



Technical Bulletin

No. 1601

Use of Expanded Polystyrene Roof Insulation In Mule-Hide Roofing Systems

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The following EPS roof insulation manufacturers may be used in Mule-Hide roofing systems and will qualify for a Premium warranty if purchased from Mule-Hide.

Insulfoam
ACH Foam Technologies
Houston Foam Plastics
Atlas EPS
Cellofoam North America
StarRFoam
Thermafoam Operating, LLC

These manufacturers provide flat and tapered EPS insulation. Care must be taken when using these materials over coal tar pitch or under PVC membranes. The following is a brief summary of how these insulations may be utilized in a Mule-Hide system.

Warranties – EPS insulations from the above manufacturers may be used for either Standard or Premium, 10, 15, or 20 year warranties when following Mule-Hide guidelines and manufacturer recommendations. Must provide proof of purchase (copy of the distributor's invoice showing Mule-Hide SKU numbers) when applying for a Premium Warranty.

Insulation Type	Used as Overlay Board	Roof Systems		
		Adhered	Ballasted	Mech Attached
Expanded Polystyrene - Min 1" - Type I ^{3,4,6}	NO	NO ¹	Yes	NO ¹
Expanded Polystyrene w/facer - Min 1" - Type II ^{3,4,7}	NO	NO ¹	Yes	Yes ⁵

- Notes:
- 1 - Requires overlay board
 - 2 - OSB must be installed with the rough side up
 - 3 - Not approved over Coal Tar Pitch
 - 4 - Cannot be placed in contact with PVC, requires a separation layer
 - 5 - Overlay board recommended
 - 6 - Type I = min 0.90 lb density
 - 7 - Type II = min 1.35 lb density
- See other requirements listed below.

Minimum Insulation Specifications

- A. Project or Code requirements may dictate use of materials other than those listed below. Contact Mule-Hide Technical Department with questions regarding insulation use in a Mule-Hide Roofing System.
1. Expanded Polystyrene Boards
Thickness: 1" Minimum
Classification: Type 1
Compressive Strength: Min 10 psi at 10% deformation
Not for use over Coal Tar Pitch. Applications may require use of higher density material or overlay.

2. Expanded Polystyrene Boards (fan fold)
Thickness: 1/2" Minimum
Classification: Type 1
Compressive Strength: Min 10 psi at 10% deformation
Not for use over Coal Tar Pitch. Applications may require use of higher density material or overlay.

Notes:

1. Local building codes must be consulted for the acceptance of installing polystyrene insulations directly over metal decking.
2. Polystyrene insulation cannot be installed directly over coal-tar pitch surfaces or existing PVC membranes. For coal-tar pitch, a min 1-1/2" thick layer of insulation with a min R value of 5 is required as separation.
3. PVC membranes require separator sheets between the PVC membranes and polystyrene products unless using R-Tech board with polymeric facer side up.

Insulation Attachment

- A. Insulation that is mechanically attached to the substrate shall use approved Mule-Hide fasteners. Minimum insulation attachment rates shall be as per Mule-Hide's requirements or insulation manufacturer's specifications, whichever is greater. Projects requiring Factory Mutual or other Code approvals may require heavier gauge fasteners or additional fasteners. In no case shall the insulation attachment rate be less than Mule-Hide's requirements.
- B. Insulation is always fastened with 3" Insulation Plates with minimum #12 Drill Point fasteners.
- C. Refer to Mule-Hide specifications and details for minimum fastening rates and patterns.

Any information given on this Technical Bulletin is subject to change without notice. Please visit our website at www.mulehide.com for the most current information or contact the Mule-Hide Technical Department at (800) 786-1492 for questions or additional information.