

EPDM x-23 Low-VOC Bonding Adhesive



Overview

Carlisle's EPDM x-23 Low-VOC Bonding Adhesive is a high-strength, solvent-based contact adhesive that bonds EPDM membranes to various porous and non-porous substrates. This product meets the <250 gpl VOC content requirements of the OTC Model Rule for Single-Ply Roofing Adhesives. EPDM x-23 Low-VOC Bonding Adhesive is compatible with InsulBase® and SecurShield® polyisocyanurate insulation, structural and lightweight insulating concrete, APA non-fire treated plywood, oriented strand board, wood fiberboard, SECUROCK®, DensDeck® Prime, masonry, and various metal finishes. EPDM x-23 Low-VOC Bonding Adhesive is easily applied with a 9" (228 mm) medium nap roller, creating a strong adhesive bond between the membrane and substrate.

This product does not comply with the following California counties' VOC regulations: Alameda, Contra Costa, El Dorado, Los Angeles, Marin, Napa, Orange, Riverside, Sacramento, San Bernardino, San Diego, San Francisco, San Mateo, Santa Clara, Solano, Sonoma, and Tehama. These areas require the use of Carlisle's Low-VOC Bonding Adhesive 1168.

Features and Benefits

- » Faster flash-off improves productivity
- » Aggressive initial and long-term bond strength
- » Extended open time — ideal when working with larger EPDM sheets

Mixing

Stir thoroughly once per day until all settled polymers are dispersed and the adhesive is a uniform yellow color. During mixing, scrape the sides and bottom of the pail until the adhesive is a uniform yellow color with no dark streaks. Keeping the adhesive warm, as well as using an air-operated mixing paddle, will aid in the mixing process.

Coverage Rate

The coverage rate for EPDM x-23 Low-VOC Bonding Adhesive is 60 square feet (5.6 m²) per gallon finished surface. A 5-gallon pail should cover no more than 300 square feet (28 m²) of finished area. Coverage rates are average and may vary due to jobsite conditions. Porous wall surfaces like masonry block may require two coats of bonding adhesive. In these cases, allow primer coat to flash off completely prior to applying the second coat at the required coverage rate of 60 square feet per gallon.

Application

1. Allow membrane to relax for half an hour or longer. Allowing the membrane to relax will result in the roof's surface having a smoother appearance. This is especially true for sheets that have folds or creases. The surface on or against which adhesive is to be applied shall be clean, smooth, dry, free of fins, sharp edges, loose and foreign materials, oil, and grease. Depressions greater than ¼" (6 mm) should be feathered using epoxy, mortar, or other approved patching material. All sharp projections shall be removed by sweeping, blowing, or vacuum cleaning.
2. After the EPDM x-23 Low-VOC Bonding Adhesive has been thoroughly mixed, apply to the substrate and membrane using a 9" (228 mm) medium nap roller. Application shall be continuous and uniform, avoiding globs or puddles that could result in solvent blisters. The solvents in EPDM x-23 Low-VOC Bonding Adhesive must be allowed to flash off until the adhesive does not string or transfer to a dry finger touch, but remains tacky. This is called the "tack test". Carlisle recommends continually monitoring the adhesive for flash-off after application. Install the membrane after the adhesive passes the tack test to avoid trapped solvent blisters. Temperature, sun, shade, and humidity can affect flash-off time.

 Note: Any coated area that is exposed to rain should be allowed to dry and then re-coated. Do not apply adhesive to splice areas or use in conjunction with Carlisle's Pressure-Sensitive products.
3. Roll the membrane onto the adhesive-coated substrate, avoiding wrinkles. Immediately brush down the bonded portion of the sheet with a stiff-bristle push broom to achieve maximum contact. For wall applications, use a neoprene-type hand roller after brooming to ensure maximum contact. If blisters should occur due to trapped solvents, allow the solvent to naturally dissipate for four to five days, and then re-broom the membrane so it lays flat.

Review Carlisle specifications and details for complete installation information.

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Precautions

- » Review the applicable Material Safety Data Sheet for complete safety information prior to use.
- » Jobsite storage in excess of 90°F (32°C) may affect product shelf life. Prolonged exposure to below-freezing temperatures will cause the adhesive to thicken and eventually solidify in the can. Should the EPDM x-23 Low-VOC Bonding Adhesive be stored below freezing, restore to room temperature for a minimum of 24 hours prior to use; the adhesive will perform as intended once it is returned to a liquid state. When temperatures are expected to be consistently below 40°F (4°C), a heated enclosure or hot box is recommended for jobsite storage. Keep the adhesive warm (60–90°F/15–32°C) for ease of application.
- » EPDM x-23 Low-VOC Bonding Adhesive is EXTREMELY FLAMMABLE. It contains solvents that are dangerous fire and explosion hazards when exposed to heat, flame or sparks. Do not smoke while applying. Do not use in a confined or unventilated area. Vapors are heavier than air and may travel along the ground or may be moved by ventilation and ignited by pilot lights, other flames, sparks, heaters, smoking, electrical motors, static discharge, or other ignition sources at locations distant from material handling point and flashback. All containers should be grounded when material is transferred from one container to another. A red caution label is required when shipping. A fire extinguisher should be available. In case of fire, use water spray, foam, dry chemical, or carbon dioxide. Do not use a solid stream of water, because it can scatter and spread the fire.
- » Avoid breathing vapors. Keep container closed when not in use. Use with adequate ventilation. If inhaled, remove to fresh air. If not breathing, perform artificial respiration. If breathing is difficult, give oxygen. Call a physician immediately. During application, efforts must be made to prevent fumes from entering the building via air ventilation ducts. Do not place open containers or mix adhesive near fresh air intake units. When possible, shut down or seal off the closest units.
- » If swallowed, DO NOT INDUCE VOMITING. Call a physician immediately.
- » Avoid contact with eyes. Safety glasses or goggles are recommended. 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. Wash hands thoroughly after handling. In case of contact with skin, thoroughly wash affected area with soap and water. Contact a physician if irritation persists.

Note: To protect hands from irritating ingredients, Carlisle recommends that applicators wear permeation-resistant gloves (that meet ANSI/ISEA 105-2005) when using this product.

- » Do not thin EPDM x-23 Low-VOC Bonding Adhesive. Thinning will affect performance. Excessively thick or gelled material should be discarded.
- » These materials are sensitive to atmospheric moisture; heat will accelerate the effect of moisture. Opened containers of bonding adhesive should be used within 48 hours. Adhesive will begin to thicken after this point, making it difficult, and eventually impossible, to control its thickness.
- » Adhesive must be allowed to flash off but not become overly dry. If membrane is mated with the substrate prior to the adhesive flashing off, blistering will occur. If membrane is mated with the substrate after the adhesive has over-dried, loose or un-adhered areas will occur. Thin application of adhesive increases the risk of over-drying.
- » KEEP OUT OF THE REACH OF CHILDREN.

Typical Properties and Characteristics

Base	Synthetic rubber
Color	Yellow
Solids	21.1%
VOC	250 g/l max
Flash Point	0°F (-17°C) closed cup
Brookfield Viscosity	3100 centipoise
Average Net Weight	7.7 lbs/gal (0.925 kg/l)
Packaging	5-gal pail
Shelf Life	1 year

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	< 250 g/L