

**SECTION 934
NON-SHRINK GROUT**

934-1 Scope.

This Section covers only prepackaged non-shrink cementitious grout for structural use.

934-2 Type Permitted.

Only non-metallic formulations of grouts are allowed. Gas producing, metal oxidizing and expansive aggregate grouts are not allowed.

934-3 Sampling and Testing Methods.

Perform concrete sampling and testing in accordance with the following methods:

- Making and Curing Concrete Test Specimens
in the LaboratoryASTM C192
- Time of Setting Concrete Mixtures by
Penetration ResistanceASTM C403
- Determining Low-Levels of Chloride in Concrete and
Raw Materials FM 5-516
- Compressive Strength of Hydraulic Cement
MortarsASTM C109
- Flow of Grout for Preplaced Aggregate Concrete
(Flow Cone Method).....ASTM C939
- Measuring Changes in Height of Cylindrical Specimens from
Hydraulic Cement Grout.....ASTM C1090
- Expansion and Bleeding of Freshly Mixed Grout for Preplaced
Aggregate Concrete in the Laboratory.....ASTM C940

934-4 Requirements.

When tested as provided in 934-3, the grout shall meet the following requirements:

| Property | Test Value |
|--|--------------------------------|
| Compressive strength | |
| one day | 2,500 psi minimum |
| 3 days | 5,000 psi minimum |
| Time of set, final | 8 hours maximum |
| Chloride Content | 0.40lb/yd ³ maximum |
| Hardened Height Change at 1, 3, 14, and 28 Days | 0.0% to 0.3% |
| Hardened Height Change at 1, 3, and 14 Days | ≤ Height Change @ 28 Days |
| Expansion | ≤ 2.0% @ 3 Hours |
| Bleeding, Final | 0.0% @ 3 Hours |

934-5 Product Acceptance on the Project.

Non-shrink grout used shall be one of the products listed on the Department's Approved Product List (APL). Manufacturers seeking evaluation of their product shall submit an application in accordance with Section 6.

Acceptance will be made in accordance with the products listed on the APL.

934-6 Rejection.

Materials shall be rejected at the point of use if the materials are caked, lumpy, or show any signs of deterioration. Materials shall be rejected if the grout does not achieve the design fluidity or consistency when mixed according to the manufacturer's recommendations.

All broken or open packages shall be rejected.

934-7 Packaging.

Cementitious materials for grouts must be packaged in suitable moisture resistant containers and clearly labeled. Where applicable, manufacturers recommendations, limitations and cautions shall be clearly visible on each label.