



ICC Premiscelati

FUGA DESIGN FF

HIGH-PERFORMANCE MINERAL MORTAR
FOR GROUTING JOINTS UP TO 4 mm WIDE



Description:

High-performance mineral mortar for grouting joints up to 4 mm wide. **FUGA DESIGN FF** is a pure micronized marble powder cement-based mortar, enhanced with synthetic resins, hydrophobic additives, and colored pigments for grouting ceramic tiles.

Its high compressive strength and low water absorption make it resistant to freeze and abrasion. For more demanding conditions such as in swimming pools, bathrooms, external facades, heavily trafficked floors and when more elastic grouts is desired, **FUGA DESIGN FF** can be mixed with the liquid additive **FUGA LATEX**. In compliance with the standard EN 13888-1, **FUGA DESIGN FF** is an improved cementitious grout with additional characteristics of reduced water absorption and high abrasion resistance, classified as CG2WA.

Areas of application:

FUGA DESIGN FF is suitable for mold-resistant internal and external grouting of ceramic tiles and stone materials: single-fired, double-fired, porcelain tiles, ceramic mosaics, klinker, natural stones, marble, granite, etc. It can be used in residential environments, offices, galleries, commercial premises, external facades, balconies and terraces, swimming pools, heavily trafficked floors, etc.

Preparatory operations:

Ensure that the adhesive or bedding mortar used for laying the flooring has completely hardened. Verify that the joints are free from adhesives or mortars for at least 2/3 of the tile thickness. Clean off any dust or dirt and remove any traces of adhesive that have leaked out of the joint. In hot weather conditions, especially with highly absorbent materials such as red or white double-fired tiles, it is recommended to wet the joints with a sponge soaked in clean water.

Mortar preparation:

FUGA DESIGN FF is mixed using a low-speed mixer equipped with a whisk: introduce clean water (or the synthetic additive **FUGA LATEX**) into a clean bucket free from rust or old residues, at a ratio of approximately 32-34% of the weight of the powder (approximately 1.6 liters per 5 kg bag). For floor applications, **FUGA DESIGN FF** can be used with a slightly more fluid consistency. Add the powder to the water while stirring and mix until a creamy, smooth and lump-free mixture is obtained. Leave the mixture to rest for approximately 3 minutes. Remix briefly the mortar and start the grouting operations. The obtained mortar can be used for about 2 hours. The product is not suitable for mixing by hand or with a concrete mixer.

Application:

Carefully distribute and compact the grout inside the joints using a special rubber spatula; with a 45° movement relative to the direction of the joints, immediately remove excess grout from the surface by scraping it with the spatula. For floor applications, a slightly more fluid mixture can be made and a special rubber squeegee can be used. To better uniform the final color and accelerate setting, after applying the grout, it is recommended to sprinkle the joints with dry grout powder (not mixed). To reduce color variations it is recommended not to add additional water to the already mixed mortar.

Cleaning and finishing:

Wait about 10-20* minutes for the mortar to lose its plasticity and begin setting (the grout should become matt), then start the cleaning operations. The first roughing can be done with abrasive felts such as Scotch-Brite, while for washing, use a special hard cellulose sponge moistened with clean water. Pass the sponge at a 45° angle on the joints, being careful that the grout does not adhere to the sponge by emptying the joints. Rinse the sponge frequently using two separate buckets of water (wash the sponge in the first bucket and rinse it in the second) and wring it out thoroughly. For large surfaces, machines with a tape sponge or machines with a rotating mono disc can be used. The final cleaning can be done after 24-48 hours: using a clean and dry cloth, remove the remaining dust on the surface. When necessary, further cleaning can be done using specific acid-based detergents: wet the joints with water and then pour diluted acid detergent; scrub with abrasive felt and immediately rinse with clean water.

Coverage:

The coverage of grout varies depending on the size and thickness of the tiles and the width of the joints.

