVC
Revised December 2012**

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* Note: Assembly numbers shown in the following listings correspond to the UL Master Listing number for all Mule-Hide Products, Co., Inc.

Note: Assembly numbers shown in the following listings correspond to the UL Master Listing number for **Atlas Roofing Corp.

***Note: Assembly numbers shown in the following listings correspond to the UL Master Listing number for **GEORGIA-PACIFIC GYPSUM LLC**

1. Unless otherwise indicated, insulation is mechanically fastened to the roof deck.

Unless otherwise indicated, when referring to gypsum board in the following classifications, the following will be referenced: G-P Gypsum DensDeck®, 1/4 in., regular gypsum board (not Classified) laid with staggered joints (6 in. offset) measuring 0.463 in. thick min and weighing 184 lbs/sq min or Georgia Pacific "Sound Deadening Board", measuring 0.208 in. thick min and weighing 109 lbs/sq min.

Straight or tapered insulation may be used in the following assemblies provided they do not exceed the indicated incline or thickness and carry a UL label.

Unless otherwise indicated, Classifications for "Mule-Hide PVC" include 50 mil, 60 mil and 80 mil thick membranes.

Unless otherwise indicated, the term "Referenced Insulation" will include the following: Atlas Roofing "ACFoam I", Johns Manville "ENRGY-1A" or "ENRGY-1G" or "Barrier Board Plus", Rhoflex "Isocyanurate GL, GW or HF", Rmax Inc. "Multi-Max-3", any thickness.

Any UL Classified United Solar Systems Corp Photovoltaic (Solar) Module System may be installed over any of the following UL Classified Mule-Hide roofing membrane assemblies that utilizes gypsum board, provided that the roofing membrane is applied directly over the gypsum (either adhered to, mechanically fastened over or loosely-laid over the gypsum):

Standard EPDM, FR EPDM, White-On-Black EPDM, Standard Reinforced EPDM, FR Reinforced EPDM, TPO-c, TPO-c (FR), TPO-c Extra, TPO-c Extra (FR) and TPO-c Fleece Back.

The Module system is either self-adhered directly to the roofing membrane in the field or self-adhered to an intermediate roofing material layer in the factory and then attached to the roofing membrane in the field using liquid adhesive, tape adhesive or fasteners. The Classification applies to combustible and non-combustible decks. Any UL Classified insulation, any combination, any thickness, may be installed below the gypsum. The maximum incline and Classification (Class A, B or C) shall be in accordance with the Classification established for the membrane roofing assembly, however the incline can not exceed 1-1/2:12.

Any UL Classified Mule-Hide PVC roofing system is Classified for Class 4 Impact Resistance when either of the following conditions are met:

Minimum 80 mil (nominal thickness) Mule-Hide PVC membrane is applied over any combination of substrate layers, as specified in the roofing systems, and the substrate layer(s) are attached with fasteners and minimum 2 in. metal or plastic plates.

Minimum 50 mil (nominal thickness) Mule-Hide PVC membrane is applied over any combination of substrate layers, as specified in the roofing systems, and the top substrate layer is attached with adhesives or asphalt. Lower substrate layer(s) may be attached with fasteners and plates, adhesives or asphalt.

ALL SYSTEMS

Class A, B or C (See Note 1)

*****1. Deck: C-15/32**

Incline: See Notes 1 and 4

Insulation: — Any UL Classified, any thickness.

Barrier Board: (See Note 2) — ¼-in., ½-in. or 5/8-in. thick "DensDeck® Roofboard" or "DensDeck Prime® Roofboard" or "DensDeck Prime 2™ Roofboard" or "DensDeck DuraGuard® Roofboard" with all joints staggered a min of 6 in. from the plywood joints.

Membrane: — Any UL Classified modified bitumen system, BUR system or CPE, CSM, CSPE, EPDM, NBP, PIB, PVC, TPO or TRE membrane system suitable for use with any roof insulation.

