



Markers Series 290 Pavement Surface Preparation and Application Procedures

Information Folder 290

August 2010

Replaces IF 290 dated March 2006

Description

This information folder contains pavement surface preparation and application procedures for 3M™ Markers Series 290. For situations not specifically covered in this folder, it is the responsibility of the installer to contact the appropriate 3M sales representative or 3M technical service representative at 1-800-553-1380 for guidance. Instructions contained in this folder must be followed for proper application and performance.

Application Guidelines

Series 290 markers are designed for application to properly prepared asphalt or Portland cement concrete surfaces using recommended bitumen or two-part epoxy adhesives. Adhesives other than those recommended must be evaluated by the user to determine suitability.

- **Do Not** apply markers in the following situations:
 1. On longitudinal or transverse seams or joints in the pavement.
 2. Over existing pavement markings such as paint, thermoplastic or preformed tapes.
 3. During rainfall or within 24 hours after rainfall.
- **Follow** the recommendations of the adhesive manufacturer for application temperatures and ambient weather requirements.
- **All Applications** must be made on a dry surface that has been swept clean or blown with high-pressure air to remove dirt and dust.

Surface Types

1. New Asphalt Surfaces

Review the manufacturer's recommendations for applying bitumen adhesives to asphalt surfaces to determine required waiting periods between paving operations and marker installation.

The use of epoxy adhesives on asphalt surfaces open to traffic less than six months should be tested and approved by the user for adhesion performance before large-scale applications are made.

2. Older Asphalt Surfaces

Epoxy and bitumen adhesives can be used on asphalt surfaces that have been open to traffic for at least six months.

3. New Portland Cement Concrete Surfaces

Concrete surfaces open to traffic for less than 90 days must have the curing compound removed prior to application of bitumen or epoxy. Curing compound should be removed by sandblasting or other methods such as hydro-blasting, shot blasting or grinding.

4. Old Portland Cement Concrete Surfaces

Markers can be applied directly to concrete surfaces that have been open to traffic for at least 90 days.

5. Chip, Slurry or Fog Sealed Surfaces

Allow adequate compaction and curing time before application of markers. Chip seal surfaces should be swept of excess aggregate and open to traffic for 30 days prior to installation of markers. Follow the recommendations of the adhesive manufacturer for these surfaces. On coarse-textured chip seal pavements, epoxy adhesive may need to be placed in two steps to allow for proper leveling prior to marker application.

Epoxy Requirements

Standard Set Epoxy Adhesive:

A properly mixed epoxy adhesive should display the following characteristics of the combined components:

Gel Time: 7 to 13 minutes

Bond Strength to Concrete

Time to reach not less than 200 psi at 77°F (14 kgs/cm² at 25°C)

180 minutes (3 hours)

Shear Strength

24 hrs. @ 77°F (25°C) 2200 psi (154 kgs/cm²)

24 hrs. @ 77°F (25°C) plus water soak

1500 psi (105 kgs/cm²)

Sufficient pressure and adhesive must be used to assure a visible bead of adhesive around the perimeter of the marker. Excessive epoxy in front of the reflector surface should be scraped aside. Follow the manufacturer's recommendations for application.

Recommended Epoxy Adhesive

E-Bond Epoxies, Inc.

501 NE 33rd Street

Ft. Lauderdale, FL 33307

(954) 566-6555

Part# 1240/1241 Epoxy Adhesive

Fast Set Epoxy Adhesives: Series 290 raised pavement markers are also compatible with fast-set epoxy systems. Follow the manufacturer's recommendations for application.

Bitumen Adhesive Requirements

Bitumen adhesive is a homogeneous mixture of asphalt binder and mineral filler. It is a single-part system designed to be melted, then applied by pouring or pumping. Bitumen adhesive sets up on cooling and is ready for traffic within five

minutes. Follow the manufacturer's recommendations for application. For Series 290 markers typical adhesive usage is one pound per three markers applied.

Recommended Bitumen Adhesive

Crafco, Inc.

420 Roosevelt Avenue

Chandler, AZ 85226

(800) 528-8242

Part # 34269 Bitumen Adhesive

Other Adhesives:

Application of Series 290 markers is only recommended with the use of adhesives meeting the requirements listed in this information folder. It is expected that other epoxy or bitumen adhesives will be suitable but markers should be tested with these adhesives to determine suitability before using.

Health and Safety Information

Read all health hazard, precautionary and first-aid statements found in the Material Safety Data Sheet (MSDS) and/or product label of chemicals prior to handling or use. Also refer to the MSDS for information about the volatile organic compound (VOC) content of chemical products. Consult local regulations and authorities for possible restrictions on product VOC content and/or VOC emission.

Literature Reference:

PB 290 3M™ Raised Pavement Marker 290

For further information, contact: 3M Traffic Safety Systems Division, 1-800-553-1380. Follow instructions to reach Technical Service for Pavement Markings. In Canada call 1-519-452-6201. Visit us on the Internet at www.3M.com/tss

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