**METHYL METHACRYLATE (MMA) POLYMER MATERIALS FOR CONCRETE REPAIR**
**(REV 12-9-25)**

ARTICLE 930-1 is deleted and the following substituted:

**930-1 Description.**

This section covers methyl methacrylate (MMA) polymer materials used to repair concrete including defects or purposely placed openings in concrete elements. The requirements for epoxy resin materials are covered in Section 926. Any depth larger than the manufacturer's recommendation for the specific material shall be repaired with portland cement concrete meeting the requirements of Section 346.

SUBARTICLE 930-4.1 is deleted and the following substituted:

**930-4.1 General:** This material is intended to be used to repair concrete where the area to be treated will be on a horizontal surface and shall be self-consolidating. Examples of the type of locations for these materials are bridge decks, portland cement concrete pavements and other locations required by the Contract Documents. Follow the manufacturer's recommendations for preparing the surfaces, mixing, placing, and curing the repair material unless otherwise directed in the Contract Documents.

SUBARTICLE 930-4.2 is deleted and the following substituted:

**930-4.2 Physical Properties:** The repair material shall meet or exceed the physical properties stated in Table 1 as determined by the specified test methods.

Table 930-1
Physical Properties of MMA Polymer Repair Materials for Horizontal Surfaces

| Requirement | Test Method | Test Value |
|---|---|---|
| Minimum Compressive Strength, psi | | |
| 3 hours | ASTM C109 | 6,000 |
| 24 hours | | 8,000 |
| 7 days | | Greater than or equal to strength at 24 hours |
| Maximum Length Change, % | | |
| Allowable shrinkage at 28 days when air cured compared to length at one day | ASTM C157** | -0.08 |
| Maximum Absorption (@ 7 days), % | ASTM C413 | 1 |
| Minimum Flexural Strength (at 7 days), psi | ASTM C348 | 2000 |
| Time of Setting (Initial), minutes | ASTM C191 | 15 to 45 |
| Minimum Bond Strength by Slant Shear, psi | | |

| | | |
|---|---|---|
| 24 hours | FM 5-587 | 2,000 |
| 7 days | | Greater than or equal to strength at 24 hours |
| Thermal Compatibility, Minimum Bond Strength by Slant Shear, psi | | |
| 24 hours | FM 5-609 | 90% of control specimen |
| 7 days | | |

* Air cure all specimens at normal laboratory temperature (73° ± 3° F; not greater than 55% relative humidity)
** Make and cure the test specimens in accordance with ASTM C-157, except omit the curing period in Section 10.3; however 11.1.2 shall apply for 28 day curing period.