*****2. Deck: C-15/32**

Incline: See Notes 1 and 4

Barrier Board: (See Note 3) — ¼-in., ½-in. or 5/8-in. thick "DensDeck® Roofboard," or "DensDeck Prime® Roofboard" or "DensDeck Prime 2™ Roofboard" or "DensDeck DuraGuard® Roofboard" with all joints staggered a min of 6 in. from the plywood joints.

Insulation (Optional): — Fiberglass, polyisocyanurate, perlite or wood fiber, any thickness.

Membrane: — Any UL Classified modified bitumen system, BUR system or CPE, CSM, CSPE, EPDM, NBP, PIB, PVC, TPO or TRE membrane system suitable for use with any roof insulation.

Note 1: Classification (A, B or C) and max incline will be the same as that of the Classified Roofing System (TGFU) currently limited to noncombustible deck.

Note 2: The use of the "DensDeck® Roofboard," or "DensDeck Prime® Roofboard" or (min ½ in.) "DensDeck Prime 2™ Roofboard" or "DensDeck DuraGuard® Roofboard" as a barrier board over the insulation permits the use of any Classified Roofing System (TGFU) which otherwise is limited to use over noncombustible deck.

Note 3: The use of the "DensDeck® Roofboard," or "DensDeck Prime® Roofboard" or (min ½ in.) "DensDeck Prime 2™ Roofboard" or "DensDeck DuraGuard® Roofboard" as a barrier board directly over the combustible deck permits the use of any Classified Roofing System (TGFU) which otherwise is limited to use over noncombustible deck. When used, insulation must consist of one of the types specified.

Note 4: The use of ¼ in. thick "DensDeck Prime 2™" limited to a slope of 2-1/2 in. or less.

ALL SYSTEMS

Class A

For Combustible Decks - Class A: Incline: 1/2

1. A minimum 3 in. layer or a minimum two layers of 1.5 in. of "Poly ISO 1-DWD" is placed directly over a combustible deck and is covered with any UL Classified roofing membrane used in any UL Class A roofing assembly to achieve a Class A fire Classification. As an alternative, any UL Classified insulation (except expanded or extruded polystyrene), any combination, any thickness, may be used below the 3 in. minimum total thickness of "Poly ISO 1-DWD". The insulation may be loosely laid or attached with fasteners and plates, hot roofing asphalt or cold adhesive. A vapor barrier (non-UL classified) may also be used below the insulation. All insulation joints must be staggered a minimum of 6 in. from the deck joints or from the insulation joints directly below. The maximum incline shall be in accordance with the Classification established for the membrane/insulation roofing assembly, however the incline can not exceed 1/2:12.

2. A minimum 1.9 in. layer of "Poly ISO 1-DWD" is placed over a minimum 1 layer of Carlisle "FR Base Sheet 1S" or Elk "VersaShield FB-1S" over a combustible deck. The insulation is covered with any UL Classified roofing membrane used in any UL Class A roofing assembly to achieve a Class A fire Classification. As an alternative, any UL Classified insulation (except expanded or extruded polystyrene), any combination, any thickness, may be used below the 1.9 in. minimum total thickness of "Poly ISO 1-DWD". The insulation may be loosely laid or attached with fasteners and plates, hot roofing asphalt or cold adhesive. A vapor barrier (non-UL classified) may also be used below the insulation. All insulation joints must be staggered a minimum of 6 in. from the deck joints or from the insulation joints directly below. The maximum incline shall be in accordance with the Classification established for the membrane/insulation roofing assembly, however the incline can not exceed 1/2:12.

**** For Combustible Decks - Class A:** A minimum 1 in. layer of "AC Foam IV" placed directly over a combustible deck and covered with any UL Classified roofing membrane used in any UL Class A roofing assembly to achieve a Class A fire Classification. As an alternate, any UL Classified insulation (except expanded or extruded polystyrene), any combination, any thickness, may be used above or below the 1 in. minimum total thickness of "AC Foam IV." All insulation joints must be staggered a minimum of 6 in. from the deck joints or from the insulation joints directly below. The maximum incline shall be in accordance with the Classification established for the membrane/insulation roofing assembly, however the incline cannot exceed 1:12.

