

StrongGrout UW

Non-Shrink, High Performance Cementitious Grout for Under Water Applications

Description

StrongGrout UW is supplied as a ready to use powder. The addition of a controlled amount of clean water produces a free flowing grout. The grout exhibits exceptional resistance to 'washing-out' of the cement phase when placed in stationary or moving water.

StrongGrout UW is a blend of cement, graded fine aggregate and chemical additives which impart controlled expansion, water reduction and anti 'wash-out' additive. The aggregate grading minimises segregation and bleeding whilst assisting the flow characteristics.

Uses

StrongGrout UW is used for free flow or pumped grouting applications of underwater or in tidal zones. There will be no significant 'wash-out' of the cement phase. Applications include bridge columns, quay pillars, concrete piling, slipways and dams.

Advantages

- No risk of significant 'wash-out' of cement phase when placed underwater
- Displaces water effectively when placing
- Shrinkage compensation
- High early and ultimate strength and exceptional resistance to freeze-thaw cycling ensures durability of the hardened grout
- Chloride free
- Pre-packaged needing only on-site addition of water

Standards Compliance

- ASTM C-109
- ASTM C-348
- ASTM C-940



Physical Properties

Water-powder ratio at 0.16 (28°C)

Test Method	Typical Result
Compressive Strength ASTM C109	> 38 N/mm ² @ 1 day > 60 N/mm ² @ 7 days > 70 N/mm ² @ 28 days
Flexural strength ASTM C348	> 8 N/mm ² @ 28 days
Water requirement	4.0 liter per 25 kg
Expansion ASTM C940	0.3 – 2.0 %
Setting Time(28°C) ASTM C403	5 – 6 hours (initial) 6 - 7 hours (final)
Fresh wet density	2,200 ± 0.05 kg/m³
Rapid Chloride Permeability (Coloumbs)	1.2 mm/ mm

Application Instructions

Preparation

The substrate surface must be free from oil, grease or any loosely adherent material. If the concrete surface is defective or has laitance, it must be cut to a sound base. Substrates which are permanently immersed should be sand-blasted or cleaned with a high pressure water jet. Non-immersed or intermittently immersed substrates can be prepared using these techniques. Alternatively scabbling or bush hammering may be appropriate.

Formwork

The formwork should be constructed to be leakproof from slurry, as **StrongGrout UW** is a free flowing grout, using foam rubber strip or mastic sealant beneath the formwork and between joints. Coat all formwork with to enable easy formwork release.

Mixing

For best results a mechanically powered grout mixer should be used. It is essential that machine mixing capacity and labour availability is adequate to enable the grouting operation to be carried out continuously. This may require the use of a holding tank with provision for gentle agitation to maintain fluidity.

Measure 4.00 – 4.50 litres of water for each 25 kg bag into the mixer. Slowly add the **StrongGrout UW** whilst mixing continuously. When all the powder is added mix continuously for 2 minutes ensuring a smooth even consistency is obtained.

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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 a flexible tremie tube to the lowest point in the formwork. Care must be taken at the start of the grouting operation to restrict the grout flow so that water is not entrapped. The tube may be raised as necessary to reduce any back pressure. It should not be raised above the surface level of the grout.

For thick application > 100 mm, StrongGrout UW Premix is recommended.

Curing

Curing will not be required in intermittently or totally submerged situations. However, when cast above water, exposed areas should be thoroughly cured with curing membrane, continuous application of water and/or wet hessian.

Cleaning

Because of its water resisting properties, equipment used for **StrongGrout UW** will be difficult to clean. The use of hot water for cleaning purposes will assist. Cured material can be removed mechanically.

Packing

StrongGrout UW is packed in 25 kg bags.

Yield

StrongGrout UW

1 bag 25 kgs → yield : 13.5 litres

74 bags @ 25 kg → yield : 1 m³

(actual yields depending on water added)

Limitation

StrongGrout UW is not suitable to be used for unrestrained grouting.

Technical Support

Estrong provides technical support to specifiers, end-users and contractors, as well as on-site technical assistance.

Storage

StrongGrout UW should be stored on pallets in dry and shaded conditions where under such conditions, the product will have a shelf life of 12 months.

Safety Precaution

StrongGrout UW should not be in contact with sensitive skin and eyes. Avoid inhalation of dust during mixing. Wear gloves, goggles and dust mask.

Additional Information

Estrong is Indonesian company, manufactures and sells wide range of construction chemical products, such as grouts, anchors, repair mortars, waterstops, waterproofing product, concrete strengthening products and specialized flooring products.