

# CIKO FloGrout



**(PREVIOUSLY KNOWN AS CIKOGROUT HIFO)**

**Flowable, Non-shrink, high strength cement-based grout**

## Description

CIKO FloGrout is a factory blended multi-purpose high flow, non-shrink, cement-based grout suitable for interior and exterior uses for filling gaps between similar or dissimilar substrates. CIKO FloGrout is suitable for anchoring pre-cast columns, base plates, fence posts, etc.

CIKO FloGrout is a balanced blend of selected cement type, several grades of selected aggregate, flow enhancing and shrinkage compensating additives resulting in a free-flow, high strength grout.

## Properties & Advantages

- Single component system, easy to mix and use at site
- Controlled expansion in both plastic and hardened stage.
- High early and final strength.
- Low water permeability.
- Chloride free and not harmful to be in contact with steel.
- Free of metal expansion agents
- Frost and salt resistant.
- High flow, pourable and pumpable depending on hydraulic pump type.

## Application area & Uses

CIKO FloGrout can be used for the grouting of several areas such as, but not limited to:

- Machinery base plate.
- Anchoring.
- Bridge bearing.
- Concrete structures.
- Storage rack base.
- Pre-cast concrete parts.
- Rails grouting.
- Industrial plants.

## Applicable standards

- CIKO FloGrout complies with the minimum performance requirements of ASTM C1107 grade B & C.
- Complies with Qatar Construction Specifications QCS.



## Coverage / Yield

A 25 kg bag of CIKO FloGrout mixed with 3.25-3.75 litres of water yields 12.0 up to 12.5 litres of fresh grout.

## Packaging

CIKO FloGrout is available in 25 kg bags.

## Storage

Store CIKO FloGrout in its unopened original packaging under enclosed shaded areas away from direct sunlight, rain or moisture.

## Shelf life

CIKO FloGrout has a shelf life of 12 months if stored in accordance with CIKO's recommendations.

## Physical properties

Form	Powder	
Colour	Cement grey (standard)	
W/P	0.13 - 0.15	
Fresh Density	≈2.35 ± 0.05kg/m <sup>3</sup>	
Maximum Aggregate size	3 mm	
Flow Proprietary ASTM C1437 (W/P=0.15)	≥145%	
Early height changes of grout ASTM C940	0 to 3 %	
Height change of hardened cylinder grout ASTM C1090	0 to 0.2% (at 1,3,7,28 days)	
Compressive strength ASTM C109 @ (W/P=0.13)	1 day	≥30 N/mm <sup>2</sup>
	3 days	≥40 N/mm <sup>2</sup>
	7 days	≥60 N/mm <sup>2</sup>
	28 days	≥70 N/mm <sup>2</sup>
Flexural strength ASTM C348 @ (W/P=0.13)	3 days	≥8 N/mm <sup>2</sup>
	7 days	≥10 N/mm <sup>2</sup>
	28 days	≥14 N/mm <sup>2</sup>
Application Thickness*	10 to 120mm	

\*Note: higher thickness may be achieved by adding 10mm aggregate with a ratio up to 40% by weight to the bag. Consult CIKO technical service department for further support.

## Application instructions

### Surface preparation

Clean the concrete surface to remove loose and unsound material by means of water blasting or any suitable means to attain a sound concrete surface. The acceptable surface should be sound and rough, free from traces of oil, grease, curing compounds, fair facing materials or any type of contaminations.

### Formwork

Watertight formwork should be made around grouting area to the required height. It is recommended to restrict width of the shoulders around base plate to maximum 50mm from the face of the base plate to avoid generation of expansion cracks under un-restrained conditions. Use any gun grade sealant from CIKO wide range of CIKOjoint products at least 12 or 18 hours to seal gaps between formwork and concrete face to ensure a watertight formwork.

### Soaking/priming

Prior to grouting, fill the formwork with water and allow soaking of concrete surface for approximately 6 hours. Just before grouting, drain water completely from the formwork, anchor bolt pockets etc. by mechanical means or using sponge so that the surface should be free from standing water.

Alternatively, and in purpose of increasing the bond strength, it is applicable to prime the concrete substrate with one of the bonding agents among CIKOBond wide range of products. Consult CIKO Technical Department for further advise and support.

### Mixing

CIKO FloGrout is a ready to use material requiring only addition of 3.25 up to 3.75 litres of water for mixing a 25 kg bag. Measure the required amount of water for each batch and dispense into concrete mixer or mixing vessel. Dispense gradually CIKO FloGrout powder into concrete mixer whilst the mixer is in the running mode. Mix the grout for 4 to 5 minutes to achieve a homogenous and lump free grout.

Note: Chilled water must be used to attain optimum results, the recommended temperature of grout shall be within 7°C and 35°C. Higher temperatures increase the amount of mixing water needed for a given fluidity, limits the working time and reduce the ultimate strength. Lower temperatures might induce bleeding, delays setting time and impede early development of strength however it permits reducing the mixing water content to its minimum for a given fluidity thus increase ultimate final strength.

### Placing

Pouring the mixed grout shall be initiated as early as possible post mixing to gain full properties of the expansive grout. Pour the fresh grout from one side or corner of the base plate to avoid air voids. Maintain a minimum of 15cm pouring head to achieve maximum flow property of grout. In case of machinery installation, anchor bolt pockets shall be grouted prior to base plate grouting.

### Curing & Protection

The exposed area of grout shall be cured as per standard water curing practices for at least 3 days up to 7 days.

The use of a curing agent among CIKOcure wide range of product is recommended over vertical surfaces post removal of shutters or/and over the exposed surface when subjected to harsh ambient conditions.

### **Precautions**

- Ambient temperature shall be between 5<sup>o</sup>-40<sup>o</sup>C.
- The temperature of both the grout and elements encountering the grout should be in the range of 7°C to 35°C.
- Do not overwork and avoid using mechanical vibration.
- Do not re-temper CIKO FloGrout with water after mixing.

### **Health & safety**

Use standard dust mask to avoid inhalation of dust. Powder when wet or moist can cause burns to skin and eyes which should be protected during use. If encounters skin/eyes, flush with plenty of fresh water and seek medical advice.

Refer Material Safety Data Sheet for further details.

### **Technical Support**

*For any technical support, do not hesitate to contact CIKO team at any time as CIKO offers on and off-site services to end users, specifier and contractors.*

### **More from CIKO Middle East**

*A wide range of construction chemical products are manufactured by CIKO Middle East which includes:*

- Concrete admixtures and additives
- Waterproofing and damp-proof coatings
- Surface treatments
- Flooring and toppings
- Grouts and anchors
- Tile adhesives and grout
- Adhesives and bonding agent
- Concrete repair materials
- Protective coating
- Joint Sealants
- Moulding compounds

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Note: The information presented herein is based on the best of our knowledge and expertise for which every effort is made to ensure its reliability. Although all the products are subjected to rigid quality tests and are guaranteed against defective materials and manufacture, no specific guarantee can be extended because results depend not only on quality but also on other factors beyond our control



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