

Millennium Pourable Foam Insulation Adhesive Field Conditions and Field Questions

This bulletin is intended as a summary of questions and answers regarding various field issues which may arise when using Millennium Pourable Foam Insulation Adhesive. Our goal is to provide some general guidelines. If you feel something should be added, please submit your idea so that we make this outline as complete as possible.

1. What is Millennium Pourable Foam Insulation Adhesive and how is it packaged?

Answer: Millennium Pourable Foam Insulation Adhesive is a liquid applied non-asphaltic, moisture cure urethane adhesive that transforms into low rise foam during the cure process. It is packaged in 3 gallon (11.36L) pails which have coverage rate of 500 – 600 sq.ft. (46.45 m² – 55.74 m²) per pail.

2. How is Millennium Pourable Foam Insulation Adhesive applied?

Answer: The standard application for Millennium Pourable Foam Insulation Adhesive calls for a ribbon application, 4 beads per 4 ft. (1.22 m) wide board, each ribbon ½" – ¾" (1.27 cm – 1.91 cm) in width. Ribbon width is controlled by the individual applying the adhesive, whether the adhesive is being applied through a spouted container or the multi-bead applicator. If using the multi-bead applicator, simply control application by adjusting walking speed.

3. Once the adhesive is applied and the insulation board has been set into the adhesive, what is the recommended waiting period before the insulation is ready to handle foot traffic associated with roof cover application?

Answer: Once the insulation has been placed into freshly applied adhesive, set-time, the length of time until the adhesive provides sufficient bond to support foot traffic, will vary depending on environmental conditions such as ambient temperature, humidity, wind, clouds, sun, etc. While absolute set-time cannot be pre-determined, the following can be used as a general guideline:

AIR TEMPERATURE	APPROXIMATE SET-TIME
65°F-90°F (18°C-32°C)	20-30 minutes
40°F-64°F (4°C-18°C)	35-60 minutes

*Before use, each day, place a small amount of adhesive onto a scrap piece of insulation. Check it periodically to determine how long it takes before the adhesive begins to set/skin over. For periods when predicted set-time is not acceptable, follow the accelerated cure guideline referenced in question #4, this will assure a quicker set time in all temperatures, even below freezing.

4. What can a roofing contractor do at the jobsite to accelerate the curing process when using Millennium Pourable Foam Insulation Adhesive?

Answer: Being a one-part, moisture cure, urethane adhesive, Millennium Pourable Foam Insulation Adhesive relies on ambient moisture to initiate the curing process. Ambient moisture is obtained from the surrounding environment. Warm air retains a higher concentration of moisture than cold air, even at equal relative humidity (RH) measurements. The higher the moisture content, the quicker the cure time when using a moisture cure urethane. In very dry, arid climates or in cold climates, the air holds little moisture. A low moisture content will result in extended or slower cure times.

If conditions at the jobsite result in a slower than acceptable cure time, do the following, in order to accelerate the curing process:

1. In cold weather, store the adhesive at room temperature (70°F (21°C)) overnight. Like any cold applied adhesive, cooler temperatures can affect viscosity. Keeping the material warm will ensure proper viscosity and flow rate.
2. Apply the adhesive to the substrate as directed.
3. Prior to installing the insulation board, spray a very light, mist coat of water, or, for quicker results, Millennium Foam Accelerator, applied with a garden sprayer, over the freshly applied adhesive. Do not allow the water to puddle.
4. Immediately, place the insulation board into place, ensuring that the board is in contact with the adhesive and substrate. If the substrate is un-even or if the board does not maintain contact with wet adhesive and the substrate for any reason, make relief cuts and/or place temporary weight on the board until the adhesive has set.

The introduction of water or Millennium Foam Accelerator simply provides the catalyst normally obtained from moisture in the air.

This procedure should be used in conditions where a slower cure time may be expected or whenever a quicker set time is desired, such as cold temperatures or low humidity climates.

5. Can Millennium Pourable Foam Insulation Adhesive be applied to a wet substrate?

Answer: No. When moisture cure adhesives and sealants are applied to wet substrates, the result is a weak bond. Excessive moisture lying upon the substrate can cause the adhesive to skin over at the adhesion line, preventing the adhesive from wetting into the substrate. All substrates should be dry prior to application.

6. Does Millennium Pourable Foam Insulation Adhesive require the use of a primer?

Answer: In most applications, no primer is required. Our formulation includes the use of adhesion promoters that allow for excellent adhesion to most surfaces. However, when applying the adhesive over surfaces that are known to be heavily oxidized, such as an existing smooth surfaced BUR or MB, the use of Millennium Universal Primer is recommended.

