

Mule-Hide Living Roof™ Systems

"Attachment II"

Addendum for Mechanically Attached EPDM and TPO Membrane Roofing Systems

A. General

1. Refer to the EPDM or the TPO Membrane Roofing System specifications for general installation methods.
2. The information provided herein are options to be followed when installing the GreenGrid modules or EcoBallast™ over mechanically attached Mule-Hide EPDM or TPO membrane roofing systems.
3. Only the reinforced EPDM membranes may be used when installing a mechanically attached EPDM system.
4. Insulation other than Mule-Hide labeled Poly ISO 1 or Poly ISO 2 insulation must be approved by Mule-Hide prior to installation.
5. Acceptable cover boards shall be either Dens-Deck Prime or Securock. Boards other than those listed must be reviewed and approved by Mule-Hide prior to installation of the roof system.
6. Concrete pavers may be required in perimeter areas along exterior roof edges where parapet walls are not provided. Contact Mule-Hide for specific project requirements.
7. It is the building owner's/owner's representative's responsibility to determine the suitability of the GreenGrid modules for the intended project and confirm the roof deck will support the weight of the saturated GreenGrid modules, specified roof system and any other live or construction loads.

B. Insulation Attachment

1. The insulation and membrane must be installed and secured in compliance with the specific job design requirements for fire and uplift. The GreenGrid modules are not to be considered as securement for the membrane.
2. Refer to Section D. Acceptable Assemblies for EPDM Membranes, for options on insulation attachment, seaming requirements, use of a cover board, and protection fabric requirements.
3. Refer to Section E. Acceptable Assemblies for TPO Membranes, for options on insulation attachment, seaming requirements, use of a cover board, and protection fabric requirements.

C. Membrane Installation

1. Only reinforced EPDM membranes may be used with EPDM mechanically attached systems when installing the Mule-Hide Living Roof System. All field seams shall be completed with 6" wide In-Seam Tape. All field seams shall be stripped with 6" wide Cured Cover Tape. Mule-Hide Tape Primer must be used for all seams and stripping. Refer to Section D. for assemblies.
2. When applying for a 20-yr system warranty, all seams and Cured Cover Tape shall have all edges caulked with Lap Sealant.
3. When only partially covering the EPDM roof membrane with the GreenGrid modules, the field membrane must be mechanically attached to the deck along the perimeter of the GreenGrid modules. The attachment cannot be more than 12" from the base of the modules. Mule-Hide 2.4" diameter Barbed Seam Plates or Mule-Hide All-Purpose Bar with Mule-Hide #14 heavy-duty fasteners shall be used to secure the membrane. The fasteners/plates or All-Purpose bars shall be run in straight lines and covered with Mule-Hide 6" wide Cured Cover Tape (using Tape Primer). Attachment of the Barbed Seam Plates and All-Purpose Bar shall be 6" on center.
4. When using the TPO membrane, all field seams shall be covered with 6" wide TPO Cover Strip (using Mule-Hide Tape Primer) or 6" wide TPO Reinforced Flashing Strip. The TPO Reinforced Flashing Strips must be hot air welded along all edges. After welding has been completed and the seams checked, a bead of Cut-Edge Sealant shall be applied along all cut edges. Complete seam intersections (T-Joints) prior to applying Cut-Edge Sealant to cut edges. Refer to Section E. for assemblies.
5. When only partially covering the TPO roof membrane with the GreenGrid modules, the field membrane must be mechanically attached to the deck along the perimeter of the GreenGrid modules. The attachment cannot be more than 12" from the base of the modules. Mule-Hide 2.4" diameter Barbed Seam Plates with Mule-Hide #14 heavy-duty fasteners shall be used to secure the membrane. The fasteners/plates shall be run in straight lines and covered with Mule-Hide 6" wide Reinforced TPO Strips hot air welded in place. Attachment of the Barbed Seam Plates or All-Purpose Bar shall be 6" on center. Cut Edge Sealant shall be applied along all cut edges of membrane and stripping.

D. Acceptable Assemblies for EPDM Membranes

1. 10 or 15 year System (with or without Wrap-Around Warranty)
 - a. Assembly EMA-1

Membrane Thickness:	.045" or .060"
Insulation Attachment:	1 layer or multilayer mechanically attached or adhered.
Cover board:	Required (mechanically attached or adhered)
Membrane Seaming:	6" In-Seam Tape (min 5-1/2" wide seam). Seam covered with 6" wide Cured Cover Tape.
Protection Fabric:	12 oz/yd ²

Module Depth: 4" or 8"

2. 20-year System (with or without Wrap-Around Warranty)

Note: All 20-yr enhancements shall be followed.

a. Assembly EMA-2

Membrane Thickness: .060"
Insulation Attachment: 1 layer or multi-layer mechanically attached or adhered.
Cover board: Required (adhered only).
Membrane Seaming: 6" In-Seam Tape (min 5-1/2" wide seam).
Seam covered with 6" wide Cured Cover Tape and all seams caulked with Lap Sealant.
Protection Fabric: 12 oz/yd²
Module Depth: 4" or 8"

E. Acceptable Assemblies for TPO Membranes

1. 10 or 15 year System (with or without Wrap-Around Warranty)

a. Assembly TMA-1

Membrane Thickness: .045" or .060"
Insulation Attachment: 1 layer or multi-layer mechanically attached or adhered.
Cover board: Required (mechanically attached or adhered)
Membrane Seaming: Min. 1.5" wide heat welded seam covered with 6" wide TPO Cover Strip or 6' wide TPO Reinforced Flashing Strip heat welded
Protection Fabric: 12 oz/yd²
Module Depth: 4" or 8"

2. 20-year System (with or without Wrap-Around Warranty)

Note: When using .060" or .080" thick TPO membrane, all 20-yr enhancements must be followed.

a. Assembly TMA-2

Membrane Thickness: .060" or .080"
Insulation Attachment: 1 layer or multi-layer mechanically attached or adhered.
Coverboard: Required (adhered only)
Membrane Seaming: Min. 1.5" wide heat welded seam covered with 6' wide TPO Reinforced Flashing Strip heat welded
Protection Fabric: 12 oz/yd²
Module Depth: 4" or 8"

Always check the Mule-Hide Website (www.mulehide.com) for the latest revisions to this document. Mule-Hide reserves the right to make changes without notice.

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