For the theoretical calculation of coverage, the following formula can be used:

$(A + B) : (A \times B) \times C \times D \times 1.5 = \text{Coverage in kg/m}^2$ where:

A = length of the tile in mm

B = width of the tile in mm

C = thickness of the tile in mm

D = width of the joint in mm

TECHNICAL DATA

Consistency	Colored powder (see color chart)
Maximum grain-size	0.1 mm
Solid residue	100%
Bulk density (fresh mortar)	2000 gr/cm ³ approximately
Mixing water	32 – 34 %
Mixing water for each 25 kg bag	8 – 8.5 liters
Mixture consistency	fresh mortar
Permitted application temperatures	da +5°C to +35 °C
Workability time	approx. 2 h*
Walkability	after approx. 24 hours*
Ready for use	after 3 days
Filling tanks and pools	after at least 7 days

FINAL PERFORMANCE

Flexural strength (after 28 days)	≥ 2.5 N/mm ²
Flexural strength after freeze-thaw cycles	≥ 2.5 N/mm ²
Compressive strength after dry storage	≥ 15 N/mm ²
Compressive strength after freeze-thaw cycles	≥ 15 N/mm ²
Abrasion resistance	≤ 1000 mm ³
Water absorption after 30 minutes	≤ 2 g
Water absorption after 240 minutes	≤ 5 g
Shrinkage	≤ 3 mm/m
Alkali resistance	excellent

*Data expressed at (23±2)°C and (50±5)% relative humidity. Lower temperatures prolong maturation and hardening times.

Color chart:

WHITE
JASMINE
NATURAL GREY
CEMENT GREY
ANTHRACITE GREY

Cleaning of equipment:

Wash hands and equipment with plenty of clean water before the product starts setting. Mechanical means should be used afterwards.

Hygiene and safety:

EUH 208 Contains cement. May cause an allergic reaction. Portland cement contained in the product can cause skin irritation and serious eye injuries. Do not inhale dust, ventilate areas during mixing and carefully protect yourself with gloves, protective clothing and goggles. Before use, carefully read the instructions on the packaging and consult the Safety Data Sheet.

Packs:

FUGA DESIGN FF is available in:

- bags of 25 kg each and delivered on 1500 kg wooden pallets.
- polyethylene bags of 5 kg each and delivered in a cardboard box of 5 pieces (25 kg).

Storage:

Store the product in its undamaged original packaging in a cool, dry place. Do not disperse dust. Cr VI content less than 2 ppm. Properly stored product must be used within 6 months of the packaging date stamped on the bag.

Warning:

Cleaning done too early, while the mortar is still in the plastic phase, will cause the removal of the grout; however, if cleaning does not occur within the due time, the mortar will set and harden, requiring mechanical cleaning. Do not add cement, lime, or other foreign substances. Always use the same amount of water or liquid additive for all mixes: different quantities can result in different shades of color. Excess mixing water leads to greater shrinkage during hardening, resulting in a less resistant product with the possibility of cracking. Excess mixing water or residual moisture in the substrate can lead to the formation of a superficial white film. Protect from direct sunlight radiation for at least 48 hours. In hot weather, it is recommended to humidify the finished work for the first 24 hours to improve cement hydration. When using acidic detergents, wet the grout with clean water beforehand, let the product act for 5-10 minutes, then rinse with water. The product is not suitable for grout expansion joints or structural joints (use compressible synthetic sealants). Mixing different coloured products is not recommended. In case of contact with chemicals or acids in general, use specific reaction resin grouts. Only the latest updated version of this technical data sheet, available on the website www.calcecasertana.it, is to be considered valid.

PRODUCT FOR PROFESSIONAL USE ONLY

All the data and information contained in this technical data sheet, although resulting from laboratory tests performed and from our direct application experiences, due to the infinity of variables related to site conditions, are to be considered in any case as purely indicative. Before applying the product, the user is therefore required to establish whether it is suitable for the intended use, in the specific hygrothermal and application conditions provided for at the time of use. All responsibilities are therefore borne by the user. We are not liable for damage to persons or things deriving from improper use of the product.