

Sure-Flex™ PVC

HydroBond™ Bonding Adhesive

HydroBond is a water-based dispersion adhesive formulated for adhering only PVC bareback membranes and PVC and KEE HP FleeceBACK to clean, dry, water absorbent, and horizontal roof surfaces with slopes up to 2":12" (5 cm/30 cm) (**cannot be used with any KEE or KEE HP bareback membranes**). HydroBond adhesive can only be used when temperatures are 40°F and rising and should not be used when temperatures are expected to fall below 32°F (0°C) during the 72-hour initial curing period. The drying period will be extended in cool or humid weather. HydroBond can be applied directly to the substrate with an airless spray machine or by using a medium nap roller. **HydroBond is designed as a one-sided, WET lay-in adhesive with no flash-off time. The adhesive must not dry during the application process.**

Roller Application Method

Prepare the membrane by positioning the roll. Unroll completely to achieve the required overlap. Roll up the membrane in preparation for adhesive application. Do not use the "barn door" method when applying HydroBond as this may result in long open times allowing the adhesive to dry. HydroBond is designed as a one-sided, WET lay-in adhesive with no flash-off time and the adhesive must not dry during the application process.

HydroBond water based, one-sided, wet lay-in adhesive can be applied with a medium nap roller to the approved substrate. The coverage rates outlined in this application instruction must be followed. Exceeding the maximum coverage rates will reduce HydroBond's performance. Remember, HydroBond is a wet lay-in adhesive and care must be taken to ensure the adhesive does not dry before the membrane is placed.

Once the adhesive is applied using the medium nap roller, roll the membrane in place. Applying the adhesive 3-4' at a time ahead of the roll is recommended to prevent drying of the adhesive.

Immediately broom the membrane starting from the center of the sheet and working out to the sides of the sheet using a soft bristle push broom to work out any air bubbles. Immediately after brooming, roll the adhered membrane in two directions in a cross ways pattern using a 30" wide, 150 lb (68 kg) segmented steel roller. Brooming and rolling are required and must be accomplished immediately after rolling the membrane into the wet adhesive.

Spray Application Method

Equipment

The spray gun should be recommended by the manufacturer for use with the airless sprayer. Use of an extension wand can make spraying more comfortable and keep overspray away from the operator.

A spray tip size of .027-.035" (.68-.88 mm) should be the minimum orifice opening, however, the tip size can be increased to .045" (1.1 mm) for greater output. Use a fan pattern of 10-12" (25.4-30.5 cm) wide held one foot (30.5 cm) above the substrate works well.

Spray Gun

An airless sprayer able to generate 3000 PSI (211 kg/cm²) and a minimum of 1.5 GPM (5.6 L/min) is required to apply the HydroBond adhesive. Larger units will allow for longer hose runs and increased production. A minimum of ½" (12.7 mm) diameter hose for pumping HydroBond is required. This can reduce to a ⅜" (9.5 mm) whip 10' (3.1 m) long leading up to the gun. Always check with the equipment manufacturer for their recommendations. HydroBond's high viscosity may clog the filters of the airless sprayer and it is recommended

that all filters in the spray rig and spray gun be removed. When the filters are removed it is important to keep debris out of the adhesive container to prevent clogging at the spray tip. Always read the spray equipment manufacturer's product literature, labels and other information completely before use.



Coverage Rate

The coverage rate will be influenced by the speed of the operator as well as ambient conditions, wind, overspray, etc. To achieve the required 100-133 ft²/gal (2.47-3.27 m²/L) coverage the thickness of the adhesive should be approximately 12-16 mils wet. Counting the pails used is helpful to confirm coverage rates.

Coverage Rates

Substrate	Roller Applied	Spray Applied
Bareback Membrane Rates		
Polyiso Glass or Paper Facer	100 ft ² /gal (2.47 m ² /L)	133 ft ² /gal (3.27 m ² /L)
Smooth Plywood	100 ft ² /gal (2.47 m ² /L)	133 ft ² /gal (3.27 m ² /L)
DensDeck Prime® or SECUROCK®	100 ft ² /gal (2.47 m ² /L)	133 ft ² /gal (3.27 m ² /L)
FleeceBACK® Membrane Rates		
Polyiso Glass or Paper Facer	100 ft ² /gal (2.47 m ² /L)	133 ft ² /gal (3.27 m ² /L)
Smooth Plywood	100 ft ² /gal (2.47 m ² /L)	133 ft ² /gal (3.27 m ² /L)
DensDeck Prime or SECUROCK	100 ft ² /gal (2.47 m ² /L)	133 ft ² /gal (3.27 m ² /L)
Structural Concrete	100 ft ² /gal (2.47 m ² /L)	100 ft ² /gal (2.47 m ² /L)

