



MODIFIED URETHANE OR POLYURETHANE ELASTOMERIC COATING MGS-90-07C

1.0 Description. These specifications cover a cold applied elastomeric (modified) urethane or polyurethane material to be used for sealing the caps and seats of concrete bridge piers, bents, and abutments.

2.0 Materials.

2.1 The material shall conform to the following.

2.1.1 Cured Material.

Shore A Hardness, ASTM D 2240, min.	15
Material shall be cured in a 40 mil thick film for 7 days at 75 ± 2 F with 50 percent relative humidity. Test specimen shall be composed of plied pieces, to a minimum thickness of 1/4 inch.	
Tensile Strength, ASTM D 412*, psi, min.	45
Elongation, ASTM D 412*, percent, min.	200
Water Vapor Permeability, perms, max.	0.8
ASTM D 1653 or ASTM E 96, Method BW, 40 mil film thickness.	

* Method and time of cure may be modified as recommended by the manufacturer.

2.2 The material, as manufactured, shall be for outdoor exposure and shall be resistant to deterioration by ultraviolet light. Additives for ultraviolet stabilization to the material after the original manufacturing process will not be allowed.

2.3 Surface preparation shall be in accordance with the manufacturer's recommendations.

2.4 The material shall be capable of being applied by roller, squeegee, or brush to obtain a one-coat thickness of 40 mils, dry film. The material shall not excessively run or sag when applied to a vertical concrete surface.

2.5 The material shall have a minimum shelf life, in unopened containers, of at least 6 months from the date of delivery.

3.0 Packaging. Two component materials shall be prepackaged to exact mixing quantities in one-gallon units. One component materials shall be packaged in one-gallon units.

4.0 Prequalification. Bids will only be accepted for materials which have been qualified in accordance with these specifications. Qualification shall be completed prior to submitting a bid.

4.1 To become qualified, the manufacturer shall submit a representative one-gallon sample to the Materials Laboratory, 1617 Missouri Boulevard, Jefferson City, Missouri 65109. The sample shall be clearly identified as to brand name, manufacturer's name and address. In addition, the following information shall be submitted to the State Construction and Materials Engineer, Missouri Department of Transportation, P. O. Box 270, Jefferson City, Missouri 65102.

- (a) Manufacturer's material data sheet showing typical test results for the properties herein specified, generic name of the major components of the material, mixing instructions, surface preparations, application instructions, and any modification to the tests herein specified, and intended use.
- (b) Manufacturer's material safety data sheet.
- (c) Test results after 1000 hours exposure in a weatherometer, in accordance with ASTM D 822, Procedure B. Test specimen film thickness shall be 40 mils and shall show no cracking, flaking, or blistering after exposure. Slight discoloration will be allowed.
- (d) In lieu of the weatherometer test results required in Section 4.1 (c), the manufacturer may submit a use history showing satisfactory performance for 3 years in at least two exposed applications. Name, address, and telephone number of the users shall be included in the use history.

4.2 Upon the review of the required manufacturer's data and results of laboratory tests performed on the representative sample, the State Construction and Materials Engineer will notify the manufacturer as to the acceptance or rejection and whether the material has been added to the list of qualified materials. After a material has been qualified, submittals will not be required for subsequent bids, so long as the material composition is not changed and so long as satisfactory results are obtained in the field.

5.0 Acceptance. To obtain final acceptance of the material, the manufacturer shall furnish a certification to the engineer at destination certifying that the materials supplied conform to all requirements specified and certifying the material furnished is of the same composition as originally prequalified.

5.1 The engineer reserves the right to sample and test any or all of the material supplied.