

30-Year Warranty Design Enhancements

"The name trusted in roofing since 1906"



TPO – Mechanically Attached

Revision Date: May 6, 2019

All products specified for this roofing system must be manufactured or approved by Mule-Hide Products Co. This criteria is limited to buildings of 45' in height and does not include buildings within 20 miles of hurricane coastlines.

Membrane / Adhesive Type / Other

- 0.080" thick Mule-Hide TPO Reinforced Membranes.
- All 'T' joints overlaid with pre-manufactured TPO T-Joint Covers heat welded in place.
- Must use pre-fabricated accessories: Pipe Seals, Split Pipe Seals, Square Tubing Wraps, TPO Universal Corners, TPO Inside Corners and TPO Outside Corners.
- All field seams must be heat welded.
- Flashings to be min 0.060" TPO - Min 8" flashing height

Deck Type / Typical Fastener – (for 55-MPH peak wind gust warranty)

Standard Roof Deck (3)	Max Sheet Width	Max Fastener Spacing	Fastener (1)	Seam Plate (1)	Minimum Pullout
Steel - Min 22 ga.	10'	12" OC	HD-15	2.4"	500 lbs
Steel - Min 22 ga. , Wood Plank - Min 1 ½"	10'	6" OC	HD-15	2.4"	360 lbs
Plywood – Min ¾"	8'	12" OC			
Structural Concrete - Min 3,000 psi	10'	12" OC	HD-15 (2)	2.4"	800 lbs

Notes:

- Heavier fasteners and/or plates may be required for Factory Mutual, code, or wind warranties.
- Other fasteners may be considered, submit request to Mule-Hide prior to bidding.
- Contact Mule-Hide Technical Department for other roof decks and non-standard roof decks.

Slope Requirement/Drainage

- Positive drainage required (no ponding 48 hours after a rain)
- 1/4" per horizontal foot preferred
- 1/8" slope with sufficient number of drains and crickets/saddles may be considered

Construction Type

- New Construction
- Reroof - with full tear-off
- Recover - with full tear-off

Insulation/Overlayment - Mechanical Attachment*

Insulation Type or Overlay	Board Size	
	4' x 4'	4' x 8'
Mule-Hide Polyisocyanurate - Min 1.5" thick (top layer) - Min 20 psi	4	6
HD Fiberboard - Min 1/2" thick- Installed over Mule-Hide Polyisocyanurate	4	6
Dens Deck Prime - Min 1/4" - Installed over Mule-Hide Polyisocyanurate	4	6

*NOTES:

- InsulFoam and InsulFoam R-Tech insulation is approved for warranty but it must be installed with an approved overlay board.
- Thicknesses stated are for single layer of material.
- Consult Specification Manual for list of approved insulations for use under overlayment.
- Polyisocyanurate less than 1.5" and InsulFoam expanded polystyrene must have approved overlayment.

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*NOTES: (continued)

5. Insulation fastening density shall not be less than 1 per 2 square feet on fibrous cement and gypsum decks.
6. Certain codes may require additional fastening requirements.
7. Mule-Hide defines perimeter areas as a minimum of 8 feet. Corners areas are the intersections of the perimeter areas.
8. Factory Mutual defines perimeter areas as the lesser of 0.1 times the building width or 0.4 times the building height. Corners areas are the intersections of the perimeter areas.

Metal Accessories

1. For Warranted Wind Speeds of 55-MPH, all metal copings, gravel stops, fascia, and drip aprons must be either Mule-Hide pre-manufactured Edge Metal, or constructed with TPO Coated Metal with continuous clips as per approved Mule-Hide details.
2. Mule-Hide All Purpose Bar is required when a compression bar termination is specified and must be utilized in conjunction with a counterflashing.
3. For Warranted Winds Speeds greater than 55-MPH, Mule-Hide pre-manufactured Metal Edge must be used.
4. Conventional metal edge details that require flanges to be 'stripped in' with TPO Cover Tape are NOT ALLOWED. In these cases use either TPO Coated Metal details with heat welded TPO membrane stripping or our Mule-Hide pre-manufactured Metal Edge.
5. All metal scuppers must have welded (soldered) seams and continuous flange. Pre-fabricated scuppers are strongly recommended.

Other Requirements

1. No 'As-Built'. All projects are to be reviewed and approved prior to installation.
2. Shop drawings must include all pertinent details.
3. Contact Mule-Hide Technical Department for specific code requirements such as Factory Mutual (FM) or Underwriters Laboratory (UL).

Perimeter Enhancement Widths

Building Height	Perimeter Sheets	Width of Field Sheet	Half Sheet Width
0 to 34 feet	Minimum of one (1) perimeter enhancement width	8'	4'
35 to 69 feet	Minimum of two (2) perimeter enhancement widths	10'	6'
Over 70 feet	Contact Mule-Hide Technical Department	12'	6'

Warranty Wind Speed (Maximum Peak Gusts)

Wind speed coverage for a specific project will vary depending on the deck type, fastening density, location and height of the roof. Certain codes may require additional fastening requirements.

Contact Mule-Hide Technical Department for specific job requirements.

NOTES:

1. These are enhancements to the Mule-Hide TPO Mechanically Attached System Specification, as written in the Mule-Hide TPO Specification Manual. Refer to the Mule-Hide TPO Specification Manual for complete specification and details.
2. The information contained in this document is general information. Requirements may be different for each specific job based on the conditions of each building. Always contact Mule-Hide Technical Department to review the specific job conditions prior to bidding the project.