

TECHNICAL INSTALLATION PROCEDURES

TIP-004

Single-Ply Fully Adhered, Built-Up, Modified Bitumen, or Composite BUR-Mod Bit Fully Adhered Insulation Replacement

A. DESCRIPTION:

This procedure is for the installation of the MID System in a replacement roofing system where the existing roofing system is being removed down to a vapor retarder or roof deck. The replacement roofing system consists of new insulation fully adhered by either hot or cold adhesives and a **Single-Ply Fully Adhered, Built-Up, Modified Bitumen, or Composite BUR-Mod Bit with Fully Adhered Insulation.**

B. PURPOSE:

This procedure is designed to maximize the performance of the MID System, ensure proper sensor installation in roofing systems, and to act as a guideline for Contractors to generate pricing for proposals. Also, the intent of this procedure is to standardize the method of installation to ensure that each MID System installed meets all of the specification requirements and warranty criteria.

C. ROOF TYPE:

1. Deck: All types suitable for a fully adhered roof system.
2. Tapered or flat insulation.
3. All layers of insulation fully adhered to each layer and to the deck.
5. Roof membrane: Fully Adhered Single-Ply, Asphalt or Coat Tar Pitch, Hot or Cold applied Built-Up, Modified Bitumen, or Composite BUR-Mod Bit Roof.

D. SENSOR TYPE:

There are two (2) sensor types: the Main Sensor and the Satellite Sensor. The sensors are manufactured in three configurations, one sensor, three sensors, and five sensors with each sensor having a unique number code.

E. TOOLS/MATERIALS REQUIRED:

1. Sensor layout shop drawing.
2. Chalk box and chalk.
3. Razor blade knife.
4. MID Systems hand coring tool.

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5. Tape measure.
6. MID System sensors.
7. Flat tip screw driver.
8. Loose fill insulation.
9. 2 inch polyethylene tape.
10. Safety glasses with side shields or goggles.
11. Red permanent marker.
13. Zip lock plastic storage bags.

F. INSTALLATION:

1. After installation of the bottom layer of insulation (tapered or flat) and prior to the installation of the overlayment insulation, tape the insulation joints with approved tape.
2. Install the overlayment insulation boards in a full embedment of adhesive, staggering the joints with the bottom insulation board layer.
3. Layout the sensors in the grid pattern as required in a group of three (3) or in a group of five (5) where the cable connecting the Main Sensor to the two (2) or four (4) Satellite Sensors will run in the butt joints of the Overlayment Insulation board. Refer to the sensor layout shop drawing and use a chalk line to establish the grid pattern and location of the sensors.

NOTE: The center of each sensor shall be located at the T-joint of the overlayment board.

4. Set the depth gauge on the tool or device used for cutting the hole for the installation of the sensor. The depth should be the thickness of the overlayment plus 1" in order to place the sensor in the bottom insulation layer.
5. With the hand coring tool, carefully cut a hole into the insulation to the required depth for the sensor, being sure not to cut into the vapor retarder. Remove the required insulation to ensure that the top of the sensor will finish recessed slightly less than flush with the top of the insulation. If too much insulation is removed from the hole, repack the hole with the required amount of loose fill insulation.

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6. Insert the Main Sensor in the hole cut in the insulation by applying pressure to the top of the sensor and pressing it into the hole ensuring placement in the bottom insulation layer and a tight fit.
NOTE: If installing the sensors in tapered insulation, the sensor shall be installed with the same slope as the insulation with the battery located on the low side of the slope.
7. Layout the cable from the Main Sensor to the two (2) or four (4) Satellite Sensors, where the cable can be pressed into the joints of the overlayment board. Install the two (2) or four (4) Satellite Sensors following the same procedure used for installing the Main Sensor.
8. Indicate the Sensor number on the sensor layout shop drawing and provide accurate dimensions in each direction for the sensor installation as-built drawing. Also, note any known problems or variances from the installation procedure, specifications, etc. on the sensor layout shop drawing.
9. Install a circular piece of overlayment insulation into the sensor hole and over the sensor.
10. Place a 12" X 12" ply of felt, set in cold applied cement, over the sensor hole to seal the circular piece of insulation joints and prevent roof mat adhesives from contaminating the sensors. Exercise care so as to not contaminate the sensors during this step.
11. Install the Roof mat assembly as required.

G. GENERAL INFORMATION:

1. Store sensors in a dry covered area where they will not be exposed to the weather.
2. In situations where all three (3) or five (5) sensors are not installed in the grouping of three (3) or five (5), insert the sensor(s) not installed in a plastic zip lock bag making sure the sensor will not be exposed to moisture or water. Seal around the cable with tape.

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3. Do not expose sensor unit to direct contact with hot bitumen.
4. Do not use a sharp tool in the water collection area of the sensor housing when pressing in place.

END OF SECTION

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