

Anti-Washout Shrinkage Compensating Underwater Grout

DESCRIPTION

TIKIGROUT UW-CEM a ready to use single component free flow cementitious grout for underwater applications. Only addition of water is required at site while maintaining prescribed water to powder ratio.

TIKIGROUT UW-CEM is non-shrink and anti-washout grout ideally suitable for pumping while grouting during repair of submerged structures.

Owing to its anti-washout property, **TIKIGROUT UW-CEM** is highly suitable for application in tidal zone areas, where conventional grout gets washed out under gushing water waves.

TIKIGROUT UW-CEM is also suitable for application in non-submerged condition.

ADVANTAGES

- Retains its bond with the substrate under submerged conditions.
- Good resistant to corrosive salts and seawater.
- High early and ultimate strength.
- Non-shrink and Anti-washout.
- Non-metallic and chloride free, hence non-corrosive.
- Displaces water effectively.
- Positive controlled expansion compensates for plastic shrinkage and settlement.

USES

- Pile repair and restoration.
- Grouting areas subjected to seawater exposure
- Jetties, Piers and other water immersed structures.
- Bridge columns and slipways.
- Repair of dams and other submerged structures.

PROPERTIES*

Property @ 28°C	Value
Compressive Strength	
1 Day	≥14 mPa
3 Days	≥30 mPa
7 Days	≥44 mPa
28 Days	≥54 mPa
Initial Setting Time	≈4 Hours
Final Setting Time	≈5 Hours
Water/Powder Ratio	0.22 (6.6 litres of water is required for 30 Kg. of Grout Powder)

*The data shown above reflects typical results based on laboratory testing under controlled conditions. Reasonable variations from the data shown may result from field trials.

PLACEMENT GUIDELINES

SURFACE PREPARATION

All surfaces in contact with **TIKIGROUT UW-CEM** should be free of marine growth, oil, grease, laitance and other contaminants.

Concrete must be clean, sound and roughened to ensure a good bond. For applications where surfaces are not underwater, pre-soak surfaces with clean water for 2 to 24 hours prior to application of grout.

Shuttering should be leak-proof.

MIXING

Always add measured quantity of mixing water first to the mixer followed by gradual addition and mixing of grout powder to a homogeneous consistency.

Mix thoroughly for approximately four to five minutes to a uniform consistency using a grout / mortar mixer (stationary barrel with moving blades). Mixing using a drill and paddle mixer is also acceptable for single bag mixes.

Do not re-temper the mix by adding additional water or exceed the recommended water to powder ratio, otherwise it may result in segregation of mix.

Working time of mixed grout is approximately 30 minutes at 25°C.

METHODS OF PLACEMENT

The prepared grout mix can be poured or pumped in to place through a flexible tube or pipe of minimum 50mm diameter. Use the mixed grout within 20 minutes of mixing. Ensure that the grouting operation is carried out continuously for better performance.

TIKIGROUT UW-CEM can be placed in 25mm to 150mm thickness when placed underwater and up to 75mm when placed above water. For placement in higher thicknesses than that recommended, addition of rounded well graded aggregate (2mm to 20mm grading) @ 50% to 100% by weight of grout powder is recommended. Use of concrete mixer is recommended to prepare the grout mix when it is extended with rounded aggregate.

POST-PLACEMENT CURING

The hardened grout should be kept continuously wet for at least three days in tidal zone areas or in areas that are not under water.

LIMITATION

Never use grout as a patch repair material or as overlay in unconfined areas (horizontal, un-restrained applications).

The optimum atmospheric temperature during use of **TIKIGROUT UW-CEM** is generally between 15°C to 30 °C.

When low ambient temperature conditions below 10°C is present, normal precautions for low temperature working with cementitious materials should be followed.

At ambient temperatures above 35°C, the mixed grout should be stored under the shed away from influence of high temperature and cold water (generally below 20°C) should be used for mixing the grout.

YIELD

30 Kg. pack of **TIKIGROUT UW-CEM** when mixed with water at water/powder ratio of 0.22, would yield 17.40 litres. Allowance should be made for wastage while estimating the quantities required.

CLEANING

The tools and equipment use for mixing and placing the grout should be immediately cleaned with clean water. Cured material can be removed mechanically or by using acid-etching process.

SUPPLY

TIKIGROUT UW-CEM is supplied in 30 Kg., pack size.

STORAGE

TIKIGROUT UW-CEM must be stored above 5°C. Store under the shed & protect from extremes of temperature, heat, direct sunlight. The shelf life is 6 months in sealed unopened packing.

SAFETY PRECAUTIONS

As with all chemical products, care should be taken during use and storage. This product becomes alkaline when mixed with water, avoid contact with skin, eyes, mouth and food. For further detail, refer to Material Safety Data Sheet.

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