

Monokote® Z-3306

Portland Cement Thermal Barrier

SHORT FORM

Sprayed thermal barrier shall be Monokote® Z-3306 Thermal Barrier as manufactured by Grace Construction Products or its processing distributors. It shall be spray applied by machine to the thickness required by local code specifications and as indicated on all drawings. The method of mixing and application shall comply with the manufacturer's recommendations as set forth in the current literature. In specified areas, bonding agents shall be those recommended by Grace Construction Products in current literature.

RECOMMENDED SPECIFICATION

1. Scope

The applicator shall provide all labor, materials and equipment required for:

- a. Complete installation of the thermal barrier.
- b. Application of a bonding agent as specified by Grace Construction Products in its current literature.
- c. Protection of adjacent surfaces from overspray.
- d. Removal of all dirt, oil and other foreign substances from the foam plastic surface which would impair proper thermal barrier adhesion.
- e. Removal of all decomposed foam which might impair thermal barrier adhesion.

2. Material

- a. The sprayed material shall be Monokote Z-3306 Thermal Barrier as manufactured by Grace Construction Products or its processing distributors. All manufactured material shall be delivered in original unopened packages bearing the name of the manufacturer,

the brand, and the UL label verifying compliance with the continued Quality Control inspection program conducted by this agency. Materials shall be kept dry until ready for use. The packages of material shall be kept off the ground, under cover and away from sweating walls and other damp surfaces. Material that has been exposed to water before actual use shall be discarded. Stock is to be rotated and used before its stamped expiration date, unless specific written extension of that date is given by Grace Construction Products.

- b. Bonding agent is only to be that recommended by Grace Construction Products in its current literature, specifically for Monokote Z-3306 Thermal Barrier application.
- c. Water shall be clean and suitable for domestic consumption. It shall be free from such amounts of any substances as would affect the set or bond of the thermal barrier material.

3. Acceptance and Performance Criteria

- a. The sprayed thermal barrier shall have been tested by Underwriters Laboratories in the enclosed corner test. The thermal barrier shall have remained in-place without fall-out for a minimum of 15 minutes fire exposure.
- b. The thermal barrier shall have a minimum in-place bond strength of 500 psf over the protected substrate. The bond strength shall be determined by the following procedure:
 1. Glue a 3 in. diameter dish with center hook to the surface of the thermal barrier.

2. Cut around the dish to the foam substrate.

3. Attach a scale with a 0-50 lb range to the hook. Exert a force perpendicular to the surface of the thermal barrier. The scale reading can be converted to pounds per square foot with the following formula:

$$\text{Bond Strength (psf)} =$$

$$\frac{\text{Scale Reading (lb.)} \times 144}{\pi \times (\text{Disk Radius})^2}$$

For 3 in. Disk

$$\text{Bond Strength (psf)} =$$

$$\text{Scale Reading} \times 20.37$$

- c. The thermal barrier material shall not be subject to losses from the finished application by sifting, flaking or dusting.

4. Installation

- a. Application of sprayed thermal barrier shall be in accordance with the printed instructions of the material manufacturer and the fire test report information.
- b. All surfaces to which sprayed thermal barrier will be applied shall be free of oil, grease, dirt, loose paint, decomposed foam or any other matter which would impair adhesion.
- c. A bonding agent shall be applied to all surfaces prior to application of Z-3306. Consult your local Grace Representative for bonding agent application details.
- d. Whenever a previously untested or questionable foam substrate is encountered, sufficient bond tests shall be run to determine if any special surface preparation is necessary. It is again anticipated that this would be limited to the application of a recommended

bonding agent. Note: Monokote Z-3306, used with recommended bonding agent, has shown excellent adhesion to all foamed substrates tested to date. Grace Construction Products, however, has no control over the many foam manufacturers formulas and when they might change.

- e. All roof construction must be complete, the roof must be watertight and all roof traffic must cease prior to application of Monokote Z-3306 to the urethane on roof assemblies. Roof traffic must not resume until the coating has dried and full bond strength is achieved. Note: Drying time will vary according to relative humidity and temperature. With good ventilation and fan-forced circulation, drying is usually complete in 10-14 days.
- f. All clips, hangers, supports, sleeves and other attachments to the foam substrate are to be placed prior to the application of the thermal barrier material.
- g. All patching and repairing of sprayed thermal barrier due to cutting by other trades, shall be performed under this section and paid for by the trade(s) that performed the cutting.

5. Temperature and Ventilation

- a. When the outdoor temperature at the building site is less than 40°F, an air substrate temperature of 40°F shall be maintained for 24 hours before application and until the thermal barrier is completely dry.
- b. Forty-eight hours after application of Monokote Z-3306, sufficient air circulation and ventilation shall be provided to dry the material. Note: Monokote Z-3306 shall be considered dry when its free moisture content is below 15% or when a representative sample placed in a fan-forced oven at 120°F for 24 hours experiences a weight loss of less than 15% of its original weight.
- c. Coolers — Cooling shall not begin until Monokote Z-3306 Thermal Barrier is dry. Cooling shall be accomplished at a rate not to exceed 1°F/hour until a minimum temperature of 35°F is obtained. Doors shall be open sufficiently during pull-down to relieve internal vacuum caused by cooling of the air.

- d. Freezers — Cooling to 35°F shall be accomplished as detailed for coolers (above). The room shall then be held at 35°F until the residual moisture has been removed and all components are in equilibrium condition. This period shall be no less than 7 days. The temperatures may then be dropped to operating temperatures as low as -20°F at a rate not to exceed 1°F/2 hours. Total daily drop shall not exceed 10°F/day. After working temperature is reached temperature fluctuations within the room shall be controlled so as not to exceed 1°F/2 hrs. or 10°F/day. Note: The concrete slab will contract during pull-down, causing openings at the slab-to-wall joints and at contraction joints. If any caulking is necessary, it should be done prior to temperatures being dropped below 35°F.

6. Cleanup

After completion of the thermal barrier installation, equipment shall be removed and all areas cleaned of deposits of sprayed thermal barrier materials.



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