# SUMMARY SPECIFICATION

## INDUCTION WELDING - Grid Attachment Method

Revision Date: June 2020

This Summary Specification is a brief overview of Mule-Hide Product's specification and requirements for an Induction Welded Mule-Hide Heat-Welded Roofing System and is intended for use as a submittal in a bid package. Specifier's and Mule-Hide Warranty Eligible Applicators must comply with Mule-Hide Product's specifications and requirements prior to design or bid.

### Part 1 General

**1.01 Description**

The Mule-Hide Induction Welding Grid Method utilizes a Mule-Hide Heat-Weld membrane (TPO or PVC) in a variety of thicknesses. Approved insulation is attached to the roof deck with Induction Welding Plates and Mule-Hide EHD (#15) fasteners. The Heat-Weld membrane is loosely laid over the prepared substrate. Adjoining sheets are overlapped approximately 3" and seamed together with a min 2" wide heat weld. The membrane is then induction welded to the appropriate Induction Welding Plates using an Induction Welder Tool.

**Note: DO NOT MIX PLATES**. TPO Induction Welding Plates can only be used with non-fleece backed TPO membranes. PVC Induction Welding Plates may only be used with non-fleece backed PVC membranes.

**1.02 Quality Assurance**

A. When a system warranty is required, the roofing system must be installed by a Mule-Hide Warranty Eligible Applicator in accordance with installation guidelines and detail drawings as approved by Mule-Hide. Prior written approval from the Mule-Hide Warranty Department is required for all deviations from Mule-Hide's published specifications and details.

B. Projects requesting a Labor and Material Warranty will be inspected by a Mule-Hide Representative to verify that Mule-Hide's installation and material requirements have been met.

C. Mule-Hide roofing systems offer a variety of Underwriters Laboratories (UL), Factory Mutual (FM) and other ratings. Consult the appropriate approval guides and Mule-Hide Products for specific code approvals.

**1.03 Submittals**

A. To ensure compliance with Mule-Hide's warranty requirements contact the Mule-Hide Warranty Department if any of the following conditions exist.
1. Specified wind speed warranty greater than 55 MPH.
2. Building height > 50'
3. Projects located in coastal or high wind zones.
4. Pressurized buildings
5. Cold Storage or Freezer Buildings
6. Membrane exposed to chemicals
7. OSB roof deck

B. Submit a completed Warranty Application form to Mule-Hide prior to biding. Also include fastener pullout testing results as required for non-standard substrates.

C. All projects must have a Mule-Hide warranty application number and project acknowledgement assigned prior to inspection.

**1.04 Product Delivery, Storage, and Handling**

A. Deliver materials to the job site in original, unopened containers, with the manufacturer's name, brand name and installation instructions.

B. Store all materials in a dry, clean area protected from the elements, as per manufacturer's recommendations.

**1.05 Job Conditions**

A. All existing wet or damaged roofing materials must be removed and replaced with new materials.

B. All existing phenolic insulation and sprayed-in-place urethane roofs must be removed.

C. The specifier must determine the use and placement of vapor retarders. Consult ASHRAE (American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Inc.) and NRCA (National Roofing Contractors Association) publications.

E. Coordinate work between all trades to avoid traffic over completed sections of roofing.

**1.06 Warranty**.

Fees are required for all Labor and Material (System) Warranties. System Warranties must be obtained through a Mule-Hide Warranty Eligible Applicator. All projects requesting a System Warranty must be inspected by a Mule-Hide Representative. Components of the roofing system must be supplied by Mule-Hide. Warranty covers only Mule-Hide supplied materials. Sample warranties are available upon request. Contact Mule-Hide Warranty Department for warranty requirements.

### Part 2 Products

**2.01 General**

The components of this roofing system are to be manufactured, supplied, or approved in writing by Mule-Hide Products.

**2.02 Membrane**

Mule-Hide reinforced Heat-Weld membranes are used for this system. The membrane is available in a variety of widths and lengths and thicknesses. Refer to our Product Data Sheet for physical properties and other information.

