



Thermoplastic Single Ply and Multi-Ply Roofing Systems

Millennium PG-1 Fleeceback Membrane Adhesive

Low Viscosity Insulation Adhesive

Description

Millennium PG-1 Pump Grade Adhesive is a two component, essentially VOC free, all purpose, low rise, polyurethane foamable adhesive that contains no solvents and sets in minutes. It is approved for use in VOC regulated markets such as California and the OTC States.

Application is quick and easy resulting in significant labor savings for the contractor. Millennium PG-1 Pump Grade Adhesive is dispensed through any of the application tools designed for 2-part urethane including the Patented Multi-Bead* and Multi-Bead Plus** applicators, the Patented Millennium Cyclone pump cart* (by Garlock), or an approved low pressure pump cart which equally mixes Part 1 and Part 2 of the adhesive.

Basic Use

Millennium PG-1 Pump Grade Adhesive is designed for use as an adhesive for bonding approved fleece backed singleply membranes (KEE, PVC, TPO, EPDM) to a building's structural roof deck, base sheets, insulation boards, and smooth surfaced built-up and modified bitumen roof surfaces. It is dispensed in 3/4" to 1" (1.9cm - 2.5cm) wide liquid beads that will quickly spread to a width of 2-3 inches. The adhesive will expand and rise to fill minor surface irregularities.

Approved Insulations and Substrates

- HD wood fiber
- Polyisocyanurate
- Polystyrene (XPS & EPS)
- 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 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

- Universal formula
- Replaces fasteners
- Low rise foam
- Solvent free

Benefits

- Approved for both insulation and membrane attachment
- Minimizes penetrations, deck corrosion, and thermal bridging
- Accommodates minor surface irregularities
- Essentially VOC free, approved for use in VOC regulated markets

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 fresh and/or non-oxidized asphalt, coal tar or plastic film membranes, Millennium Surface Treatment may be required prior to the application of Millennium PG-1 Pump Grade Adhesive.

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 surface.
- 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.
- **Do not apply when temperatures are below 25°F (-4°C).**

Color

Foamed adhesive will appear off white to light amber.

*US 7,506,556 B2; US D501,855 S; CA 2,493,739 C

**US 9,381,536 B2

*US 9,573,150 B2; US 9,566,594 B2

CAUTION: All statements and technical information in this document are based on tests or data that Flex believes is reliable. However, Flex does not warrant or guarantee the accuracy or completeness of this information. The user has sole knowledge and control of factors that can affect the performance of Flex's products in the user's intended application. It is the user's responsibility to conduct tests to determine the compatibility of Flex's product with the design, structure, and materials of the user's end product and the suitability of Flex's product for the user's method of application and intended use. The user assumes all risk and liability arising out of such use.

Application

Note: Millennium PG-1 Pump Grade Adhesive can be applied when both ambient and substrate surface temperatures are at 25°F (-4°C) and rising provided the adhesives are properly stored. Millennium PG-1 Pump Grade Adhesive should be stored at approximately 70°F + (21°C+) for a minimum of 48 hours prior to use and remain in a warm storage area until ready for use on the rooftop. Storing the adhesive below the recommended application temperature range prior to use can have a negative effect on product performance which may include reducing the expected coverage rates of the adhesive, delayed or extended reaction and set up times and in some cases can alter the mix of the two components.

In the event the adhesive is exposed to cooler temperatures for an extended period of time, it must be brought back up to the recommended application temperature prior to use. The adhesive should never be allowed to freeze. **Material stored and utilized at cold temperatures will be prone to crystallization of Part 1.**