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Application

Mechanically mix HydroBond before spraying to achieve smooth consistency with no lumps. Run the spray pump at the lowest pressure setting possible to achieve a good spray pattern, reducing overspray, bounce back and minimizing cleanup. HydroBond adhesive should not be applied more than 3-4' (0.9-1.2 m) in front of the roll of membrane. The membrane should be rolled/pulled into place as soon as possible. Immediately broom the membrane starting from the center of the sheet and working out to the sides of the sheet using a soft bristle push broom to work out any air bubbles. Immediately after brooming, roll the adhered membrane in two directions in a cross ways pattern using a 100 lb. (45 kg) split steel or membrane roller. Brooming and rolling are required and must be accomplished immediately after rolling the membrane into the wet adhesive.

Precautions

HydroBond adhesive can only be used when temperatures are 40°F and rising, must be stored above 40°F and should not be used when temperatures are expected to fall below 32°F (0°C) during the 72-hour initial curing period.

Care must be taken to ensure no adhesive is applied overlapping material that will be heat welded. It is easier to clean the overspray off the lap area while the adhesive is still wet prior to welding. Dried adhesive requires solvent cleaning. Some airless sprayers have pressure roller attachments where the adhesive is pumped through the spray gun to a slotted, medium nap roller. This is a good option for windy days.

For additional questions please contact the Carlisle Project Review Department.

Flashing with HydroBond

Flashing details should be adhered with Low-VOC PVC Bonding Adhesive whenever possible. If specification or the building environment does not allow the use of Low-VOC PVC Bonding Adhesive, the listed options below should be considered:

Low-VOC Flashing Options

- A. Mechanical securement – follow Carlisle's mechanically attached specifications for Thermoplastics.
- B. HydroBond can be used for flashing although accurate timing and additional mechanical securement is required:
 1. Follow the HydroBond coverage rates as listed on the PDS or as listed above for the specified surface or underlayment. Using a 9", medium nap roller, apply HydroBond as a two-sided application using approximately half of the coverage rate on the substrate and half on the membrane.
 2. Let the adhesive flash off until it does not string but remains tacky to a dry finger touch. This may take as long as 10-15 minutes on a warm day or more than 30 minutes in cool temperatures.
 3. Once the adhesive has flashed off as described above, set membrane in place ensuring full contact with the substrate. Roll the membrane with a 3"-wide silicone roller to ensure full adhesion. Once adhered, the membrane should be mechanically secured at the top. The mechanical attachment must be performed before the end of the work day. Roll the membrane a second time after mechanical attachment to ensure proper adhesion and contact.

Installation tips when using HydroBond as a flashing adhesive:

- » Care must be taken when setting the flashing to avoid bridging greater than ¾" at angle changes; a light fold is acceptable, hard creasing of the PVC membrane must be avoided.
- » The base flange of wall flashings should be welded as soon as possible to limit excessive bridging.

Using HydroBond on Steep Slopes (Greater Than 2:12)

HydroBond may be used on slopes greater than 2":12" with prior approval from Carlisle. HydroBond has a 72-hour initial curing period so it is necessary to secure the membrane to prevent moving or sliding. This can be accomplished by installing the membrane rolls parallel to the roof slope from the top of the slope downward and installing fasteners in the top lap immediately after the rolls are set into the adhesive.

When roofing from the top down, only the top sheet needs to be secured as successive sheets can be immediately welded to the secured sheet, preventing them from sliding. The membrane must be laid out in such a manner to avoid laps that buck water. Care must be taken to ensure no adhesive is applied overlapping material that will be heat-welded. See detail below.

- » When FleeceBACK membrane is used, securement can be provided by installing the field sheets perpendicular to the roof slope and fastening the end-laps. End-laps are then overlaid using 8'-wide coverstrip welded to the membrane.
- » Please contact Carlisle's Project Review department before using HydroBond on PVC Contour Rib projects.

