

# Flexible FAST™ 5-Gallon Jug Adhesive



## Overview

Carlisle's Flexible FAST 5-Gallon Jug Adhesive is a two-component, construction-grade, low-rise polyurethane adhesive designed for bonding Carlisle's FleeceBACK® membranes and/or insulation to various substrates.

The 5-Gallon Jugs' patent-pending design makes them easy to handle and provides moisture resistance, increased durability, and adhesive visibility.

Flexible FAST 5-Gallon Jug Adhesive is compatible with: HP Recovery Board, InsulBase® Polyiso, StormBase® Polyiso, SecurShield® Polyiso, SecurShield HD, SecurShield CD, SecurShield HD Plus, expanded polystyrene (EPS), extruded polystyrene (XPS), spray polyurethane foam (new or scarified SPF), DensDeck®, and SECUROCK®.

Compatible deck types include: concrete, cellular lightweight concrete (LWC), gypsum, cementitious wood fiber, wood, and painted or galvanized steel.

Flexible FAST 5-Gallon Jug Adhesive is also compatible with the following roofing materials: smooth (previously exposed) BUR, mineral cap sheets, smooth (previously exposed) or granulated mod bit, aged EPDM, aged TPO, aged Hypalon®, and VapAir Seal™ 725TR Air and Vapor Barrier/Temporary Roof.

## Features and Benefits

- » VOC-compliant
- » Quick, quiet, low-odor application
- » Superior wind uplift resistance/FM approved
- » Added puncture resistance of 33–50% compared to standard competitive 2-component low-rise adhesives
- » Added elongation of up to 150%
- » Moisture resistance – Patent-pending jug design provides increased moisture resistance and protection against moisture contamination

- » Adhesive visibility – Provides a visible cue for container change-out and in case of an off-ratio mix
- » Easy-load handles – Top- and side-load handles allow jugs to be easily loaded on dispensing equipment
- » Easy-flow vent – Provides even distribution of adhesive to the static mixing tip
- » Increased durability – 5-gallon jug packaging is 4 times stronger than Bag-in-a-Box for better protection against jobsite drops

## Coverage Rates

*(Application rates may vary depending on ambient temperatures, surface, and substrate absorption rate)*

| Approximate Coverage Rate (Sq. Ft.) | Splatter      | Full Spray  | 4" o.c.   | 6" o.c.       | 12" o.c.      |
|-------------------------------------|---------------|-------------|-----------|---------------|---------------|
|                                     | 1,800 – 2,000 | 600 – 1,000 | 670 – 900 | 1,000 – 1,250 | 2,000 – 2,500 |

FleeceBACK membrane or insulation attachment to lightweight concrete, concrete, wood, smooth BUR, mod bit, mineral cap sheets, SPF, or multiple layers of insulation: Please consult Carlisle for project-specific bead widths and spacing.

## Application

*(Requires a low-pressure urethane adhesive dispensing machine)*

1. The surface to which adhesive is applied shall be dry, free of fins, protrusions, sharp edges, loose and foreign materials, oil, and grease. Depressions greater than ¼" shall be filled with Flexible FAST Adhesive or other approved patching material. All sharp projections shall be removed. **Previously unweathered asphalt must be primed with CAV-GRIP™ III.**
2. Allow Flexible FAST Adhesive to rise and develop "string/body" (approx. 1½ – 2 min.). String time will vary based on environmental conditions like temperature and humidity. Do not allow the adhesive to over-cure prior to setting insulation boards.
3. Seal gaps between the wall/penetration and concrete deck with Carlisle 725TR or other suitable material to avoid condensation issues and positive pressure from air infiltration.
4. For re-roofing sprayed-in-place (SPF) urethane roofs, all wet areas must be removed. The surface must then be scarified or perforated, depending on the coating, before applying Flexible FAST 5-Gallon Jug Adhesive.
5. Apply Flexible FAST 5-Gallon Jug Adhesive when substrate and ambient temperature are 25°F (-4°C) or above. Material should be applied when internal material temperatures are between 70°–90°F (21–32°C).

# Flexible FAST 5-Gallon Jug Adhesive

6. Remove static mixing nozzle when stopping for more than 30 seconds. Failure to remove nozzle can cause clogging of the low-pressure dispensing machine.
7. High-slope applications may require adhesive to be applied to the bottom of the insulation board to avoid running.

