



PLANIGROUT 712
High-Performance, NonShrink, Nonmetallic Grout

SECTION 03 62 13
NON-SHRINK GROUTING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Surface preparation and field application for a one-component, non-shrink, nonmetallic, cement-based grout.

1.2 RELATED SECTIONS

- A. Section 03 30 00 - Cast-in-Place Concrete.
- B. Section 03 60 00 - Grouting

1.3 REFERENCES

- A. ASTM International:
 - 1. ASTM C1107 – Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Non-shrink)
 - 2. ASTM C1240 - Standard Specification for Silica Fume Used in Cementitious Mixtures.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01 30 00 - Administrative Requirements.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
- C. Verification Samples: For each finish product specified, two samples, minimum size 6" (150 mm) square representing actual product, color and patterns.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Minimum 5 years' experience manufacturing similar products.
- B. Installer Qualifications: Minimum 2 years' experience installing similar products.
- C. Source Limitations: For repair products, obtain each color, grade, finish, type, and variety of product from single source and from single manufacturer with resources to provide products of consistent quality in appearance and physical properties.
- D. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
 - 1. Finish areas designated by Architect.
 - 2. Do not proceed with remaining work until workmanship is approved by Architect. Refinish mock-up area as required to produce acceptable work.



1.6 PRE-INSTALLATION MEETINGS

- A. Convene at least two weeks prior to starting work of this section.

1.7 DELIVERY, STORAGE AND HANDLING

- A. Deliver and store products in manufacturer's unopened packaging bearing the brand name and manufacturer's identification until ready for installation.
- B. Handling: Handle materials to avoid damage.

1.8 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

1.9 SEQUENCING

- A. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Product Performance:

Compressive strength, plastic consistency – ASTM C942
1 day > 4,000 psi (27.6 MPa)
7 days > 7,200 psi (49.7 MPa)
28 days > 9,000 psi (62.1 MPa)

Flexural strength, plastic consistency – ASTM C348
28 days > 1,400 psi (9.66 MPa)

Bond strength – ASTM C882
28 days, flowable consistency > 2,200 psi (15.2 MPa)

Flow table typical value – ASTM C230
Plastic 100% to 125%
Flowable 125% to 145%
Fluid Efflux < 30 seconds

Volumetric change Conforms to ASTM C1107 and CRD-C621 standards

Bleeding – ASTM C940 Unnoticeable

- B. Acceptable Manufacturer:

MAPEI North America
1144 E. Newport Center Dr.; Deerfield Beach, FL 33442
Toll-Free for CRS Technical Services: Tel. 888-365-0614



Email: CRS@mapei.com

Web: www.mapei.com

- C. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.
- D. Substitutions: Not permitted.

2.2 NON-SHRINK GROUTING PRODUCTS

- A. Cement-Based, High-Performance, Non-Shrink, DOT Construction Grout Material: Packaged dry, hydraulic-cement grout.
 - 1. Product: Subject to compliance with requirements, provide MAPEI Corporation; Planigrout 712.
 - 2. Compressive Strength: Not less than 9,000 psi (62.1 MPa) in a plastic consistency within 28 days when tested according to ASTM C942.

2.3 MISCELLANEOUS MATERIALS

- A. Portland cement: ASTM C150/C150M, Type I, II or III unless otherwise indicated.
- B. Water: Potable.

2.4 MIXES

- A. General: Mix products in clean containers according to manufacturer's written instructions.
 - 1. Do not add water, thinners or additives unless recommended by manufacturer.
 - 2. When practical, use manufacturer's premeasured packages to ensure that materials are mixed in proper proportions. When premeasured packages are not used, measure ingredients using graduated measuring containers; do not estimate quantities or use shovels or trowels as units of measure.
 - 3. Do not mix more materials than can be used within time limits recommended by manufacturer. Discard materials that have begun to set.
- B. Mortar Scrub Coat: Mix dry ingredients with enough water to provide consistency of thick cream.
- C. Dry-Pack Mortar: Mix required type(s) of patching-mortar dry ingredients with just enough liquid to form damp cohesive mixture that can be squeezed by hand into a ball but is not plastic.
- D. Concrete: Comply with Section 03 30 00 - Cast-in-Place Concrete.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Properly prepared concrete at least 28 days old, stable, sound and dry.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.



3.2 PREPARATION

Refer to ACI 351.1R or ACI 351.2R for surface preparation and grouting procedures.

- A. Concrete surface must be free of loose particles, efflorescence, paints, tars, grease, asphaltic materials, bond breakers, curing compounds, wax, and dry foreign substances or any conditions that may affect product performance or proper bonding.
- B. Ensure that the concrete substrate and ambient room temperatures are between 41°F and 95°F (5°C and 35°C) before application.
- C. Ensure that the concrete surface is saturated surface-dry (SSD) before the installation of Planigrout 712.

3.3 MIXING

Before product use, take appropriate safety precautions. Refer to the Safety Data Sheet for details.

- A. Into a clean mixing pail, pour 3/4 of the required amount of cool, potable water (see the technical data sheet's "Application Properties" table for mixing ratios). Use the minimum amount of water required to achieve the desired consistency.
- B. Slowly add Planigrout 712 to the water while mixing, using a low-speed mixer.
- C. Add as much of the remaining 1/4 of water as needed to achieve the desired consistency. Mix for up to 3 minutes, scraping down any unmixed powder after 1 to 2 minutes. Remix to a smooth, homogeneous consistency.
- D. Place immediately after mixing.

3.4 INSTALLATION

Reference ACI 11R-12 or 351.2R (see "Related Documents" chart) for grouting procedures. Read all installation instructions thoroughly before installation.

Plastic consistency: Planigrout 712 may be rodded or chained into place.

Flowable consistency: Planigrout 712 may be used with a low-pressure grout pump, or poured, hand-rodded and chained into place.

Fluid application: : Planigrout 712 meets ASTM C939 consistency requirements, which allows placement to tight clearances from 1/2" to 2" (12 mm to 5 cm).

- A. Planigrout 712 is recommended for jointing structural precast components and for filling rigid joints up to a thickness of 2" (5 cm).
- B. To facilitate the filling of hard-to-reach areas, use a wood strip, steel rod or chain.
- C. Do not vibrate Planigrout 712.

For anchor bolt/dowel grouting, the hole diameter would be 1" (2.5 cm) greater than the bar diameter. When anchoring, degrease any anchor bolts.

- D. Isolate Planigrout 712 from direct contact with aluminum.



Because Planigrout 712 is designed for various consistencies and such characteristics as workability and mechanical strengths, a preliminary test or mockup should be performed to verify installation capabilities.

3.5 CURING

- A. Curing is recommended for 72 hours after placement using wet curing, damp burlap, polyethylene sheeting or a suitable water-based curing compound.
- B. Protect from excessive heat and wind.
- C. Reference ACI 308.1 "Standard Specification for Curing Concrete."

3.6 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch up, repair or replace damaged products before substantial completion.

END OF SECTION