

# CIKOgrout UW

## Anti-Washable Non Shrink Cementitious Grout for Under Water application

### Description

CIKOgrout UW is one component cementitious grout with high resistant to cement washout specifically designed to be placed in tidal zone or under water. To serve this purpose, CIKOgrout UW has a high flowability in both pourable and pumpable application.

CIKOgrout UW is available in two versions:

- CIKOgrout UW-60: for compressive strength exceeding 60MPa
- CIKOgrout UW-30: for compressive strength exceeding 30MPa

### Properties

- Single component system and only addition of water required at site.
- Controlled expansion in plastic and in early hardened stage.
- Non Shrinkage Characteristics.
- No cement washout when placed underwater.
- Chloride free and will not rust or harm metal on contact.
- Free Flowing.
- Pumpable.

### Application area

CIKOgrout UW can be used for the grouting of,

- Under Water Grouting
- Offshore grouting at rigs
- Grouting of dams
- Anchoring.
- Turbine base.
- Bridge bearing.
- Potable water equipment.
- Concrete structures.
- Storage rack base.
- Pre-cast concrete parts.
- Rails grouting.
- Industrial plants.

### Applicable standards

- CIKOgrout UW meets and exceed the requirements of ASTM C1107

### Physical properties

Version	CIKOgrout UW-60	CIKOgrout UW-30
Form	Powder	
Colour	Cement grey (standard)	
W/P	0.25 to 0.275	
Flowability (Channel)	65 cm – Initial 55 cm – 30 minutes	
Expansion	Unrestrained <4% Restrained <0.3%	
Wet/fresh Density	≈2150±50 kg/m <sup>3</sup>	
Final Setting ASTM C953	6-8 hrs	
Compressive strength ASTM C109	3 days ≥25 N/mm <sup>2</sup> 7 days ≥45 N/mm <sup>2</sup> 28 days ≥60 N/mm <sup>2</sup>	1 day ≥10 N/mm <sup>2</sup> 3 days ≥20 N/mm <sup>2</sup> 7 days ≥30 N/mm <sup>2</sup> 28 days ≥35 N/mm <sup>2</sup>

### Coverage / Yield

20 kg bag of CIKOgrout UW yield as follow:

Version	CIKOgrout UW-60	CIKOgrout UW-30
W/P	0.25 to 0.275	
Yield in liters	≈11.5 liters	

### 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 free from traces of oil, grease, curing compounds or any other contaminations.

#### Formwork

Watertight formwork should be made around grouting area. CIKOgrout UW made to mortar consistency can be used to seal gaps between formwork and concrete face to made formwork watertight or otherwise by using foam rubber strip or sealants around the formwork and between joints.

### Soaking (Dry condition)

Prior to grouting, fill water inside the formwork and soak the concrete surface for approximately 6 hours. Just before grouting, remove 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.

### Mixing

CIKOgrout UW is a ready to use material requiring only addition of 11.5 litres of water for mixing. Measure required amount water for each batch mix and dispense into concrete mixer. Slowly add CIKOgrout UW powder into concrete mixer keeping the mixer in running mode. Mix the grout for 5 minutes to get a homogenous and lump free grout.

It is essential that mixing capacity and labour availability is adequate to enable a continuous grouting operation. This may require the use of a holding tank with provision for gentle agitation to maintain fluidity.

Note: Chilled water must be used to attain optimum results.

### Placing

Place the grout within 20 minutes of mixing to gain the full benefit of the expansion process. Continuous grout flow is essential. The mixed grout should be poured or pumped through 50mm flexible tube to the lowest point in the form. Care must be taken at the start of the grouting operation to restrict the grout flow so that water is not entrapped. The tube should be raised simultaneously to the grouting to reduce any back pressure however it should not be raised above the surface level of the grout.

### Application thickness

CIKOgrout UW when placed under water is permitted up to 500mm.

For greater thickness due to heat sink effect is preferable to be filled with clean rounded well graded aggregates added and should not exceed 1 part aggregates to 1 part of CIKOgrout UW by weight. For such mixes a concrete mixer should be used.

### Curing

Curing is not needed for fully submerged conditions. However when cast above water the exposed area of grout shall be cured as per standard curing practices. CIKO curing compounds to be used in overhead and vertical application as well as exposed areas

### Precautions

- Application temperature must be between 5<sup>o</sup> C - 35<sup>o</sup> C.
- Do not re-temper grout after initial mix.
- Avoid application in strong wind
- Not to be applied as patching mortar or in unconfined areas.

### Packaging

CIKOgrout UW is available in 25kg moisture resistant bags and 1 ton jumbo bags.

### Shelf life

CIKOgrout UW has a shelf life of 12 months if stored in accordance with CIKO instructions.

### Storage

CIKOgrout UW should be stored under enclosed shaded area.

### 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 comes in contact with 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.*

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*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
- Concrete repair materials
- Adhesives and bonding agent
- Protective coating
- Joint Sealants and Moulding compounds
- Ancillaries

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