## FleeceBACK Membrane Attachment

### Slide-in Method:

1. Unroll FleeceBACK sheet and position. Fold the sheet back in half lengthwise (end-to-end).
2. Spray-apply, splatter, or extrude Flexible FAST Adhesive to the substrate.
  - For full spray applications, spray adhesive at 1-gallon per square to obtain full coverage (approximately ¼ to ½ thick after foaming). Ensure membrane end laps are protected from adhesive.
  - For splatter applications, spray adhesive at ½ gallon per square to obtain 50% coverage (approximately ¼ to ½ thick after foaming). Ensure membrane end laps are protected from adhesive.
  - For extruded applications, apply at 4", 6", or 12" on center with a minimum ½" bead. Ensure membrane end laps are protected from adhesive.
3. Once "string time" occurs, gradually feed FleeceBACK sheet into FAST Adhesive, checking for "string/body" every few feet. Stop feeding sheet into adhesive when applicator reaches adhesive that has NOT developed "string/body". Immediately begin to roll membrane widthwise with a 150-pound segmented weighted roller. Repeat process until FleeceBACK sheet is fully installed.
4. Bead spacing is minimum. Depending on warranty length and wind coverage, bead spacing may be reduced. Refer to published specification and warranty requirements.

### Roll-in (Mod Bit) Method:

1. Keeping the FleeceBACK sheet on the core, position roll at the designated starting point.
2. Spray-apply, splatter, or extrude Flexible FAST Adhesive to the substrate.
  - For full spray applications, spray adhesive at 1-gallon per square to obtain full coverage (approximately ¼ to ½ thick after foaming). Ensure membrane end laps are protected from adhesive.
  - For splatter applications, spray adhesive at ½ gallon per square to obtain 50% coverage (approximately ¼ to ½ thick after foaming). Ensure membrane end laps are protected from adhesive.

- For extruded applications, apply at 4", 6", or 12" on center with a minimum ½" bead. Ensure membrane end laps are protected from adhesive.
3. Once "string time" occurs, gradually roll FleeceBACK membrane into Flexible FAST Adhesive, checking for "string/body" every few feet. Stop rolling FleeceBACK into adhesive when applicator reaches adhesive that has NOT developed "string/body". Immediately begin to roll membrane widthwise with a 150-pound segmented weighted roller. Repeat process until FleeceBACK sheet is fully installed.

*Review Carlisle specifications and details for complete installation information.*

## Insulation Attachment

1. Spray-apply, splatter, or extrude Flexible FAST 5-Gallon Jug Adhesive to the substrate at 4", 6", or 12" on center with a minimum ½" wet bead, achieving light-blue colored foam. For steel decks, extrusion of Flexible FAST must run parallel with and be on top of each steel deck flute. The deck must be cleaned of all oils.
  - For splatter applications, spray adhesive at ½ gallon per square to obtain 50% coverage (approximately ¼ to ½ thick after foaming). Ensure membrane end laps are protected from adhesive.
  - For extruded applications, apply at 4", 6", or 12" on center with a minimum ½" bead. Ensure membrane end laps are protected from adhesive.

**Bead spacing parameters for 5, 10, 15, or 20-year 55-mph warranties: (Contact Carlisle Project Review for bead spacing on higher mph warranties and 30-year warranty projects).**

| Building Height | Bead Spacing (Perimeter) | Bead Spacing (Field) |
|-----------------|--------------------------|----------------------|
| 0' – 25'        | 6" o.c. (4' perimeter)   | 12" o.c.             |
| 26' – 50'       | 6" o.c. (8' perimeter)   | 12" o.c.             |
| 51' – 75'       | 6" o.c. (12' perimeter)  | 12" o.c.             |
| 76' – 100'      | 6" o.c. (16' perimeter)  | 12" o.c.             |
| 101' or greater | 6" o.c. (24' perimeter)  | 12" o.c.             |

2. Factory Mutual bead spacing guidelines for perimeters and corners may differ from the table above. Beads at 12" o.c. are not acceptable at perimeters or corners.
3. Place insulation boards (maximum 4' x 4' boards when adhesive is extruded at 12" o.c. or when boards exceed 4" thickness, or 4' x 8' boards when adhesive is applied at full spray, 4", or 6" beads) into adhesive after allowing it to rise and develop "string/body". String time will vary based on environmental conditions like temperature and humidity. Do not allow the adhesive to over-cure prior to setting insulation boards.