**2.03 Related Materials**

Mule-Hide products include: Induction Welding Plates, Reinforced and Non-Reinforced Flashings, Bonding Adhesives, Cut-Edge Sealant, Membrane Coated Metal, Membrane fasteners and discs, Thermoplastic One-Part Pourable Sealer, All-Purpose Bar, Walkway Roll, Universal Single Ply Sealant, and other components.

**Part 3 Execution**

**3.01 General**

A. Work should begin at the highest point of the roof level and proceed to the lowest point. Work should be completed on a daily bases including flashings, terminations, and daily seals.

B. Prepare the existing roof deck or substrate according to Mule-Hide design guides and full-system specifications prior to applying the new roofing system.

**3.02 Roof Deck Criteria**

A. A proper substrate shall be provided by the building owner. The structure shall be able to withstand normal construction loads and live loads.

B. Substrate must allow for drainage so that all water is removed within 48 hours after a rain.

**3.03 Substrate Preparation**

A. Re-cover projects - All wet or damaged materials must be removed and replaced with new materials.

B. Substrate must be clean, level, and smooth so that the insulation lays flat. Fresh applications of bitumen based roof cement must be removed or covered.

**3.04 Installation**

Refer to the applicable Product Data Sheets and Safety Data Sheets for cautions and warnings.

**A. Insulation Attachment**

Attach roof insulation with appropriate Induction Welding Plates and Mule-Hide EHD (#15) fasteners. **NOTE:** Induction Welding Plates must match the Mule-Hide Membrane. (TPO plates with TPO membranes, PVC plates with PVC membranes). Induction Welding Plates are not for use with fleece backed membranes.

Mule-Hide fasteners and Induction Welding Plates are installed at a rate of 6 fasteners per 4’ x 8’ board, or 1 fastener per 5.33 sq. ft. Increase fastener density in perimeters to 9 fasteners per 4’ x 8’ board or 1 fastener per 3.55 sq. ft. In the corners install 12 fasteners per 4’ x 8’ board or 1 fastener every 2.66 sq. ft. Consult Mule-Hide Technical Department for attachment requirements.

**B. Membrane Installation and Hot Air Welding**

Place membrane over substrate with minimum 3” overlap at lap seams and positioned so that laps will shed water. Allow membrane to relax. After membrane has relaxed, hot-air weld seams with automatic welder to achieve a min 2” wide heat weld. Weld the Mule-Hide membrane to the Induction Welding Plates with Induction Welder Tool. If expanded or extruded polystyrene insulation is the top layer RhinoBond Cardboard Disc’s must be installed between the plate and the insulation.

**C. Additional Membrane Securement**

The membrane must be secured at the perimeter of each individual roof area, projection, and any angle change that exceeds 2" per lineal foot. Consult Mule-Hide's published detail drawings.

**D. Membrane Flashing**

All existing base flashings are to be removed or covered with a suitable material. Install new membrane flashings as per manufactures details and guidelines. Flashings must be terminated along top edge as per appropriate Mule-Hide detail.

**E. Other Related Work**

1. Walkways should be provided in areas where regular rooftop traffic is expected. Walkways are considered a maintenance item and are excluded from the Mule-Hide warranty.

2. Mule-Hide Walkway Rolls are to be installed over clean, dry surfaces, with a minimum 6" spacing over field seams. Hot-air weld the perimeter of the Walkway Roll to the field membrane.

3. Concrete pavers may be used if installed over one layer of HP Protection Mat.

4. Copings, counter flashing and other metal work shall be fastened to resist wind uplift and prevent buckling. Metal should be sealed to prevent moisture infiltration.

This summary specification represents the applicable information available at time of publication. Mule-Hide reserves the right to change this information at any time. Contact Mule-Hide Products or visit our website at www.mulehide.com for the latest updates, changes, or modifications to this summary specification.