

# Millennium One Step Green® Foamable Adhesive

## Description

Millennium One Step Green® Foamable Adhesive is an exciting, new, patent pending, essentially VOC-free, all-weather insulation adhesive manufactured with an industry-leading 45%\* rapidly renewable material content. Millennium One Step Green® Foamable Adhesive carries all of the equivalent FM approvals of our highly popular One Step Foamable Adhesive® and is designed for use with our patented application process\*\*.

Our One Step™ application process eliminates error due to poor mixing. Application is quick and easy, resulting in significant labor savings for the contractor. No expensive, high maintenance, specialty pumps or spray rigs are required.

## Basic Use

Millennium One Step Green® Foamable Adhesive is designed for use as an adhesive for bonding approved roof insulations to a building's structural roof deck, base sheets, other insulation boards, and smooth or properly prepared gravel built-up roof surfaces. Millennium One Step Green® Foamable Adhesive eliminates the need for mechanical fasteners that can often cause damage to the roof deck, which can reduce the roof's service life.

## Approved Insulations and Substrates

- HD wood fiber
- Polyisocyanurate
- Perlite (upon approval)
- Polystyrene
- Gypsum cover board
- Asphaltic cover boards
- Concrete
- Gypsum roof deck
- Cementitious wood fiber
- Wood or steel
- Mineral wool
- Lightweight insulating concrete
- Modified bitumen membranes and base sheets (sanded or granule surfaced)
- Approved insulations (multi-layer applications)
- Smooth or gravel surface built-up roof (re-roof applications)

For a complete list of approved substrates and insulation types, or for additional information, contact our Technical Department.



## Features

45% rapidly renewable material content

No temperature restrictions

One Step™ technology

Elastomeric

Low rise foam

Replaces fasteners

Ready to use

## Benefits

Maximum green building credits

Suitable for all climates

Easy to apply

Remains flexible, absorbs stresses

Accommodates minor surface irregularities

Minimizes penetrations and deck corrosion

Requires no mixing, reduces labor costs

## Safety

Prior to working with this or any adhesive product consult product label and Safety Data Sheet (SDS) for necessary health and safety precautions.

## Limitations

- Do not apply to wet or damp surfaces.
- Not recommended for use with insulation boards larger than 4' x 4' (1.2m x 1.2m).
- Do not use warped or curled insulation boards. All insulation boards must lay flat upon the roof surface.
- When applying Millennium One Step Green® Foamable Adhesive over a smooth or sanded APP roof surface Millennium Surface Treatment may be required.

**\*45% rapidly renewable content independently certified by Iowa State University on 6-23-2008.**

**\*\*U.S. Patent Nos. 7,056,556; D501,855**

## Application

1. Remove snap off tip from the One Step™ mixing head and keep for re-use.
2. Attach a One Step™ mixing nozzle to the threaded mixing head.
3. Place the cartridge into the appropriate One Step™ applicator. **Caution:** Adhesive should be dispensed immediately after loading the cartridge into the dispensing tool to prevent adhesive from foaming and curing in the mixing tip.
4. Apply Millennium One Step Green® Foamable Adhesive directly to the substrate, using a ribbon pattern. Space 1/4" to 1/2" (0.6cm to 1.3cm) wide beads, 12" (30cm) o.c., to achieve proper coverage rates for insulation attachment. As adhesive is applied, immediately place insulation board into wet adhesive. Do not allow the adhesive to skin over. Eliminate uneven surfaces to ensure positive contact between the insulation board and substrate.
5. Un-used material can be applied at a later date by simply removing the used static mixing tip, wiping the neck of the cartridge clean and plugging the cartridges with provided snap off tips.
6. **Caution:** Millennium One Step Green® Foamable Adhesive reacts quickly in warm, moist climates. Roofers must set insulation boards quickly in these conditions.

## Surface Preparation

All work surfaces should be clean, dry, and free of dirt, dust, debris, oils, loose and/or embedded gravel, un-adhered coatings, deteriorated membrane and other contaminants that may result in a surface that is not sound or is uneven.

For applications over existing weathered asphalt or coal tar pitch BUR, apply Millennium Universal Primer prior to the application of Millennium One Step Green® Foamable Adhesive. For applications over fresh and/or non-oxidized asphalt, coal tar or plastic film membranes, apply Millennium Surface Treatment prior to the application of Millennium One Step Green® Foamable Adhesive.

## Equipment

The fast and dependable One Step™ applicators make applying Millennium One Step Green® Foamable Adhesive simple :

- Patented Multi-Bead Plus\*\*
- Patented Multi-Bead\*\*
- Battery Powered Single Bead
- Pneumatic Single Bead
- Ultra Drive Manual Applicator
- Heavy Duty Manual Applicator

Code #0030-0715

WARRANTY: Royal Adhesives and Sealants warrants its products to conform to Royal's specifications at the time of sale when tested according to Royal standards. If a product is proven to be defective when tested according to Royal standards, Royal will, at its option, refund the purchase price or replace or repair the defective product. THIS LIMITED WARRANTY IS THE BUYER'S SOLE AND EXCLUSIVE REMEDY AGAINST ROYAL ADHESIVES AND SEALANTS AND IS IN LIEU OF ANY AND ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. In no event shall Royal be liable for any special, incidental, consequential, or punitive damages arising out of any claims whether based on negligence, contract, warranty, strict liability or otherwise.



## Storage

Keep temperature of contents between 65°F to 85°F (18°C to 29°C) 24 hours prior to use. Do not store in direct sunlight or temperatures higher than 90°F (32°C).

## Color

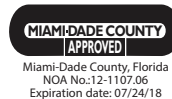
Off white-light amber when dispensed

## Packaging and Coverage

Millennium One Step Green® Foamable Adhesive is available in the following package :

<u>Cartridge Size</u>	<u>Part #</u>	<u>Cartridges/Case</u>
1.5 Liter	OS-GR15-04	4

Covers 600 sq ft (56m<sup>2</sup>) per case. Coverage estimates indicate total square feet of insulation attachment per case. Rates are based on an application pattern of 4 ribbons, 1/4" to 1/2" (0.6cm to 1.3cm) wide, 12"(30cm) o.c. per 4' x 4' (1.2m x 1.2m) insulation board. Coverage rates may be lower when used over irregular surfaces and will vary depending on roughness.



Insulation Adhesives for roofing systems as to external fire exposure see UL Directory of products certified for Canada and UL Roofing Materials and Systems Directory. IWAS



\*Subject to the conditions of Approval when installed as described in the current edition of the FM Approval Guide.\*