



PLANIGROUT 310 [NA]
High-Performance, Highly Flowable, Three-Component Epoxy Grout

SECTION 03 63 00
EPOXY GROUTING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Surface preparation and field application for a high-performance, low-exothermic, deep-pour (up to 18") applications where high compressive and dynamic strengths are required.

1.2 RELATED SECTIONS

- A. Section 03 60 00 – Grouting

1.3 REFERENCES

- A. ASTM International:
 - 1. ASTM C881 – Standard Specification for Epoxy-Resin-Base bonding Systems for Concrete
 - 2. ASTM C579 – Standard Test Methods for Compressive Strength of chemical-Resistance Mortars, Grouts, Monolithic Surfacing, and Polymer concrete.

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 inches (150 mm) square representing actual product, color and patterns.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Minimum 5 years' experience in manufacturing similar products.
- B. Installer Qualifications: Minimum 2 years' experience in 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.
3. 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 – ASTM C579

Standard 7-day cure at 75°F (24°C) > 14,500 psi (100 MPa)

Post-cured at 140°F (60°C) > 16,000 psi (110 MPa)

Tensile strength – ASTM C307 > 2,100 psi (14.5 MPa)

Flexural strength – ASTM C580 > 5,000 psi (34.5 MPa)

Modulus of elasticity – ASTM C580 2.00 x 10⁶ psi (13 793 MPa)

Bond strength – ASTM C882 > 3,000 psi (20.7 MPa), concrete fail

Linear shrinkage on cure – ASTM C531 0.072%

Shore “D” hardness – ASTM D2240 90

Density – ASTM C905 2.16 g per cm³



B. Acceptable Manufacturer:

MAPEI North America
1144 E. Newport Center Drive; 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. Epoxy-Based, Three-Part, High-Performance, Low-Exothermic, Deep-Pour (up to 18") Grout Material: Packaged resin and aggregate grout.
1. Product: Subject to compliance with requirements, provide MAPEI Corporation; Planigrout 310 [NA].
 2. Compressive Strength: Not less than 14,500 psi (100 MPa) when tested according to ASTM C579.

2.3 MISCELLANEOUS MATERIALS

A. Aggregate

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. Concrete: Comply with Section 03 60 00 - Grouting.

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

- A. Concrete surface must be clean and free of loose particles, efflorescence, paints, tars, grease, asphaltic materials, bond breakers, curing compounds, wax, and any other substance or any conditions that may affect product performance or proper bonding.



- B. Mechanically profile and prepare concrete surfaces by engineer-approved methods in accordance with the most current ICRI 310.2R Guidelines to obtain International Concrete Repair Institute (ICRI) concrete surface profile (CSP) of #5 to #9.
- C. Do not use bush heads, needle points or concrete breakers more than 25 lbs. (11.3 kg) to prepare concrete. If utilizing hydro demolition, wait at least 48 hours or until the concrete is visibly dry to proceed with grouting application.
- D. On new concrete: Ensure that the concrete is cured and dry. The concrete should be at least 14 days old. Refer to ACI 351.5-15, Specification for Installation of Epoxy Grout between Foundations and Equipment Bases.
- E. On existing concrete: Ensure that all contaminated or oil-saturated concrete is removed, and that the placement area is free from soft, unsound concrete. Repair all cracks with an appropriate crack injection epoxy and allow curing prior to grouting.
- F. For anchor holes: Clean anchor holes with oil-free compressed air to ensure that all dust, dirt and debris have been removed. Anchor holes should be dry before grouting takes place.
- G. Metal surfaces that will come in contact with the grout should be abrasive-blasted to a near-white finish metal and wiped clean with a non-residue solvent such as acetone.
- H. Use paste wax, caulk or other means to protect any surfaces not intended to bond with grout.
- I. To limit cracking on the shoulders, anchors and expansion joints can be added. Contact MAPEI Technical Services for more information.

3.3 MIXING

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

- A. Mix only complete units of parts A and B. Do not thin the mixture with solvents or add more aggregate than allowed for the pre-measured kit of Planigrout 310 [NA].
- B. Add Part B to the Part A pail and mix the material with a low-speed drill (300 rpm) and paddle mixer for 3 minutes or until blended uniformly. Do not introduce air into the epoxy while mixing. Remove all material from the sides of the mixing vessel to ensure that epoxy is fully blended.
- C. Transfer the mixed material to a mortar mixer and add Part C one bag at a time, waiting until the aggregate from each consecutive bag is wetted out before adding a new bag.
- D. Once all four bags of aggregate have been added and are wetted out, discharge the material and proceed with grout placement.

3.3 INSTALLATION

Read all installation instructions thoroughly before installation.

- A. Place Planigrout 310 [NA] into the forms from one location or entry form to ensure a consistent flow direction.
- B. Use a head box to create head pressure and assist in product placement. Move the head box if needed for larger baseplates in order to ensure complete encapsulation.
- C. Ensure that Planigrout 310 [NA] is placed consistently. If a head box is used, do not allow the volume of grout to completely empty within it. Place expansion joints as required, typically



every 3 to 7 feet (0.91 to 2.13 m) or as directed by the equipment manufacturer.

- D. Examine the forms for leaks. Plug all leaks with putty or a fast-setting cement if there is a leakage during placement.
- E. When forms are filled to the desired depth, the exposed surface may be lightly misted (avoid puddling) with undiluted Mapecrete Film or a suitable solvent such as xylol or toluene and finished with a trowel or brush.

END OF SECTION