

Planigrout 740

Nonshrink, Underwater Tremie Grout



DESCRIPTION

Planigrout® 740 is a high-strength, nonshrink, cementitious tremie grout composed of select fine aggregates, special additives and silica fume for use in off-shore grouting and repair.

FEATURES AND BENEFITS

- Provides excellent high early and final compressive and flexural strengths for structural grouting applications from 1/2" to 6" (12 mm to 15 cm) in restrained areas
- Can be extended with up to 27.5 lbs. (12.5 kg) of washed 3/8" (10 mm) pea gravel for areas deeper than 6" (15 cm)
- Contains anti-washout additives to make it ideal to be used as a tremie grout in stagnate or flowing water
- Can be pumped
- Free of chlorides, metallic aggregates, aluminum powder and gypsum
- Superior resistance to seawater, freeze/thaw cycles and de-icing salts
- Exhibits positive expansion and can be used for anchor bolt grouting

INDUSTRY STANDARDS AND APPROVALS

- Conforms to ASTM C1107 and CRD C621 standards

WHERE TO USE

- For underwater applications 1/2" to 6" (12 mm to 15 cm)
- Suitable for tremie grout applications, such as bridge piers, concrete piles, harbor walls and other concrete structures in direct contact with water or submerged
- For structural grouting and anchoring in residential, commercial, industrial, institutional and civil applications

SURFACE PREPARATION

- All substrates must be structurally sound, stable and solid, with all loose materials and unsound concrete removed.
- Thoroughly clean surfaces of substances that could affect the bond strength of *Planigrout 740*, including dirt, paint, tar, asphalt, wax, oil, grease, latex compounds, form-release agents, laitance, loose toppings, barnacles, marine life, foreign substances and any other residues.
- Mechanically prepare the concrete substrate by an engineer-approved method to achieve a concrete surface profile (CSP) of #5 to #10 per ICRI Guideline 310.2R.
- Ensure that the concrete substrate and ambient room temperatures are between 41°F and 95°F (5°C and 35°C) before application. Maintain temperatures within this range for at least 72 hours after the installation of *Planigrout 740*.

MIXING

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

1. Into a clean mixer, pour 3/4 of the required amount of cool, clean, potable water.
2. Slowly add *Planigrout 740* powder to water while mixing. Slowly add as much of the remaining 1/4 of water as needed until the desired consistency is achieved. Mix for up to 4 minutes, scraping down any unmixed powder after 1 to 2 minutes, and remix to a smooth, homogenous consistency.
3. Place immediately after mixing.

PRODUCT APPLICATION

Read all installation instructions thoroughly before installation.

1. For anchor bolt/dowel grouting, hole diameter should be 1" (2.5 cm) greater than bar diameter. When anchoring, degrease any anchor bolts.
2. In underwater applications, seal all gaps in formwork with suitable underwater setting materials or use *Planigrout 740* mixed to a stiff consistency. Pump *Planigrout 740* through port in bottom of formwork, pushing water out the top side until reaching the desired fill. A professional diver should be utilized to inspect formwork for leakage and repair for proper placement.
3. For depths over 6" (15 cm), extend 50% by weight (27.5 lbs. [12.5 kg]) with clean, nonreactive, washed and saturated surface-dry (SSD) 3/8" (10 mm) pea gravel.

Consult MAPEI's Technical Services Department for specific project requirements.

CURING

- Cure for 72 hours using wet-curing, damp burlap, polyethylene sheeting or a suitable water-based curing compound. Curing is not required underwater. Do not use solvent-based curing compounds.
- Protect from excessive heat and/or wind.
- Reference ACI 308.1, Standard Specification for Curing Concrete.

CLEANUP

- Use water to wash hands and tools promptly before material hardens. Cured material must be mechanically removed.

PROTECTION

- Protect *Planigrout 740* from freezing during time of placement to final set. The minimum temperature during and 3 days after application is 41°F (5°C). For best results, precondition *Planigrout 740* to 65°F (18°C) before placement.