ALL SYSTEMS

Class B

For Combustible Decks - Class B: Incline: 1/2

1. A minimum 1.9 in. layer of "Poly ISO 1-DWD", or a minimum 2 in. thick layer of Carlisle "Polyiso HP-WLC" or Atlas "AC Foam III" is placed directly over a combustible deck and is covered with any UL Classified roofing membrane used in any UL Class B roofing assembly to achieve a Class B fire Classification. As an alternative, any UL Classified insulation (except expanded or extruded polystyrene), any combination, any thickness, may be used below the 1.9 in. minimum thickness layer of "Poly ISO 1-DWD". The insulation may be loosely laid or attached with fasteners and plates, hot roofing asphalt or cold adhesive. A vapor barrier (non-UL classified) may also be used below the insulation. All insulation joints must be staggered a minimum of 6 in. from the deck joints or from the insulation joints directly below. The maximum incline shall be in accordance with the Classification established for the membrane/insulation roofing assembly, however the incline can not exceed 1/2:12.

CLASS A – FULLY ADHERED

Unless otherwise indicated, 7/16 in. (min) thick nonveneer APA rated oriented strand board may be substituted for wood fiber in the following systems.

Unless otherwise indicated membranes, for adhered "Mule-Hide PVC" assemblies, the membrane is adhered with "Mule-Hide PVC Bonding Adhesive" at 45 to 65 ft²/gal.

61. Deck: C - 7/16-in. "Mule-Hide FR Deck Panel A"* Incline: 1/2

Membrane: — Any UL Classified fully adhered EPDM, PVC, TPO or self-adhered modified bitumen cap sheet. Maximum incline is determined by the existing membrane Classification but cannot exceed 1/2:12.

* - All FR Deck Panel with non-coated edges require all deck joints blocked with 2 x 4 lumber. Gaps in ""Mule-Hide FR Deck Panel" are caulked with Rectorseal "FlameSafe® FS900+" caulk. All FR Deck panel with edges coated with "Blazeguard Fire-Resistant Paint", 80-250 ft²/gal., only require blocking below the open joints with 2 x 4 lumber.

64. Deck: NC Incline: 1-1/2

Insulation: — Cellular concrete, precast concrete with grouted joints or structural (poured-in-place) concrete.

Membrane: — " Mule-Hide PVC".

65. Deck: NC Incline: 3/4

Insulation: — Atlas Roofing "ACFoam II" or "ACFoam III", Dow "Hy-Therm AP", Johns Manville "ENRGY- 2", or "ENRGY-3", Rhoflex "Isocyanurate GL, GW or HF", Rmax Inc. "Multi-Max-3", any combination, any thickness.

Membrane: — " Mule-Hide PVC".

66. Deck: C-15/32 Incline: Unlimited

Insulation (Optional): — Any UL Classified , any combination, any thickness.

Barrier Board: — 1/2 in. min gypsum board or 1/4 in. thick G-P Gypsum DensDeck®.

Membrane: — "Mule-Hide PVC".

67. Deck: NC Incline: 3

Insulation (Optional): — Any UL Classified , any combination, any thickness.

Barrier Board: — Oriented strand board.

Membrane: — "Mule-Hide PVC".

68. Deck: C-15/32 Incline: See Note

Slip Sheet: — Two layers Elk " VersaShield Underlayment" or "VersaShield FB-2S" or three layers Elk "VersaShield FB-1S".

Insulation: — Any UL Classified (except EPS), any combination, any thickness.

Membrane: — "Mule-Hide PVC".

Note: Max incline shall be in accordance with Classification established for the insulation/membrane roofing system, but cannot exceed 2:12.

