



SECTION 1039

EPOXY RESIN MATERIAL

1039.1 Type II Epoxy.

1039.1.1 Scope. This specification covers two-component epoxy resin to be used to bond plastic concrete or mortar to hardened concrete or mortar.

1039.1.2 General Requirements. The epoxy shall be furnished as a two-component system and shall comply with the requirements of ASTM C 881, Type II.

1039.1.2.1 The system shall comply with the requirements for Grade 2, Class B or C.

1039.1.3 Manufacturer and Brand Name Approval. Prior to approval and use of this material, the manufacturer shall submit in triplicate to the Division Engineer, Materials, a certified test report showing specific test results conforming to all requirements of these specifications. The certified test report shall contain the manufacturer's name, brand name of material, lot tested, date of manufacture and ratio of components. In addition, the manufacturer shall submit a one quart (liter) sample of each component, A and B, for laboratory testing accompanied by a technical data sheet and a material safety data sheet. Upon approval by the engineer of the certified test report and satisfactory results of tests performed on the sample submitted, the brand name and manufacturer will be placed on a prequalified list of concrete bonding compounds. New certified test results and samples shall be submitted any time the manufacturing process or the material formulation is changed and may be required when random sampling and testing of material offered for use indicates nonconformity with any of the requirements herein specified.

1039.1.4 Material Certification. To obtain final acceptance of this material, the manufacturer shall furnish a certification in triplicate to the engineer at destination certifying that the material supplied conform to all requirements specified and stating that the material is formulated the same as the material tested for manufacturer and brand name approval.

1039.2 Type III Epoxy.

1039.2.1 Scope. This specification covers two-component epoxy to be used in the grouting of dry cracks, in epoxy mortar for patching concrete and in epoxy mortar surface leveling.

1039.2.2 General Requirements. The epoxy shall be furnished as a two-component system and shall conform to the requirements of ASTM C 881, Type III.

1039.2.2.1 The system shall comply with the requirements for Grade 1, Class B or C.

1039.2.3 Manufacturer and Brand Name Approval. Prior to approval and use of this material, the manufacturer shall submit in triplicate to the Division Engineer, Materials, a certified test report showing specific test results conforming to all requirements of these specifications. The certified test report shall contain the manufacturer's name, brand name of material, lot tested, date of manufacture and ratio of components. In addition, the manufacturer shall submit a one quart (liter) sample of each component, A and B, for

laboratory testing accompanied by a technical data sheet and a material safety data sheet. Upon approval by the engineer of the certified test report and satisfactory results of tests performed on the sample submitted, the brand name and manufacturer will be placed on a prequalified list of concrete bonding compounds. New certified test results and samples shall be submitted any time the manufacturing process or the material formulation is changed and may be required when random sampling and testing of material offered for use indicates nonconformity with any of the requirements herein specified.

1039.2.4 Material Certification. To obtain final acceptance of this material, the manufacturer shall furnish a certification in triplicate to the engineer at destination certifying that the material supplied conform to all requirements specified and stating that the material is formulated the same as the material tested for manufacturer and brand name approval.

1039.3 Epoxy or Polyester Bonding Agents for Dowels .

1039.3.1 Scope. This specification covers a two-component epoxy or polyester bonding agent to be used in anchoring epoxy coated dowel bars in concrete for pavement repair.

1039.3.2 General Requirements. Epoxy or polyester bonding agents for anchoring epoxy coated dowel bars shall be furnished as a two-component system. The system shall include automatic mixing, whether in cartridge or bulk form. The component ratios shall be shown on the label of each cartridge or bulk container.

1039.3.3 Properties. The epoxy or polyester bonding agent shall exhibit good bonding properties between the epoxy coated dowel bar and the existing concrete and shall cure in two (2) hours or less. Bonding agents, when initially mixed, shall have a viscosity which prevents flow from a horizontal hole. When tested in accordance with MoDOT Test Method T49, the minimum pull-out load shall be 8100 pounds (36 kN).

1039.3.4 Manufacturer and Brand Name Approval. Prior to approval and use of this material, the manufacturer shall submit in triplicate to the Division Engineer, Materials, a certified test report from an approved independent testing laboratory showing specific test results conforming to all requirements of this specification. The certified test report shall contain the manufacturer's name, brand name of material, lot tested, date of manufacture, ratio of components by volume and system tested. In addition, the manufacturer shall submit to the Division Engineer, Materials, a sample representing the system tested by the independent testing laboratory and accompanied by a system data sheet, a material safety data sheet and any special installation instructions relative to the system being submitted, including recommended curing time. Upon approval of the system, the brand name will be placed on a list of prequalified bonding agents for dowels.

1039.3.5 Acceptance. To obtain final acceptance of this material, the manufacturer shall furnish a certification to the engineer at destination certifying that the material supplied conforms to all requirements specified and stating that the material supplied is the same system and is formulated the same as the material tested for manufacturer and brand name approval.