LIMITATIONS

- Do not add other additives or cements to *Planigrout 740* (unless specified by MAPEI).
- Once the product is mixed, do not retemper it.
- Do not use damaged or previously opened bags.
- Do not hand-mix *Planigrout 740*.
- Overmixing can entrap air and shorten pot life.
- Do not overwater the material, or it will not perform as specified.
- Do not mix more material than can be applied within a 1-hour period.
- Isolate *Planigrout 740* from direct contact with aluminum.
- Do not vibrate *Planigrout 740* during placement.

Product Performance Properties

Laboratory Tests	Results
Wet density – ASTM C1380	2 100 kg per m ³
Compressive strength – ASTM C1107	
1 day	> 3,500 psi (24.1 MPa)
3 days	> 5,520 psi (38.1 MPa)
7 days	> 7,250 psi (50 MPa)
28 days	> 9,000 psi (62.1 MPa)
VOC content	0 g per L

Shelf Life and Product Characteristics

before mixing

Shelf life	1 year when stored in original, unopened packaging at 73°F (23°C)
Storage conditions	Store in a dry place at 40°F to 95°F (4°C to 35°C).
Physical state	Powder
Color	Gray

Protect containers from freezing in transit and storage. Provide for heated storage on site and deliver all materials at least 24 hours before work begins.

Application Properties*

at 73°F (23°C) and 50% relative humidity

Amount of mixing water (per 55-lb. [24.9-kg] bag)	4.76 U.S. qts. (4.50 L)
Consistency	Pourable and pumpable
Application temperature range	41°F to 95°F (5°C to 35°C)
Thickness per lift (neat)	1/2" to 6" (12 mm to 15 cm)
Pot life	1 hour
Volume change – ASTM C1090	Meets ASTM C1090 standards; conforms to ASTM C1107 and CRD C621 standards
Initial set	< 7 hours
Final set	< 9 hours

* Depending on the temperature of the mix, water, substrate and equipment, slight adjustments of water content may be required.

CSI Division Classification

Non-Metallic, Non-Shrink Grouting	03 62 13
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Approximate Coverage**

per 55 lbs. (24.9 kg)

Consistency	Water Added***	Yield
Pourable	4.76 U.S. qts. (4.50 L)	0.45 cu. ft. (0.013 m ³)

** Coverage shown is for estimating purposes only. Actual jobsite coverage may vary according to substrate conditions and setting practices.

*** Water requirement depends on mixing efficiency, temperature and other variables.

Packaging

Size
Bag: 55 lbs. (24.9 kg)

RELATED DOCUMENTS

- Grouting Between Foundations and Bases for Support of Equipment and Machinery – ACI 351.1R
- Report on Foundations for Static Equipment – ACI 351.2R
- Standard Specification for Curing Concrete – ACI 308.1

ADDITIONAL INFORMATION

Refer to the Safety Data Sheet (SDS) for specific data related to health and safety as well as product handling.

For information on MAPEI's commitment to sustainability and transparency, as well as how MAPEI products may contribute to green building standards and certification systems, contact sustainability_USA@mapei.com (USA) or sustainability-durabilite@mapei.com (Canada).

WARNING

The test results shown in the TECHNICAL DATA table were obtained in compliance with test methods and curing cycles, if applicable, defined in the industry standards referenced on the Technical Data Sheet. Please note that the use of test procedures or methods other than those indicated in the table could lead to different values and that, in such cases, any liability of our company is excluded.

LEGAL NOTICE

The contents of this Technical Data Sheet ("TDS") may be copied into another project-related document, but the resulting document shall not supplement nor replace requirements per the TDS in effect at the time of the MAPEI product installation. For the most up-to-date TDS and warranty information, please visit our website at www.mapei.com. **ANY ALTERATIONS TO THE WORDING OR REQUIREMENTS CONTAINED IN OR DERIVED FROM THIS TDS SHALL VOID ALL RELATED MAPEI WARRANTIES.**

Before using, the user must determine the suitability of our products for the intended use, and the user alone assumes all risks and liability. **ANY CLAIM SHALL BE DEEMED WAIVED UNLESS MADE IN WRITING TO US WITHIN FIFTEEN (15) DAYS FROM DATE IT WAS, OR REASONABLY SHOULD HAVE BEEN, DISCOVERED.**

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For the most current product data and BEST-BACKEDSM warranty information,
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