

byk®



BYK 5014 GROUT

High Strength Grout Mortar

BYK 5014 GROUT is a cement-based, high-strength, non-shrinkage, self-compacting grout mortar.

In compliance with EN 1504-3 /R4

FIELDS OF APPLICATION

- In the manufacture of curtain and column headings,
- In the assembly of prefabricated concrete building elements,
- In power plants, In fixing steel columns to the foundation,
- Fixing all kinds of industrial machines, generators, compressors and pumps,
- Reinforced concrete and steel wrapping is used to fill the gaps left in a controlled manner in reinforcement applications.

ADVANTAGES

- It can only be mixed with water, poured into the mold and applied easily.
- Provides high adherence to concrete and reinforcement, It has high pressure resistance, Resistant to Freeze-Thaw cycle,
- It shows high fluidity, Does not vomit water, Expands in plastic and early hardening stages,
- Weather conditions do not change its physical properties during the service period,
- It is water impermeable, resistant to chlorine, sulfate attacks and oils, It does not cause shrinkage.

TECHNICAL FEATURES

Material Structure	Special cement with mineral fillers and polymer reinforcement	
Density	2,25±0,05 kg/lt	
Color	Gri	
Compression Strength	1 day	40 N/mm ²
	7 day	60 N/mm ²
	28 day	70 N/mm ²
Flexural Strength	28 day	14 N/mm ²
	28 day	3 N/mm ²
Adhesion Strength	28 day	3 N/mm ²
Elasticity Modulus	28 day	20 N/mm ²
Limited Shrinkage/Expansion	R4≥2,0 MPa	
Application Thickness	10 mm-80 mm	
Application Surface Temperature	+5°C / +35°C	
Service Temperature	-30°C / +80°C	
Using Time	30 min	
Walkable Time	24 hour	
Fully Curing Time	28 day	

The values above are given for +23°C and 50% relative humidity. While higher temperatures shorten the period, lower temperatures extend it

APPLICATION PROCEDURE

Preparation of Machinery and Foundation

Before placing the machine, loose and damaged areas in the concrete should be cleaned and damaged areas should be repaired. Surfaces where grout will be applied must be roughened. Any foreign matter that may affect performance, such as oil, grease and dust on the bolt and base surface, must be cleaned. Air discharge holes must be drilled in the base plate beforehand. The machine should be placed, its position and scale should be adjusted, and its position should not be changed after that. If the adjustment wedges (shims) will be removed later, they should be lightly oiled to prevent the grout from sticking. After placing and adjusting the machine, the foundation concrete must be saturated with water 6 hours before grout pouring.

Preparation of Molds

Molds should be made of solid material that will not absorb or leak the water of the grout mortar, and should be mounted to withstand the forces it will encounter during the process. On the side where the grout mortar will be poured, a casting gap of about 5 cm should be left between the edge of the base plate and the mold. In order to give the grout mortar the pressure that will enable it to spread, the mold height should be considered on the casting side depending on the situation. In order to fill the bottom of very large sized plates, it may be necessary to take precautions such as creating a pressure height of up to 1.5 m or using equipment such as pumps and pipes, pouring the first batch with mortar containing 5% more water than normal and making the surface of the foundation concrete slippery. The edges of the molds must remain free of gaps to prevent leakage and pressure loss.

Mixing

The appropriate amount of water described on the packaging is poured into a clean mixing bowl. While BYK 5014 GROUT is slowly added into the water, it is mixed with a 400-600 speed electric mixer and a suitable mixing tip for approximately 3-4 minutes until it becomes homogeneous. There should be no lumps left in the material. After the material is left to rest for 3 minutes, it is mixed again for 1 minute to make it ready for application.

Mixing Rates

For 25 kg bag of BYK 5014 GROUT approximately 4,25-4,75 lt of water should be used.



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Package

25 kg Kraft Bag

Consumption

In order to obtain 1 mm thickness, 1,5 kg – 2kg/m² powder material must be used.

