



# Planigrout 712®

**High-Performance, Nonshrink, Nonmetallic Grout**



## DESCRIPTION

*Planigrout 712* is a one-component, nonshrinking, nonmetallic, cement-based grout. *Planigrout 712* contains a corrosion inhibitor and silica fume, as well as a special blend of fine aggregate and plasticizers that provide exceptional placing and performance characteristics.

## FEATURES AND BENEFITS

- Excellent compressive strength and positive expansion for structural grouting applications
- Can be used at a plastic, flowable or fluid consistency
- Provides superior resistance to water penetration, freeze/thaw cycles and de-icing salts
- One-component system that requires only the addition of potable water
- Has extremely low chloride content and is free of metallic aggregates, aluminum powder and gypsum

## INDUSTRY STANDARDS AND APPROVALS

- Conforms to ASTM C1107 and CRD C621 standards

LEED v4 Points Contribution

LEED Points

Health Product Declaration (HPD)\* .....Up to 2 points

\* Using this product may help contribute to LEED certification of projects in the category shown above. Points are awarded based on contributions of all project materials.

## Additional Green Certifications

- Living Building Challenge (LBC) Red List Free: This product has been verified per the most current Red List on the LBC's Website.

## WHERE TO USE

- For use as a nonshrink, premixed structural grout in applications requiring full load-bearing and stabilization. *Planigrout 712* is also suitable for precast, cast-in-place and prestressed concrete applications.
- For interior and exterior applications over clean, properly prepared concrete substrates
- For structural grouting and anchoring in residential, commercial, industrial, institutional, marine and infrastructure applications

## SURFACE PREPARATION

- Concrete surface must be clean and free of loose particles, efflorescence, paint, tars, grease, asphaltic materials, bond breakers, curing compounds, wax and any foreign substance. Reference ACI 351.1R or 351.2R 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 72 hours after the placement of *Planigrout 712*. 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 "Product Performance Properties" table for mixing ratios). Use the minimum amount of water required to achieve the desired consistency.
2. Slowly add *Planigrout 712* to the water while mixing, using a low-speed mixer.
3. 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.

## PRODUCT APPLICATION

Read all application instructions thoroughly before installation. For grouting procedures, reference ACI 351.1R or 351.2R.

- 1a. Plastic application: *Planigrout 712* may be rodded or chained into place.
- 1b. Flowable application: *Planigrout 712* may be used with a low-pressure grout pump, or poured, hand-rodded and chained into place.
- 1c. 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).
2. Because *Planigrout 712* is designed for various consistencies and such characteristics as workability and mechanical strength, conduct a preliminary test or mockup to verify installation capabilities. Consult MAPEI's Technical Services Department regarding specific project requirements.
3. *Planigrout 712* is recommended for jointing structural precast components and for filling rigid joints up to a thickness of 2" (5 cm).
4. To facilitate the filling of hard-to-reach areas, use a wood strip, steel rod or chain. Do not vibrate.
5. 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. Isolate *Planigrout 712* from direct contact with aluminum.

## CURING

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

## CLEANUP

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

## LIMITATIONS

- For depths greater than 6" (15 cm), contact MAPEI's Technical Service Department for recommendations.
- Do not use for extreme dynamic load applications, such as electric turbine generators and stamping presses, or in place of a structural epoxy grout for superior chemical resistance. Consult MAPEI's Technical Services Department for product recommendations.
- Do not add additives or cements to *Planigrout 712*.
- Ensure that *Planigrout 712* is protected from freezing after placement and until final set, and that it is maintained at the minimum temperature of 41°F (5°C) during and 3 days after placement.
- Ensure that *Planigrout 712* is used in confined areas and not for concrete restoration.
- Do not use damaged or previously opened bags.
- Do not hand-mix *Planigrout 712*.
- Do not overwater the material, or it will not perform as specified.

## Product Performance Properties

Laboratory Tests	Results		
	Plastic consistency	Flowable consistency	Fluid consistency
Mixing ratio (water per 50 lbs. [22.7 kg] of powder)	3.95 U.S. qts. (3.74 L)	4.23 U.S. qts. (4.0 L)	5.07 U.S. qts. (4.80 L)
Flow table typical value – ASTM C230	100% to 125%	125% to 145%	Efflux < 30 seconds (ASTM C939)
Compressive strength – ASTM C942			
1 day	> 4,000 psi (27.6 MPa)	> 3,600 psi (24.8 MPa)	> 2,500 psi (17.2 MPa)
7 days	> 7,200 psi (49.7 MPa)	> 6,200 psi (42.8 MPa)	> 5,700 psi (39.3 MPa)
28 days	> 9,000 psi (62.1 MPa)	> 8,000 psi (55.2 MPa)	> 6,500 psi (44.8 MPa)
Flexural strength – ASTM C348 (CAN/CSA-A23.2-8C)			
28 days	> 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		
VOCs (Rule #1168 of California's SCAQMD)	0 g per L		

## Shelf Life and Product Characteristics (before mixing)

Shelf life	1 year in original bag stored in a dry, heated, covered and well-ventilated place
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

	Plastic consistency	Flowable consistency	Fluid consistency
Mixing ratio (water per 50 lbs. [22.7 kg] of powder)	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	1 hour	1 hour	1 hour
Initial set – ASTM C191	< 5.5 hours	< 6 hours	< 7 hours
Final set – ASTM C191	< 7.5 hours	< 8 hours	< 9 hours

## CSI Division Classification

Non-Metallic, Nonshrink Grouting	03 62 13
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## Packaging

Size
Bag: 50 lbs. (22.7 kg)

## Approximate Coverage\* per 50 lbs. (22.7 kg)

Yield
0.43 cu. ft. (0.0122 m <sup>3</sup> ) bag at flowable consistency

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

# Planigrout 712



Refer to the SDS for specific data related to health and safety as well as product handling.

## 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 or 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

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