

Planigrout 728

Nonshrink Precision Grout



DESCRIPTION

Planigrout® 728 is a one-component, nonshrink, nonmetallic, nonstaining, cement-based precision grout that provides high performance.

FEATURES AND BENEFITS

- High compressive strength
- Silica-fume modified
- Nonshrink
- Can be mixed at dry-pack, plastic, flowable and fluid consistencies

INDUSTRY STANDARDS AND APPROVALS



Meets and/or exceeds ASTM C1107 and CRD C621 standards. Certified to NSF/ANSI/CAN 61. Refer to WQA's listings for use restrictions.

WHERE TO USE

- Precision grouting applications
- Grouting precast
- Base plates
- Anchor bolts
- For interior and exterior applications

SURFACE PREPARATION

- Thoroughly clean the surface of substances that could affect the bond strength of *Planigrout 728*, including dirt, paint, tar, asphalt, wax, oil, grease, latex compounds, form-release agents, laitance, loose toppings, foreign substances and any other residues.
- For anchor bolt/dowel grouting, the hole diameter should be 1" (2.5 cm) greater than the bar diameter. When anchoring, degrease any anchor bolts.
- Reference ACI 351.1R or 351.2R (see the "Related Documents" section below) for surface preparation and grouting procedures.
- Thoroughly wet the concrete surface (prepare to a saturated surface-dry [SSD] condition). Remove all standing water from low areas on the foundation, as well as in bolt holes.
- 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 3 days after the placement of *Planigrout 728*. Water and material should be maintained at about 70°F (21°C).

MIXING

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

1. Into a clean mixing pail, pour about 3/4 of the required amount of cool, clean, potable water (see the "Application Properties" table below for mixing ratios). The water demand will vary depending on temperature, humidity, mixing equipment and material. Use the minimum amount of water required to achieve the desired consistency.
2. Slowly add *Planigrout 728* to water while mixing, using a low-speed mixer. Do not hand-mix *Planigrout 728*. 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, homogenous consistency.
3. Place immediately after mixing.

PRODUCT APPLICATION

Read all application instructions thoroughly before installation. Reference ACI 351.1R or 351.2R (see "Related Documents" section below) for grouting procedures.

1. a. Dry-pack application: *Planigrout 728* can be hand-packed and tamped into place.
b. Plastic application: *Planigrout 728* may be rodded or chained into place.
c. Flowable application: *Planigrout 728* may be used with a low-pressure grout pump, or poured, hand-rodded and chained into place.

d. Fluid application: *Planigrout 728* meets ASTM C939 consistency requirements for easy placement with a proper box head or by pumping.

2. To facilitate the filling of hard-to-reach areas, use a wood strip, steel rod or chain.

CURING

- Curing is recommended for 3 days after placement using wet curing, damp burlap, polyethylene sheeting or a suitable ASTM C309 curing compound.
- Ensure that *Planigrout 728* is protected from freezing after placement and that the temperature is maintained above 41°F (5°C) during and 3 days after placement.
- Protect from excessive heat and wind.
- Reference ACI C308.1, "Standard Specification for Curing Concrete."

CLEANUP

- Wash hands and tools promptly with water before the material hardens. Cured material must be mechanically removed.

LIMITATIONS

- Do not use for depths greater than 6" (15 cm) without aggregate extension – using clean 3/8" (10 mm) pea gravel at a rate of 25% by weight.
- Do not use for extreme dynamic load applications, or where chemical resistance is required.
- Do not add other additives or cements to *Planigrout 728*.
- Ensure that *Planigrout 728* is protected from freezing after placement and until final set.
- Ensure that *Planigrout 728* is used in confined areas and not intended for concrete restoration.
- Do not use *Planigrout 728* as a repair mortar.
- Do not use damaged or previously opened bags.
- Isolate *Planigrout 728* from direct aluminum.
- Do not vibrate.
- Do not overwater material.

Product Performance Properties

Laboratory Tests		Results		
Fluidity	Dry Pack	Plastic	Flowable	Fluid
Flow table typical value (ASTM C230)	10% to 25%	100% to 125%	125% to 145%	Efflux < 30 seconds (ASTM C939)
Compressive strength – ASTM C109 modified*				
1 day	5,500 psi (37.9 MPa)	4,500 psi (31.0 MPa)	3,600 psi (24.8 MPa)	2,800 psi (19.3 MPa)

3 days	8,500 psi (58.6 MPa)	7,000 psi (48.3 MPa)	6,500 psi (44.8 MPa)	5,500 psi (37.9 MPa)
7 days	10,000 psi (69.0 MPa)	9,250 psi (63.8 MPa)	8,500 psi (58.6 MPa)	6,400 psi (44.1 MPa)
28 days	12,500 psi (86.2 MPa)	12,000 psi (82.8 MPa)	9,750 psi (67.2 MPa)	7,500 psi (51.7 MPa)
Flexural strength – ASTM C348 (CAN/CSA-A23.2-8C)				
28 days	> 1,600 psi (11.0 MPa)	> 1,400 psi (9.66 MPa)	> 1,200 psi (8.28 MPa)	> 1,000 psi (6.90 MPa)
Bond strength – ASTM C882				
28 days	–	–	> 2,200 psi (15.2 MPa)	> 2,100 psi (14.5 MPa)
Volumetric change	Conforms to ASTM C1107 and CRD-C621 standards			
Bleeding – ASTM C940	Unnoticeable	Unnoticeable	Unnoticeable	Unnoticeable
Splitting tensile – ASTM 496				
28 days	> 850 psi (5.86 MPa)	> 750 psi (5.17 MPa)	> 700 psi (4.83 MPa)	> 600 (4.14 MPa)
VOC content	0 g per L			

* The data shown is typical for controlled laboratory conditions. Reasonable variation from these results can be expected due to interlaboratory precision and bias. When testing the field-mixed material, other factors such as variations in mixing, water content, temperature and curing conditions should be considered.

Shelf Life and Product Characteristics

before mixing

Shelf life	1 year in original bag stored in a dry, covered and well-ventilated place at 73°F (23°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

Fluidity	Dry Pack	Plastic	Flowable	Fluid
Mixing ratio: Water per 50 lbs. (22.7 kg) of powder	2.6 U.S. qts. (2.46 L)	3.95 U.S. qts. (3.74 L)	4.23 U.S. qts. (4.0 L)	5.07 U.S. qts. (4.80 L)

Pot life at 73°F (23°C)	30 minutes	1 hour	1 hour	1 hour
Initial set at 73°F (23°C) – ASTM C191	< 2 hours	< 5.5 hours	< 6 hours	< 7 hours
Final set at 73°F (23°C) – ASTM C191	< 4 hours	< 7.5 hours	< 8 hours	< 9 hours

CSI Division Classification

Non-Metallic, Non-Shrink Grouting	03 62 13
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Packaging

Size
Bag: 50 lbs. (22.7 kg)

Approximate Coverage**

Size	Yield
Per 50-lb. (22.7-kg) bag mixed	0.43 cu. ft. (0.0122 m ³)

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

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 C308.1

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).

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.**

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