Class A – Fully Adhered (Continued)

- 68A. **Deck:** C-15/32 **Incline:** See Note
Slip Sheet: — Three layers Elk "VersaShield FB-1S".
Insulation (Optional): — Any UL Classified (except EPS and wood fiberboard), any combination, any thickness.
Membrane: — "Mule-Hide PVC".

Note: Max incline shall be in accordance with Classification established for the insulation/membrane roofing system when insulation is used or established for the membrane roofing system applied over fiberboard or gypsum when insulation is not used.

- 68B. **Deck:** C-15/32 **Incline:** See Note
Slip Sheet: — Two layers Elk "VersaShield FB-1S".
Insulation (Optional): — Any UL Classified (except EPS and wood fiberboard), any combination, any thickness.
Membrane: — "Mule-Hide PVC".

Note: Max incline shall be in accordance with Classification established for the insulation/membrane roofing system when insulation is used or established for the membrane roofing system applied over fiberboard or gypsum when insulation is not used, but cannot exceed 3/4:12

69. **Deck:** C-15/32 **Incline:** See Note
Slip Sheet: — One layer Atlas Roofing "FR-10" or "FR-50", Elk "VersaShield Underlayment" or "VersaShield FB-2S".
Insulation: — Atlas Roofing "ACFoam III", min 1.5 in. thick with joints staggered min 6 in. from the deck joints.
Membrane: — "Mule-Hide PVC".

Note: Max incline shall be in accordance with Classification established for the insulation/membrane roofing system.

70. **Deck:** C-15/32 **Incline:** Unlimited
Slip Sheet: — Three layers Elk "VersaShield Underlayment" or "VersaShield FB-2S".
Insulation: — Any UL Classified (except EPS or fiberboard), any combination, any thickness.
Membrane: — "Mule-Hide PVC"

71. **Deck:** NC **Incline:** 1/4
Insulation: — Hunter Panels "H-Shield", any combination, any thickness.
Membrane: — "Mule-Hide PVC".

108. **Deck:** NC **Incline:** See Note
Insulation (Optional): — Any UL Classified insulation, any thickness.
Barrier Board: — "Mule-Hide FR Deck Panel A", 7/16 in. min.
Membrane: — Any UL Classified Mule-Hide fully adhered EPDM, PVC, TPO or self-adhered modified bitumen cap sheet,
Note: Maximum incline is determined by the existing membrane/adhesive Classification.

CLASS C – FULLY ADHERED

5. **Deck:** C - 7/16-in. "Mule-Hide FR Deck Panel C" **Incline:** 2
Membrane: — Any UL Classified fully adhered EPDM, PVC, TPO or self-adhered modified bitumen cap sheet. Maximum incline is determined by the existing membrane Classification but cannot exceed 2:12.
6. **Deck:** C-15/32 **Incline:** 1
Insulation: — Any UL Classified wood fiberboard, 1/2 in. thick min.
Membrane: — "Mule-Hide PVC".
7. **Deck:** NC **Incline:** Unlimited
Insulation: — Atlas Roofing "ACFoam II" or "ACFoam III", Dow "Hy-Therm AP", Johns Manville "ENRGY- 2", or "ENRGY-3", Rhoflex "Isocyanurate GL, GW or HF", Rmax Inc. "Multi-Max-3", any combination, any thickness.
Membrane: — "Mule-Hide PVC".
8. **Deck:** C-15/32 **Incline:** Unlimited
Insulation: — Atlas Roofing "ACFoam II" or "ACFoam III", Dow "Hy-Therm AP", Johns Manville "ENRGY- 2", or "ENRGY-3", Rhoflex "Isocyanurate GL, GW or HF", Rmax Inc. "Multi-Max-3", any combination, min 2" thickness.
Membrane: — "Mule-Hide PVC".
9. **Deck:** NC **Incline:** 4-1/2
Insulation: — Hunter Panels "H-Shield", any combination, any thickness.
Membrane: — "Mule-Hide PVC".
10. **Deck:** C-15/32 **Incline:** 4-1/2
Insulation: — Hunter Panels "H-Shield", any combination, min 2 in. thickness.
Membrane: — "Mule-Hide PVC".
18. **Deck:** NC **Incline:** See Note
Insulation (Optional): — Any UL Classified insulation, any thickness.
Barrier Board: — "Mule-Hide FR Deck Panel C, 7/16 in. min."
Membrane: — Any UL Classified Mule-Hide fully adhered EPDM, PVC, TPO or self-adhered modified bitumen cap sheet,

