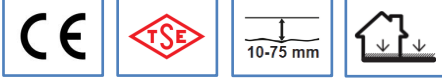


GM-500



Cement-based grout mortar

Description

It is a cement-based, polymer-modified, high-strength, self-leveling, non-shrink, single-component flowable grout mortar that can be applied at thicknesses of 10–75 mm and is resistant to climatic conditions.

Advantages

- High flowability (does not require vibration),
- Can be applied by pumping or pouring,
- Non-shrink,
- High early and ultimate strength,
- High adhesion,
- Does not segregate or bleed,
- Resistant to freeze–thaw cycles,
- Suitable for both indoor and outdoor use,
- Single-component; only water addition required,
- Easy to prepare and apply,
- Resistant to climatic variations,
- Applicable in thick sections (10–75 mm).

Areas of Application

- Suitable for indoor and outdoor use,
- For base grouting and fixing of steel columns, precast elements, and poles,
- In the construction of shear walls and column heads,
- For installation of sewer systems and channel grates,
- For anchoring machine and equipment base plates,
- For anchorage and stud fixing applications,
- In industrial floors,
- For repair of site concretes, airport runways, and helicopter landing pads,
- In engineering structures such as subways, highways, and dams,
- Under all types of industrial machine bases, for bedding of load-bearing elements and filling around connection and bearing areas,
- In repairs requiring early and high strength at concrete-to-steel joints,
- In concrete repair and strengthening works,
- In turbine, generator, and heavy machinery installations,
- Used in bridge bearings and connections.

Surface Preparation

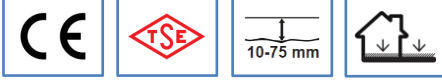
- The application surface must be sound, clean, and structurally stable; any loose particles must be removed.
- The surface must be free from substances that may prevent adhesion, such as oil, dust, dirt, paint, and cement laitance.
- If applied onto old concrete, the surface should be pre-wetted prior to application and any standing water must be removed.
- If applied to a machine foundation, loose and deteriorated areas must be cleaned, and the surfaces to receive the grout should be roughened.
- If the application is to be carried out by casting into formwork, the formwork must be clean, firmly fixed, and watertight.
- Concrete surfaces must be saturated with water prior to application; however, no free-standing water should remain on the surface.
- Metal surfaces must be cleaned of rust and oxidation.

Application

25 kg of Hammerfast GM-500 should be mixed with approximately 3.5–4.0 liters of water. Hammerfast GM-500 must be added to clean water and mixed for 3–5 minutes using a low-speed mixer (400–600 rpm) until a homogeneous, lump-free consistency is achieved. After allowing the mixture to rest for approximately 4 minutes, it should be remixed for 30 seconds, after which the material is ready for use. The prepared mix should be poured immediately at the application area. The exposed surface area of the mortar should be kept as small as possible. It must be ensured that all entrapped air bubbles within the mortar are completely released; otherwise, entrained air may prevent full contact between the grout and the substrate.

If the prepared mortar is to be poured into formwork, it should be poured continuously from one side of the form to prevent air entrapment. In formwork applications, pouring from both sides should be avoided to prevent air pockets and trapped air bubbles. To ensure complete filling of all voids within the form, placement should be assisted using a long steel rod or wire; vibrators must not be used. The mortar should not be removed from the form earlier than 18–24 hours after application. If the application surface is large and directly exposed to atmospheric conditions, suitable curing compounds should be used to prevent rapid moisture loss.

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The application thickness should be 10–75 mm per layer. Applications thicker than 75 mm can be carried out in 2 or 3 layers, or aggregates may be added to the grout mortar to allow single-layer placement.

For single-layer thicker pours, the following aggregates may be added to Hammerfast GM-500:

- Up to 100 mm thickness: 5–10 mm fine aggregate
- Up to 150 mm thickness: 5–15 mm fine aggregate

The aggregates to be used must be clean and washed, and the amount of aggregate added should not exceed 50% of the weight of Hammerfast GM-500. The addition of aggregate may reduce flowability and, due to the lower cement content, may cause a decrease in strength of approximately 20–40%, depending on the amount of aggregate added.

Consumption

Approximately 19 kg/m² (for a thickness of 10 mm).

Important Notes

- Not suitable for surfaces exposed to continuous water immersion or ponding conditions.
- Application should be carried out at temperatures between +5 °C and +30 °C.
- Do not add any additives not specified in the application instructions.
- Mixing water temperature should be between 20–25 °C.
- Do not apply under direct sunlight, strong wind, or on hot surfaces.
- Excess water added to the mixture will reduce strength.
- Do not apply on frozen surfaces, surfaces at risk of frost within 24 hours, or on surfaces where ice is melting.
- Only prepare as much material as can be used within the working time.
- Large surfaces exposed to outdoor conditions should be protected from sunlight and wind with Hammerfast AK-100 or covered with wet burlap for 48 hours.
- Equipment operating under vibration must not be put into service until the grout has set (at least 10–12 hours at +20 °C).

Technical Properties

Content	It contains mineral fillers, polymers, and special cement.
Color and appearance	Gray colored powder
Workability time	30 minutes
Mixing ratio	3,0-4,0 L water/25 kg powder
Application thickness	min. 10 mm, max. 75 mm
Pot life	35-45 minutes
Waiting time between layers	3 hours
Walkability time	24 hours
Full curing time	28 days
Service temperature	-20 °C / +400 °C
Application ambient and substrate temperature	+ 5 °C / +30 °C
Compressive strength	1 day= > 30 N/mm ² 7 days= > 50 N/mm ² 28 days= > 60 N/mm ²
Flexural strength	28 days= > 8 N/mm ² (EN 12190)
Bond strength (to concrete and steel)	>2 N/mm ² (EN 1542)
Modulus of elasticity	> 20000 N/mm ² (EN 13412)
Bulk density (powder)	1,60-1,65 kg/lit
Bulk density (wet)	2,20-2,30 kg/lit
Restrained shrinkage–expansion	≥ 2,0 N/mm ²
Capillary water absorption	< 0.5 (kg/m ² .h ^{0,5}) (EN 13057)
Chloride ion content	≤ 0,05%
Expansion ratio (before setting)	% 0,30 - % 0,50

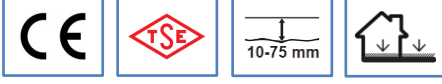
Note: The stated values are valid at a temperature of 23 ± 2 °C and a relative humidity of 50 ± 5%.

Storage and Shelf Life

When stored in original, unopened packaging in dry, moisture-free areas protected from direct sunlight at +10°C to +35°C, the shelf life is 12 months from the production date.

The lid must be tightly closed when not in use. Pallets must not be stacked..

GM-500



Cement-based grout mortar

Packaging

Supplied in 25 kg kraft bags.
(1 Pallet = 60 bags = 1500 kg / Pallet size 80×120 cm, h = 100 cm)

Cleaning of Tools

All tools used should be cleaned immediately after application with warm water.

Safety Precautions

- Keep out of reach of children.
- Do not eat or swallow.
- Keep away from foodstuffs.
- Do not inhale directly or allow contact with skin.
- May cause allergic reactions.
- In case of eye contact, rinse thoroughly with plenty of water and consult a doctor.
- Use gloves, goggles, and protective clothing during application.
- Wash hands thoroughly with water after application.
- For detailed safety information, read the Material Safety Data Sheet (MSDS).

Quality certificates

- TSE
- CE
- ISO 9001
- ISO 14001

