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## NONSHRINK HYDRAULIC CEMENT GROUTS

### GENERAL

Acceptance of nonshrink hydraulic cement grouts will be on the basis of approved brands and satisfactory certifications. These materials are approved for use when the plans or specifications permit their use for grouting purposes. Brand names must be identifiable on the containers. Approved brands are listed in [Appendix A](#).

### ACCEPTANCE

Prior to being placed on the list of approved brands, one or more products per manufacturer will be evaluated by the Office of Materials. The evaluation will consist of testing the grout for strength and shrinkage. Approval of products shall consist of the following:

#### A. Compressive Strength      ASTM C 109

|                 |        |                     |
|-----------------|--------|---------------------|
| Plastic State   | 1 day  | 3000 psi (20.7 MPa) |
|                 | 7 days | 5000 psi (34.5 MPa) |
| High Flow State | 1 day  | 800 psi (5.5 MPa)   |
|                 | 7 days | 3000 psi (20.7 MPa) |

#### B. Shrinkage

|                |                                                                                                |                                                                                             |
|----------------|------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| Plastic State  | ASTM C 827<br>(The manufacturer shall provide independent test result of C 827 for evaluation) | In plastic state, the grout must not shrink, and the grout must not expand by more than 3%. |
| Hardened State | ASTM C 1090                                                                                    | 0.30% Maximum                                                                               |

When casting specimens for above tests, consistency shall meet the following requirements:

|                 |                   |                |
|-----------------|-------------------|----------------|
| Plastic State   | ASTM C 109        | 110 ± 5%       |
| High Flow State | ASTM C 939/IM 375 | 20 ± 5 seconds |

If manufacturer can provide independent test results, some of the above tests may be waived.

### **CERTIFICATION**

The manufacturer shall file a certification with the Office of Materials 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 hydraulic cement grouts to verify their capability of meeting the approval requirements