Note: Maximum incline is determined by the existing membrane/adhesive Classification.

CLASS A – MECHANICALLY ATTACHED

****24. Deck:** C-15/32 **Incline:** 3/4, See Note
Slipsheet: — Two layers Atlas "FR-10," mechanically fastened
Insulation (Optional): — Any UL Classified, any thickness (except EPS and wood fiberboard).
Membrane: — Any UL Classified PVC, CPE, CSM, CSPE, EPDM, NBP, PIB, TPO, EIP or TRE membrane. (Note: Membrane must be currently Classified for use over the insulation used. Actual incline is determined by the maximum existing membrane/insulation Classification incline.)

82. Deck: NC **Incline:** 1/2
Insulation: — Atlas Roofing "ACFoam II" or "ACFoam III", Dow "Hy-Therm AP", Johns Manville "ENRGY- 2", or "ENRGY-3", Rhoflex "Isocyanurate GL, GW or HF", Rmax Inc. "Multi-Max-3", any combination, any thickness.
Membrane: — "Mule-Hide PVC".

83. Deck: NC **Incline:** Unlimited
Insulation (Optional): — Any UL Classified, any combination, any thickness.
Barrier Board: — 1/2 in. thick gypsum wallboard or 1/4 in. thick G-P Gypsum DensDeck®
Membrane: — "Mule-Hide PVC".

84. Deck: C-15/32 **Incline:** See Note
Slip Sheet: — Two layers Elk "VersaShield Underlayment" or "VersaShield FB-2S".
Insulation: — Any UL Classified (except EPS), any combination, any thickness.
Membrane: — "Mule-Hide PVC".

Note: Max incline shall be in accordance with Classification established for the insulation/membrane roofing system, but cannot exceed 2:12.

85. Deck: C-15/32 **Incline:** Unlimited
Insulation (Optional): — Any UL Classified, any combination, any thickness.
Barrier Board: — 1/2 in. min gypsum board or 1/4 in. thick G-P Gypsum DensDeck® with staggered joints (6 in. offset).
Membrane: — "Mule-Hide PVC".

86. Deck: C-15/32 **Incline:** See Note
Slip Sheet: — One layer Atlas Roofing "FR-10" or Elk "VersaShield Underlayment" or "VersaShield FB-2S".
Insulation: — Atlas Roofing "ACFoam III", 1.5 in. thick with joints staggered min 6 in. from the deck joints.
Membrane: — "Mule-Hide PVC".

Note: Max incline shall be in accordance with Classification established for the insulation/membrane roofing system.

Class A – Mechanically Attached (Continued)

87. **Deck:** C-15/32 **Incline:** 1/2
Slip Sheet: — Two plies Atlas Roofing "FR-50".
Membrane: — "Mule-Hide PVC".

88. **Deck:** C-15/32 **Incline:** See Note
Slip Sheet: — Two layers Elk "VersaShield Underlayment" or VersaShield FB-2S".
Membrane: — "Mule-Hide PVC".

Note: Max incline shall be in accordance with Classification established for the membrane roofing system applied over fiberboard or gypsum, but can not exceed 1-1/2:12.

89. **Deck:** C-15/32 **Incline:** See Note
Slip Sheet: — Two layers Elk "VersaShield Underlayment" or "VersaShield FB-2S".
Insulation (Optional): — Any UL Classified (except EPS), any combination, any thickness.
Membrane: — "Mule-Hide PVC".