7. When a roofing project's specification includes the removal of the existing roof system, how clean does the substrate need to be prior to the application of Millennium Pourable Foam Insulation Adhesive?

Answer: The substrate should be cleaned to as smooth a surface as possible. To secure proper adhesion, insulation boards must lay flat on the surface with no rocking. This is to ensure that the boards are in contact with the adhesive. Remove any heavy build-ups of bitumen, insulation, or other debris. Residual asphalt or coal tar does not need to be removed Millennium Pourable Foam Insulation Adhesive provides excellent adhesion to both materials provided they are aged.

8. What should be done in the event that the substrate is un-even and the insulation board cannot lay flat or is not in contact with the adhesive?

Answer: Determine why the board will not lay flat. If there is debris or heavy build-up, remove it. If the board is cupped or curled, use a different board. If the deck is un-even due to elevation variances, i.e. pre-cast panels, place a relief cut into the insulation board at the point of transition, place temporary weight upon the board, or if possible add a mechanical fastener to assure the board maintains contact with the insulation adhesive.

9. What are the slope limitations for Millennium Pourable Foam Insulation Adhesive?

Answer: Not recommended for slopes in excess of 2":12" (5.05cm: 30.48cm).

10. What is the maximum insulation board size approved for use with Millennium Pourable Foam Insulation Adhesive?

Answer: Insulation boards should be no larger than 4 ft. x 4 ft. (1.22m x 1.22m). However, overlays such as gypsum boards can be installed in their original 4 ft. x 8 ft. (1.22m x 2.44m) size.

11. Are there any cold temperature issues associated with Millennium Pourable Foam Insulation Adhesive?

Answer: Refer to questions #2 and #3 for cure or set time information. For ease of use, store the adhesive in a warm area to maintain a material temperature of approximately 70°F (21°C). Cold material will have a heavy viscosity making it difficult to apply.

12. Why is Millennium Pourable Foam Insulation Adhesive shipped and packaged upside down or with the lid side down?

Answer: Millennium Pourable Foam Insulation Adhesive is a moisture cure urethane. We take great care to eliminate, during the manufacturing and packaging process, any un-necessary exposure to moist air. Keeping the pail in the lid down position eliminates the air space near the gasket seal. The elimination of this air space reduces the risk of skinning and/or curing in the pail. This precaution helps ensure that the product's shelf life meets our expectations. Keep Millennium Pourable Foam Insulation Adhesive stored with the lid side down.

13. What is the shelf life of Millennium Pourable Foam Insulation Adhesive?

Answer: Millennium Pourable Foam Insulation Adhesive will have a shelf life of six months from the date of manufacture, when stored with the lid side down. However, it is recommended that stock be rotated to eliminate shelf life concerns. Material which is older than six months, but is still fluid, is acceptable for use.

14. If upon opening a pail of adhesive for the first time, it is found to have a skin on the surface, does this mean the material is past its shelf life?

Answer: No. Skinning in the pail is an indication that the pail was stored with the lid side up. Simply remove the skin and use the fluid material below.

15. Sometime it can be difficult to remove the lid, what should be done?

Answer: Lid down packaging can create a vacuum within the pail, making the lid difficult to remove. Simply break the seal along the edge of the lid to relieve internal pressure. Once the seal is broken the lid should be easily removed.

16. How long after adhesive is applied should one wait before introducing the insulation board to the adhesive?

Answer: Immediately upon application of the adhesive, set the board into wet adhesive. Do not allow the adhesive to skin over. If left open, the adhesive can skin within several minutes. Once skinned over the adhesive will not wet into the insulation board, creating a weak bond.

17. How long after application does the adhesive achieve its maximum strength?

Answer: Typically, the adhesive will provide a bond that exceeds requirements for an FM 1-90 wind uplift rating or exceed the strength of the insulation board, depending on the strength of the insulation facer, within a few hours after application. Maximum bond is achieved within several days. To put this time frame in perspective, Factory Mutual allows cold adhesives to cure up to 28 days before they are tested.

18. Can Millennium Pourable Foam Insulation Adhesive be applied to a gravel surfaced built-up roof?

Answer: As with most substrates where Millennium Pourable Foam Insulation Adhesive is to be applied, the surface must be clean, dry, free of dirt, dust, debris, oils, loose gravel, unadhered coatings, deteriorated membrane and other contaminants that may result in a surface that is not sound or is un-even. Remember, we want the board to lay flat upon the sound roof surface and we want the adhesive to be in contact with the insulation board.

As most gravel roof surfaces will not meet this requirement, this application is not recommended. If you feel you have an exception, contact our Technical Department on a job by job basis.