POLYMER GROUTS

GENERAL

Polymer grouts shall meet the requirements of applicable Iowa Department of Transportation Specifications.

ACCEPTANCE

Acceptance of polymer grouts for use on Department of Transportation projects will be on the basis of manufacturer and brand name approval.

Approved manufacturers and brand names for two different types of applications are listed in Appendices A, B, and C.

MANUFACTURER & BRAND NAME APPROVAL

To obtain approval for polymer grouts under Appendices A, B, or C, the manufacturer shall submit the following items to the Office of Materials in Ames, Iowa:

1. Product identification including brand name and product number
2. Complete manufacturer recommendations for usage
3. A current Material Safety Data Sheet (MSDS)
4. A sample consisting of enough material for three pullout tests

APPROVAL FOR APPENDIXES A, B, & C

Appendix A contains pourable polymer grouts intended for vertical installations or angled installations less than 45° from vertical. Mechanical mixing is required to blend the material to uniform consistency.

Appendix B contains viscous polymer grouts intended for horizontal installations. Mechanical mixing is required to blend the material to uniform consistency.

Appendix C contains polymer grouts for dowel bar installation. Either an encapsulated chemical anchor system or a pressure-injectable system with mechanical proportioning and mixing shall be required to blend the material to uniform consistency.

The laboratory evaluation for both Appendix A and B will consist of bonding a #15 M (No. 5) reinforcing bar in a 4-inch (100-mm) deep, 3/4-inch (19-mm) diameter hole in a concrete specimen and performing a pullout load test. After a seven-day cure at laboratory temperature, the test specimen shall have a 9,000-pound (40,000 N) minimum load.

To obtain approval for products under Appendix C, the laboratory evaluation will consist of bonding a No. 5 (#15 M) reinforcing bar in a 4-inch (100-mm) deep 3/4-inch (19-mm) diameter hole in a concrete specimen and performing a pullout load test. The test specimen shall develop a 40-pound (180 N) minimum pullout load in one hour and a 24-hour pullout load at a minimum of 10,000 pounds (44,500 N). The specimen will be kept at laboratory temperature. Products meeting the requirements for Appendix C will also be placed on Appendix B.

Manufacturers whose products require special equipment such as an injection or mixing equipment shall recommend which equipment can be used with their product.

Approval of polymer grouts may be withdrawn because of deficient monitor test results; product changes made after original approval, or unsatisfactory field performance.

CERTIFICATION

The manufacturer shall file a certification statement at the beginning of each calendar year stating that the material supplied during that year is identical with the formulation previously tested and approved by the Office of Materials.

MONITOR SAMPLING & TESTING

The Office of Materials may sample and test polymer grouts to verify compliance with specifications.