Note: Max incline shall be in accordance with Classification established for the insulation/membrane roofing system when insulation is used or established for the membrane roofing system applied over fiberboard or gypsum when insulation is not used, but can not exceed 2:12.

90. **Deck:** NC **Incline:** 1
Insulation: — Any UL Classified expanded or extruded polystyrene, any combination, any thickness
Slip Sheet: — One layer Atlas Roofing "FR-10" or "FR-50", Elk "VersaShield Underlayment" or "VersaShield FB-2S"
Membrane: — "Mule-Hide PVC".

91. **Deck:** C-15/32 **Incline:** See Note
Slip Sheet: — Three layers Elk "VersaShield FB-1S".
Insulation: — Any UL Classified (except EPS), any combination, any thickness.
Membrane: — "Mule-Hide PVC".

Note: Max incline shall be in accordance with Classification established for the insulation/membrane roofing system, but cannot exceed 2:12.

92. **Deck:** C-15/32 **Incline:** See Note
Slip Sheet: — Three layers Elk "VersaShield FB-1S".
Insulation (Optional): — Any UL Classified (except EPS and wood fiberboard), any combination, any thickness.
Membrane: — "Mule-Hide PVC".

Note: Max incline shall be in accordance with Classification established for the insulation/membrane roofing system when insulation is used or established for the membrane roofing system applied over fiberboard or gypsum when insulation is not used.

CLASS B – MECHANICALLY ATTACHED

- **6. Deck:** C-15/32 **Incline:** 1/2, See Note
Slipsheet: — One Ply Atlas "FR-10," mechanically fastened
Membrane: — Any UL Classified PVC, CPE, CSM, CSPE, EPDM, NBP, PIB, TPO, EIP or TRE membrane. (Note: Membrane must be currently Classified for use over the insulation used. Actual incline is determined by the maximum existing membrane/insulation Classification incline, but cannot exceed 1/2:12.)

- 21. Deck:** C-15/32 **Incline:** See Note
Base Sheet: — One layer, mechanically fastened, of one the following:
A. Owens Corning "Perma Ply No. 28".
B. GAF "Gafglas #75 Base Sheet".
C. Johns Manville "Glasbase".
D. Tamko "Glass Base".
E. Celotex Type G2 "Vaporbar GB".
F. Elk "VersaShield Underlayment" or "VersaShield FB-2S".
Insulation: — Atlas Roofing "ACFoam II" or "ACFoam III", Dow "Hy-Therm AP", Hunter Panels "H-Shield", Johns Manville "ENRGY- 2", or "ENRGY-3", Firestone Building Products "ISO 95+GL", "GW" or "HF", Rmax Inc. "Multi-Max-3", min 1-1/2 in. thickness; UL Classified wood fiber board, min 1 in. thick; UL Classified wood fiber board, min 1/2 in. thick over any Classified insulation (any combination), min 1 in. thick. The bottom insulation layer joints are to be staggered a min 6 in. from the deck joints.
Membrane: — "Mule-Hide PVC".

Note: Max incline shall be in accordance with Classification established for the insulation/membrane roofing system but not to exceed 1 in.

- 22. Deck:** C-15/32 **Incline:** See Note
Insulation: — UL Classified wood fiber board, min 1-1/2 in. thick. The bottom insulation layer joints are to be staggered a min 6 in. from the deck joints.
Membrane: — "Mule-Hide PVC".

Note: Max incline shall be in accordance with Classification established for the insulation/membrane roofing system but not to exceed 1 in.

- 23. Deck:** C-15/32 **Incline:** See Note
Slip Sheet: — Elk "VersaShield Underlayment" or VersaShield FB-2S".
Membrane: — "Mule-Hide PVC".

Note: Max incline shall be in accordance with Classification established for the membrane roofing system applied over fiberboard or gypsum, but can not exceed 1-1/2:12.