# Flexible FAST 5-Gallon Jug Adhesive

- Designate one person to walk boards into place and then roll the boards with a 150-pound segmented weighted roller 5–7 minutes from the initial adhesive application. Boards may be temporarily weighted or relief cut where necessary to keep the boards in constant contact with the adhesive until the adhesive cures.
- At the beginning of the insulation attachment process and periodically throughout the day, check the adhesion of boards to ensure a tight bond is created and maximum contact is achieved.

## Precautions

- Review the applicable SDS for complete safety information prior to use.
- The foam produced is an organic material. It must be considered combustible and may constitute a fire hazard. The foam adhesive must not be left exposed or unprotected. Shield from heat and sparks.
- Do not smoke during application.
- Use with adequate ventilation. Avoid breathing vapors. Wear a NIOSH- or MSHA-approved respirator for organic vapors with prefilters and solvent-resistant cartridges if concentrations of MDI exceed the TLV or are unknown. Proper safety training is essential for all persons involved in the installation process. If vapor is inhaled, remove to fresh air and administer oxygen if breathing is difficult. Consult a physician immediately.
- Avoid contact with eyes. Safety glasses or goggles are required. If splashed in eyes, immediately flush eyes with plenty of clean water for at least 15 minutes. Contact a physician immediately.
- Avoid contact with skin. Wear long-sleeved shirts and long pants. Wash hands thoroughly after handling. In case of contact with skin, thoroughly wash affected area with soap and water or corn oil. NOTE: Permeation-resistant gloves that meet ANSI/ISEA 105-2005 are required when handling the material or during application.
- Jobsite storage temperatures in excess of 90°F (32°C) may affect product shelf life. If components are stored at temperatures lower than 60°F (16°C), restore to room temperature prior to use. Do not allow Flexible FAST Adhesive in Jugs or in equipment to freeze.
- Desiccant dryers should be used to prevent atmospheric moisture contamination of the remaining diisocyanate. Even a small amount of contamination by water or other foreign substance could result in excess pressure and catastrophic failure of the jug container. Do not reseal a jug if contamination is suspected. Move container to a well-ventilated area (outside) and allow to stand for at least 48 hours to allow escape of evolved carbon dioxide to avoid hazardous pressure build-up in container.
- KEEP OUT OF THE REACH OF CHILDREN.

## Flexible FAST 5-Gallon Jug Setup



Loading instructions can be found on each containers peel-n-reveal labels.



1. Locate the quick connect fitting on the side handle of each A-side and B-side 5-gallon jug. Next remove quick connect fitting from side handle.



2. Remove 33 mm cap from the jug and remove foil seal. Attach 33 mm quick connect cap by tightening clockwise.



3. Using the top handle and side loading handles, invert 5-gallon jug container onto urethane dispensing cart.



4. Each 5-gallon jug container contains a quick flow port on the bottom of the jug. Each port is predrilled with a guide hole.



5. Remove the quick flow cap and finish drilling quick flow port with a ¼ drill bit.



6. Once the quick flow port is opened, connect jug to urethane dispensing cart.

**NOTE:** Keep the bottom quick flow cap for resealing the jug once material is emptied or for overnight storage.

# Flexible FAST 5-Gallon Jug Adhesive

## Typical Properties and Characteristics

| Base  | Part A (1) Polymeric Isocyanate | Part B (2) Surfactants and Catalysts                           |
|---|---------------------------------|--|
| Mixing Ratios by Volume                         | 1:1 Part A to Part B            | —  |
| Viscosity (CPS@25°C)                            | 400                             | 400  |
| MDI Content                                     | 23%                             | —  |
| Avg. Net Weight                                 | 9.88 lbs/gal                    | 9.23 lbs/gal   |
| Packaging                                       | 5-gal jug (19 L)                | 5-gal. jug (19 L)  |
| Shelf Life                                      | 1 year                          | 1 year   |
| Temperature Requirements (Substrate & Ambient)  |                                 | Min. 25°F (Heated Equipment)<br>Min. 25°F (Unheated Equipment) |
| Physical Property                               | Test Method                     | Results  |
| Elongation                                      | ASTM D412                       | 150%   |
| Modulus at 150% Elongation                      | ASTM D412                       | 20 psi   |
| Dynamic Puncture Resistance - OSB               | ASTM D5635-04a                  | 33% greater than standard FAST                                 |
| Dynamic Puncture Resistance - HP Recovery Board |                                 | 40% greater than standard FAST                                 |
| Dynamic Puncture Resistance - Polyiso           |                                 | 50% greater than standard FAST                                 |

Typical properties and characteristics are based on samples tested and are not guaranteed for all samples of this product. This data and information is intended as a guide and does not reflect the specification range for any particular property of this product.

