

1709 – SUBSTRUCTURE WATERPROOFING MEMBRANE

SECTION 1709

SUBSTRUCTURE WATERPROOFING MEMBRANE

1709.1 DESCRIPTION

Material covered by this specification forms a waterproofing system to be applied to selected areas of a bridge substructure.

1709.2 REQUIREMENTS

a. General.

(1) Provide a flexible coating which is moisture insensitive, and which seals the surface to which it is applied to prevent the penetration of water.

(2) When applied to a concrete substrate and given 500 hours of exposure in an accelerated weathering apparatus (ASTM G 153, Table X1.1, Cycle 1) the waterproofing membrane system must be continuous, free of deep cracks and give complete protection from moisture intrusion.

(3) Prepare surfaces and apply each component in accordance with the manufacturer's instructions. Provide a copy of the manufacturer's literature including mixing, thickness of application, and installation instructions to the Field Engineer prior to application of the system.

b. Epoxy Primer/Urethane Mastic System.

(1) Primer. The primer is a two-part penetrating epoxy polyamide specially formulated for use on concrete surfaces to improve adhesion before application of one or two-part polyurethane coatings, with a minimum solids content of 20 percent.

(2) Mastic. The mastic is a one or two-part modified urethane elastomer, formulated as a weather resistant membrane, with a minimum solids content of 80 percent.

c. Epoxy System. Epoxy systems comply with AASHTO M 235 (ASTM C 881) Type III, grade and class as required for work to be performed. Epoxy systems must be prequalified under **SECTION 1705**, "Epoxy-Resin-Base Bonding Systems for Concrete."

1709.3 TEST METHODS

None specified.

1709.4 PREQUALIFICATION

a. All substructure waterproofing systems intended for use under this specification must be prequalified. Submit a written request to the Bureau Chief of Construction and Materials, with the following information for each type and brand name being offered:

(1) Name, address and telephone number of the manufacturer. Include the name of the preferred contact person.

(2) Brand name of the system.

(3) Complete technical information on the system, including test reports addressing requirements cited above. For epoxy systems, submit complete AASHTO M 235 (ASTM C 881) test reports if the material has not already been prequalified under **SECTION 1705**. Include small sales samples of the system. Larger samples will be requested if further testing is necessary.

(4) Information regarding recommended usage and application instructions. Specifically identify any concrete surface or system curing requirements.

(5) Material Safety Data Sheets.

b. The Bureau Chief of Construction and Materials will review the information, and the manufacturer will be advised as to whether or not the product is prequalified.

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c. The Bureau of Construction and Materials will maintain a list of prequalified substructure waterproofing systems. Products will remain prequalified as long as the formulation and manufacturing processes remain unchanged, and field experience indicates that the material functions appropriately. Changes in formulation or manufacturing processes will require a new prequalification review.

1709.5 BASIS OF ACCEPTANCE

Prequalification as specified in **subsection 1709.4**.

Receipt and approval of a Type C certification as specified in **DIVISION 2600**.

Visual inspection of performance in the field.