Class B – Mechanically Attached (Continued)

- 23A. **Deck:** C-15/32 **Incline:** See Note
Slip Sheet: — One layer Elk "VersaShield FB-1S".
Membrane: — "Mule-Hide PVC".

Note: Max incline shall be in accordance with Classification established for the membrane roofing system applied over fiberboard or gypsum, but cannot exceed 1/2:12.

24. **Deck:** C-15/32 **Incline:** 1/2
Insulation (Optional): — Polyisocyanurate, min 1 in. thickness.
Slip Sheet: — Two layers Atlas Roofing "FR 50", Elk "VersaShield Underlayment" or "VersaShield FB-2S".
Membrane: — "Mule-Hide PVC".
25. **Deck:** C-15/32 **Incline:** 1/2
Slip Sheet: — One ply Atlas Roofing "FR-50".
Membrane: — "Mule-Hide PVC".

CLASS C – MECHANICALLY ATTACHED

9. Deck: C-15/32

Incline: 1

Base Sheet: — One layer, mechanically fastened, of one of the following:

- A. Johns Manville "Perma Ply No. 28".
- B. GAF "GAFGLAS #75 Base Sheet".
- C. Johns Manville "Glasbase".
- D. Tamko "Glass Base".
- E. Celotex Type G2 "Vaporbar GB".
- F. Elk "VersaShield Underlayment" or "VersaShield FB-2S".

Membrane: — "Mule-Hide PVC".

10. Deck: C-15/32

Incline: 1

Insulation: — Any UL Classified wood fiberboard, 1/2 in. thick min.

Membrane: — "Mule-Hide PVC".

11. Deck: NC

Incline: Unlimited

Insulation: — Atlas Roofing "ACFoam II" or "ACFoam III", Dow "Hy-Therm AP", Johns Manville "ENRGY- 2", or "ENRGY-3", Rhoflex "Isocyanurate GL, GW or HF", Rmax Inc. "Multi-Max-3", any combination, any thickness.

Membrane: — "Mule-Hide PVC".

12. Deck: C-15/32

Incline: Unlimited

Insulation: — Atlas Roofing "ACFoam II" or "ACFoam III", Dow "Hy-Therm AP", Johns Manville "ENRGY- 2", or "ENRGY-3", Rhoflex "Isocyanurate GL, GW or HF", Rmax Inc. "Multi-Max-3", any combination, min 2" thickness.

Membrane: — "Mule-Hide PVC".

13. Deck: NC

Incline: 4-1/2

Insulation: — Hunter Panels "H-Shield", any combination, any thickness.

Membrane: — "Mule-Hide PVC".

14. Deck: C-15/32

Incline: 4-1/2

Insulation: — Hunter Panels "H-Shield", any combination, min 2" thickness.

Membrane: — "Mule-Hide PVC".

MAINTENANCE AND REPAIR SYSTEMS

The insulation and membrane are fastened to the deck with metal screws and discs. The membrane laps are hot air welded.

CLASS A, B AND C

5. Deck: C-15/32

Incline: 1/2

Existing Roof System: — Class A, B or C roofing system, to retain the existing Classification, is covered with:

Slip Sheet: — One or more layers of the following - Lydall "Manniglas 1200" mat, 15 mil, Atlas Roofing "FR-10", Elk "Versashield" or Type G2 base sheet, laid loosely.

Membrane: — "Mule-Hide PVC", mechanically fastened.

6. Deck: C-15/32

Incline: 3/4

Existing Roof System: — Class A, B or C roofing system, to retain the existing Classification, is covered with:

Slip Sheet: — One or more layers of the following - Lydall "Manniglas 1200" mat, 15 mil, Atlas Roofing "FR-10", Elk "Versashield" or Type G2 base sheet, laid loosely.

Membrane: — "Mule-Hide PVC", mechanically fastened.