Application

If there are other machines operating around the machine to be filled with foundation, the vibration on the surface of a container of water placed on the base plate should be observed to determine to what extent the vibrations from the environment are transmitted. If necessary, operating machines should not be operated at +20°C for at least 10 - 12 hours until the grout mortar sets. The prepared grout mortar should be poured onto the surface continuously from only one side of the mold, with a minimum thickness of 10 mm in a single layer. In large areas, 8 cm thickness should not be exceeded and single piece casting should not be done. Depending on the grout casting details, thicker applications can be performed in 2 or 3 layers. Or aggregate can be added to the grout mortar for single layer casting. The aggregate to be used should be selected as crushed stone number 1 with a diameter of 5-16 mm and should be washed clean before application. Two-sided casting should be avoided to avoid air trapping in the mold. To ensure that all cavities inside the mold are filled, placement should be done using a steel drum with a hooked end, and a vibrator should not be used. After application, the molds should not be removed before 18-24 hours. Large surfaces open to the atmosphere, especially hot, dry and windy environments, should be protected against rapid evaporation with a cloth, water or curing agents for 24-48 hours. If you want to break the exposed edges, they can be broken after setting has started and the mortar and mold have hardened. Adjustment wedges should not be taken before 2 days. After the machine is put into operation, the looseness of the nuts and bolts should be checked and tightened if necessary.

Cleaning of the Tools

After application, the tools and equipment used should be cleaned with water. **BYK 5014 GROUT** can only be cleaned from the surface mechanically after hardening.

Watch Points

- **BYK 5014 GROUT** should be applied within 45 minutes at +20°C.
- For outdoor applications, it should be protected from sun, rain, wind and frost for the first 24 hours.
- Working and reaction times of cement-based repair mortars are affected by air temperature, humidity and ground temperatures. High temperatures accelerate hydration and the working time is accordingly shortened. Low temperatures slow down hydration, which increases operating time. In order for the material to complete its cure, the applied ground temperature and ambient temperature must not fall below the minimum allowed temperature.
- It should not be used in contact with plasters whose pH value is lower than 5.5.
- A vibrator should never be used while placing the material.
- For applications at low temperatures (between +5°C and +10°C), **BYK 5014 GROUT** should be stored in warm places.
- Mixing water should be heated between +30°C and +50°C and used. Areas to be filled with **BYK 5014 GROUT** should be covered and protected from cold before application.
- For applications at high temperatures (between +25°C and +30°C), **BYK 5014 GROUT** should be stored in cold places. Mixing water should be made using cold or even ice.



Shelf Life

Shelf life is 12 months from the date of production when stored properly at +5 oC to +30 oC at room temperature, away from direct sunlight. Opened packages should be consumed within 1 week by closing the mouths.

Storage

The product should be stored in its original package, in a cool and dry place protected from frost. For short term storage, maximum 2 palletes should be placed on top of each other and the shipment should be made on a 'first come, first go' basis. Palletes should not be placed on top of each other during long term storage.

Health and Safety Precautions

It is dangerous to approach the application sites with fire. Fresh air should be circulated in the storage and the application sites. During the application, a protective apparel, protective gloves, goggles and masks which comply with the Occupational Health and Safety Rules should be used. Due to the irritation effect of the uncured materials, the mixture should not come into contact with skin and eyes; in case of a contact, the affected area should be washed with plenty of water and soap; in case of swallowing, a physician should be consulted immediately. No food or beverages should be brought to the application area. The product should be stored and kept out of reach of children.

Disclaimer

The technical information given in this publication is based on the present state of our best scientific and practical knowledge. **BYK Binyapi Co.** is only responsible for the quality of the product. **BYK Binyapi Co.** is not responsible for results that may occur because the product is used other than advised and/or out of instructions regarding the place and the method of use. This technical form is valid only till a new version is implemented and nullifies the old ones.