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Guidelines when using Modular Water Based Bonding Adhesive

The Modular Bonding Adhesive WBA-3871, product code W563587037, is a water-based adhesive designed by Firestone for bonding Firestone RubberGard® EPDM membranes. It is a latex based adhesive that uses water as a carrier and contains no hazardous ingredients.



Application Method

1. Onto wooden substrates

The Modular Water Based Bonding Adhesive may be mated while still wet but only when working over plywood, OSB or other suitable wooden substrates.

Stir the adhesive thoroughly (1) before and during use to achieve a uniform mix with no marbling or sediment. Apply the adhesive over OSB or plywood evenly to avoid globs and puddles of adhesive (2).

Mate the RubberGard® EPDM immediately after the adhesive has been applied (3). To ensure proper adhesion, compress the bonded portion of the sheet to the substrate with a stiff push broom (4) or heavy roller such as a linoleum roller.

The wet-mating method is ideally suited for indoor application onto modular units. After application of the adhesive the units should be kept indoors a minimum of 48 hours before transportation because of the wind stresses associated with truck transport.

Outdoors it is recommended to always use the two-sided contact method.

The wet-mating method can only be used in an outdoor application when:

- The RubberGard® EPDM membrane is not exposed to freezing temperatures for minimum 48 hours. This is the time it takes for the carrier to completely dissipate.
- The roof is not subject to high wind stresses. The required wind uplift resistance is only achieved after a 48 hour period. On roofs subject to high wind uplift stress (exposed building, more than 5m high, non airtight substrate....) the membrane should be temporarily ballasted to avoid any wind damage.



2. Onto metal, masonry, concrete and approved insulation materials

The adhesive needs to be applied using the standard two-sided contact method. Stir the adhesive thoroughly before and during use to achieve a uniform mix with no marbling or sediment. Apply the adhesive evenly to avoid globs and puddles of adhesive. Apply the adhesive at about the same time to both the exposed underside of the sheet and the substrate to allow approximately the same drying time.

Note:

If the membrane is exposed to direct sunlight, apply the adhesive first to the substrate and then to the membrane as the drying time on the sheet will be shortened due to the elevated temperature of the sheet. Flash-off time for water based adhesives is affected by ambient temperature, humidity levels, substrate type and substrate temperature.

As the carrier evaporates the adhesive will become translucent. Once it has turned translucent, the surfaces are ready to be mated. To ensure proper adhesion, compress the bonded portion of the sheet to the substrate with a stiff push broom or heavy roller such as a linoleum roller.

Application Conditions

Ambient temperatures shall be at least 5°C and rising when using water based adhesive.

When ambient temperature is above 25°C and roof or parts of it are subject to direct sunlight, it is recommended to always use the standard two-sided contact method instead of wet-mating.

Due to the high temperature of the membrane, the water left in the layer of adhesive may turn to vapour and cause bubbles to appear. When ambient temperature is above 25°C and roof or parts of it are subject to direct sunlight and in case of the wet-mating method, the RubberGard® EPDM membrane should therefore not be mated immediately after the adhesive has been applied but only when the adhesive starts to become translucent.

Substrate considerations

Surfaces on or against which the adhesive is to be applied must be clean, smooth, free of sharp edges, loose and foreign materials, oil, grease and other contaminants and, above all, the substrate must be dry. Substrates that are prone to high moisture content shall therefore be tested for suitability of application as follows:

- Tape the edges of a clear plastic film onto the substrate.
- Expose to mid-day sun and examine for evidence of moisture such as condensation.
- If moisture is evident on the film taped over the substrate, the substrate contains too much moisture to receive adhesive and membrane.

When using the adhesive to adhere to vertical surfaces the two-sided contact method is the only method of application.

When using the adhesive to adhere vertical porous substrates, a light prime coat of adhesive is required. The prime coat shall be allowed to dry completely (verified by the translucent colour) before a standard coat of adhesive is applied. This light prime coat can be applied up to 24 hours before the application of the actual application of the adhesive.

Coverage rate

In case of wet-mating method, the coverage rate should be between 8 and 12 m²/gal depending on the substrate.

In case of two-sided contact method, the coverage rate should be between 6 and 10 m²/gal depending on the substrate.

Storage

Do not allow the adhesive to freeze! Do not store the product in direct sunlight.

Store at temperatures between 15°C and 25°C.