12. Deck: C-15/32 or NC

Incline: See Note

Existing Roof System: — Any Class A, B or C roofing system, to retain the existing Classification, is covered with:

Insulation: — Hunter Panels "Poly ISO 1-HD" or " Poly ISO 1-HD90".

Membrane: — Any UL Classified membrane.

Max incline shall be in accordance with Classification established for insulation/membrane roofing system, but cannot exceed 2:12. TPO membranes are limited to a 1/2:12. max. slope.

13. Deck: C-15/32 or NC

Incline: See Note

Existing Roof System: — Any Class A, B or C roofing system, to retain the existing Classification, is covered with:

Insulation: — Hunter Panels " Poly ISO 1-HD-Composite ".

Membrane: — Any UL Classified membrane.

Note: Max incline shall be in accordance with Classification established for insulation/membrane roofing system, but cannot exceed 2:12. TPO membranes are limited to a 1/2:12. max. slope.

CLASS A

14. **Deck:** C-15/32 **Incline:** 1/4
Existing Roof System: — Class A, roofing system gravel maintained on gravel built-up system, covered with:
Insulation: — Tenneco "AMOCOR®-PB6, PG38 or PG39".
Membrane: — "Mule-Hide PVC", mechanically fastened.

15. **Deck:** NC **Incline:** 1/4
Existing Roof System: — Class A, B or C roofing (gravel may be removed from gravel built-up system).
Insulation: — Tenneco "AMOCOR®-PB6, PB6W, PG38 or PG39", mechanically fastened.
Slip Sheet: — One layer Atlas Roofing"FR 10", Elk "VersaShield Underlayment" or "VersaShield FB-2S".
Membrane: — "Mule-Hide PVC", mechanically fastened.

16. **Deck:** C-15/32 **Incline:** ¼
Existing Roof System: — Class A, roofing system gravel maintained on gravel built-up system, covered with:
Insulation: — Tenneco "AMOCOR®-PB6, PG38 or PG39".
Membrane: — "Mule-Hide TPO-c", "Mule-Hide TPO-c (FR)", "Mule-Hide TPO-c Extra" or "Sure-Flex PVC", mechanically fastened.

21. **Deck:** NC **Incline:** See Note
Existing Roof System: — Class A, B or C roofing system (gravel may be removed from gravel built-up or ballasted single-ply system).
Insulation: — A minimum 3 in. layer or minimum two layers of "Poly ISO 1-DWD".
Membrane: — Any UL Classified roofing membrane.

Note: The maximum incline shall be in accordance with the Class A Classification established for the membrane/insulation roofing assembly, however the incline can not exceed 1/2:12.

22. **Deck:** C-15/32 **Incline:** See Note
Existing Roof System: — Class A, B or C roofing system (gravel may be removed from gravel built-up or ballasted single-ply system).
Insulation: — A minimum 3 in. layer or minimum two layers of "Poly ISO 1-DWD".
Membrane: — Any UL Classified roofing membrane.

Note: The maximum incline shall be in accordance with the Class A Classification established for the membrane/insulation roofing assembly, however the incline can not exceed 1/2:12.

CLASS B

6. Deck: NC

Incline: See Note

Existing Roof System: — Class A, B or C roofing system (gravel may be removed from gravel built-up or ballasted single-ply system).

Insulation: — A minimum 1.9 in. layer of "Poly ISO 1-DWD".

Membrane: — Any UL Classified roofing membrane.

Note: The maximum incline shall be in accordance with the Class A Classification established for the membrane/insulation roofing assembly, however the incline can not exceed 1/2:12.

7. Deck: C-15/32

Incline: See Note

Existing Roof System: — Class A, B or C roofing system (gravel may be removed from gravel built-up or ballasted single-ply system).

Insulation: — A minimum 1.9 in. layer of "Poly ISO 1-DWD".

Membrane: — Any UL Classified roofing membrane.

Note: The maximum incline shall be in accordance with the Class A Classification established for the membrane/insulation roofing assembly, however the incline can not exceed 1/2:12.