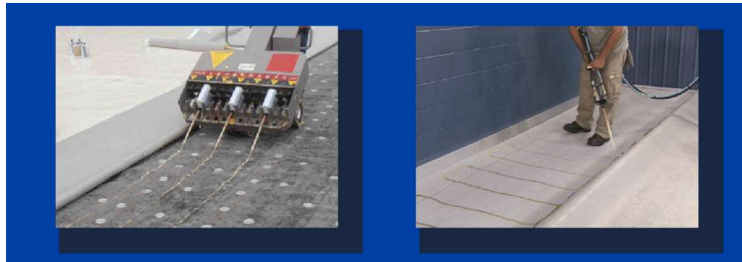
- Place the cartridge into the appropriate One Step™ applicator. When using the Millennium Cyclone low pressure pump cart, connect the black Part 1 fitting to the black feed hose fitting. Connect the gray Part 2 fitting to the gray feed hose fitting. Operate the pump according to Manufacturer's instructions (see Cyclone Operator's Manual).
- Utilize the empty cardboard container to capture adhesive pre-dispense or recycle empty cardboard containers.
- Apply Millennium PG-1 Pump Grade Adhesive directly to the substrate, using the roof membrane manufacturer's recommended ribbon pattern to achieve proper coverage rates for membrane attachment. As adhesive is applied, allow to begin rising then place insulation board/membrane into wet adhesive and roll membrane with a weighted roller to ensure positive contact between membrane, adhesive and substrate. Do not allow the adhesive to skin over. Eliminate uneven surfaces to ensure positive contact between the insulation board and substrate.
- Unused material can be applied at a later date by simply plugging the cartridges (with provided plugs) and using a new One Step™ mixing nozzle. When using the bladder packaging properly clean and grease dispensing wand and pump unit according to the pump manufacturer's recommendation.
- Plastic bladders are designed for easy visibility to ensure adhesive maintains a 1:1 ratio. If material is not consumed at a 1:1 ratio stop application and check for blockage in hose or dispensing manifold.
- Millennium PG-1 Pump Grade Adhesive provided in 50 gallon drum sets can be used with approved pump systems. The adhesives should be placed on a drum roller or agitated prior to use.

Equipment

- Patented Multi-Bead Plus**
- Patented Multi-Bead*
- Battery Powered Single Bead
- Pneumatic Single Bead
- Ultra Drive Manual Applicator
- Heavy Duty Manual Applicator
- Patented Millennium Cyclone+ (by Garlock)
- Graco Predator E-10 Reactor
- Graco Predator
- Adhesives Systems Technology GMP-075
- Adhesives Systems Technology PCH GMP-500

For a complete list of approved low pressure pump carts, or additional information, contact our Technical Department.

Code #0092-0719



Packaging and Coverage

Millennium PG-1 Pump Grade Adhesive is available in the following packages:

Cartridge Size	Part #	Cartridges/Case
1.5 Liter	PG-FA15-04	4

Covers 600 sq ft (56m²) per case. Coverage estimates indicate total square feet of insulation/fleeceback membrane attachment per case.

Size	Part #	Sets/Pallet
5 gal (18.9L) box, Part 1 (A)	PG-IA5B-A01	18
5 gal (18.9L) box, Part 2 (B)	PG-IA5B-B01	
15 gal (58L) drum, Part 1 (A)	PG-15DR-A01	4
15 gal (58L) drum, Part 2 (B)	PG-15DR-B01	
50 gal (189L) drum, Part 1 (A)	PG-IADR-A01	2
50 gal (189L) drum, Part 2 (B)	PG-IADR-B01	

Part 1 and Part 2 mixed through an approved low pressure pump cart will produce the following coverage rates:

- 5 gallon (18.9L) Kit: 2,000-2,500 sq ft (186m²-232m²)
- 15 gallon (58L) Kit: 6,000-7,500 sq ft (558m²-696m²)
- 50 gallon (189L) Kit: 20,000- 25,000 sq ft (1,860m²- 2322m²)

Coverage estimates indicate total square feet of membrane attachment per kit. Rates are based on a 3/4" to 1" (1.9cm - 2.5cm) applied adhesive ribbon spaced 12" (30cm) o.c. per 4' x 4' (1.2m x 1.2m) insulation board.

NOTE: A 3/4" - 1" (1.9cm - 2.5cm) wide uncured adhesive ribbon will produce a 3" - 4" (7.6cm - 10.2cm) wide cured adhesive bead that will rise approximately 3/4" - 1" (1.9cm - 2.5cm) above the substrate. Coverage rates may be lower when used over irregular surfaces and will vary depending on roughness.

Storage

Keep temperature of contents between 45°F to 95°F (7°C to 35°C). Bring temperature of material to approximately 70°F (22°C) before use. Do not store in direct sunlight or above 95°F (35°C). Store boxes valve side up. Keep from freezing!



- *US 7,506,556 B2; US D501,855 S; CA 2,493,739 C
- **US 9,381,536 B2
- +US 9,573,150 B2; US 9,566,594 B2
- **US 9,174,234 B2; CA 2,806,690 C