
INSPECTION & ACCEPTANCE RAPID-SETTING CONCRETE PATCHING MATERIALS FOR PAVEMENTS

GENERAL

Acceptance of rapid-setting concrete patching materials will be on the basis of approved brands and satisfactory test results. These materials are approved for use when the plans and/or specifications permit their use for surface patching purposes.

Brand names must be identifiable on the packages. Material shall be packaged in a multi-wall moisture resistance paper bag. Shelf life shall be indicated on each packaged bag (by expiration date). Mixing sequence and addition of mixing water for each material shall be as directed and recommended by each manufacturer. When coarse aggregate is used, its type and quantity shall follow manufacturer recommendations and a minimum of Class 2 durability rating. Approved brands are listed in [Appendix A](#) and [B](#).

APPROVAL

To obtain approval of a rapid-set concrete patching material, the manufacturer shall submit the following items to the Office of Materials in Ames:

1. Product identification including brand name,
2. Complete manufacturer's recommendation for usage,
3. A copy of test report for the submitted product from the National Transportation Product Evaluation Program (NTPEP), and
4. A current Materials Safety Data Sheet (MSDS).

[Appendix A](#) consists of rapid set patching materials for pavement patching. [Appendix B](#) consists of shrinkage compensated rapid set patching materials for dowel bar retrofit projects. Product approval is based on satisfactory evaluation of the NTPEP test report. The minimum requirements for approval are as listed in the following table. Magnesium phosphate-based patching materials will not be allowed on [Appendix B](#).

	ASTM Test Method	Cure Time	Appendix A	Appendix B
Compressive Strength, MPa (psi) minimum	C 39 or C 109	3.0 Hours 24 Hours	7.0 (1000) 20.7 (3000)	20.7 (3000) 34.5 (5000)
Bonding, Slant Shear MPa (psi) minimum	C 882	1 day Lab cure	7 (1000)	7 (1000)
Durability, Method A or Method B	C 666	1 day air + 6-day soak in water	70% min. (100 cycles)	90% min. (100 cycles)
Shrinkage, Length Change at 3 hrs	C 157	28 days in water 28 days in air	+0.15% -0.15%	+0.15% -0.05%
Chloride Content				0.0%

When permitted by the Office of Materials, the test report from an authorized independent laboratory can be accepted for the approval evaluation.

Products meeting the requirements of [Appendix B](#) will also be placed on [Appendix A](#).

Approval of a product may be withdrawn because of deficient test results, inadequate documentation, and/or lack of product identification.

CERTIFICATION

The manufacturer shall file a certification 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 rapid-setting concrete patching materials to verify their capabilities of meeting the approval requirements.