## LEED® Information

|                                |              |
|--------------------------------|--------------|
| Pre-consumer Recycled Content  | 0%           |
| Post-consumer Recycled Content | 0%           |
| Manufacturing Location         | Carlisle, PA |
| VOC Content                    | 0 g/L        |

## Substrate Compatibility

| Insulation/Underlayments   |                  | Roof Decks                |                  | Existing Roofing Materials |                      |
|----------------------------|------------------|---------------------------|------------------|----------------------------|----------------------|
| InsulBase                  | Yes              | Concrete                  | Yes              | Smooth BUR                 | Yes <sup>5</sup>     |
| HP Recovery Board          | Yes              | Cellular Lt. Wt. Concrete | Yes              | Gravel BUR                 | Yes <sup>6</sup>     |
| Expanded Polystyrene (EPS) | Yes <sup>1</sup> | NVS Lt. Wt. Concrete      | Yes              | Mineral Cap Sheet          | Yes                  |
| Extruded Polystyrene       | Yes <sup>2</sup> | Gypsum                    | Yes              | Granular Modified-Bitumen  | Yes                  |
| New Sprayed Foam           | Yes              | Cementitious Wood Fiber   | Yes              | Smooth Modified-Bitumen    | Yes                  |
| Scarified SPF              | Yes              | Plywood/OSB               | Yes              | Coal Tar Pitch             | Yes <sup>7</sup>     |
| DensDeck®                  | Yes              | Painted Steel             | Yes              | Aluminum-Coated BUR        | Yes <sup>8</sup>     |
| SECUROCK®                  | Yes              | Galvanized Steel          | Yes <sup>3</sup> | Acrylic-Coated SPF         | Yes                  |
| Oriented Strand Board      | Yes              | Acoustical Steel          | Yes <sup>4</sup> | Silicone-Coated SPF        | Yes <sup>9</sup>     |
| SecurShield®               | Yes              | Wood Plank                | Yes              | Aged EPDM, Hypalon, TPO    | Yes <sup>10,12</sup> |
|                            |                  |                           |                  | Unweathered Asphalt        | Yes/No <sup>11</sup> |

- EPS insulation cannot be used directly beneath Sure-Seal® (Black) FleeceBACK membrane unless a light-colored coating is specified. Both Sure-White™ and Sure-Weld® FleeceBACK membranes may be installed directly over minimum 1.5-lb.-density EPS; however, to obtain UL & FM codes, an overlayment of HP Recovery Board, DensDeck, Securock or HP Polyiso insulation is required.
- For insulation attachment only.
- For new galvanized steel decks, power-washing is required to remove finishing oil residue.
- For acoustical steel decks, fill the flutes with fiberglass or other suitable fill insulation and tack in place with strips of duct tape 3' o.c., or other adhesive, prior to spraying the deck with Flexible FAST Adhesive.
- Existing Smooth BUR must be Type III or IV asphalt if the Sure-Seal (Black) FleeceBACK membrane is to be installed directly without insulation.

- Insulation is required over properly prepared gravel BUR. FleeceBACK membrane cannot be installed directly over a gravel/slag surface.
- An insulation providing the necessary R-value must be specified to prevent the coal tar pitch from softening. FleeceBACK membranes cannot be installed directly to coal tar pitch.
- Any loose coatings must be removed by power-washing or by physical abrasion prior to the application of Flexible FAST Adhesive. A test installation over the aluminum-coated smooth BUR is recommended to ensure the aluminum coating is fully adhered.
- Silicone-coated substrates must be scarified (coating removed) prior to the application of Flexible FAST Adhesive.
- Power-washing aged EPDM, Hypalon, or TPO membrane is required prior to the application of Flexible FAST Adhesive.
- Requires CAV-GRIP III for all applications.
- Contact Carlisle for specific requirements on TPO recover.