

# VICAGROUT-UW36®

Edition 07025

Shrinkage compensated, Non-washable grout for underwater concrete repair and grouting

## Description

**VICAGROUT-UW36** is a shrinkage compensated, cementitious grout for underwater repair and grouting applications. The mix design includes silica quartz fillers, graded high purity sands and rheology adjusters. The mix contains no chlorides, ferrous metal or other deleterious materials. The product is pre-blended and ready for mixing on site to produce a non-shrink, flowable, non-washable grout that can be easily applied by pouring or by pumping. **VICAGROUT-UW36** may be applied on all types of substrates; concrete, bricks or stones.

## Advantages

- Non-washable, suitable for under water works.
- Shrinkage compensated for long term volume stability.
- Effectively displaces water.
- Has excellent flowability.
- Highly cohesive and does not segregate or bleed.
- Formulated for short and long term efficiency.
- Nontoxic, suitable for food industry and potable water.
- Can be applied by pouring or pumping.

## Uses

**VICAGROUT-UW36** can be used in most of the repair and under water grouting applications such as:

- In and around the sea structures.
- Water retaining structures.
- Bridge columns
- Sewage treatment plants.
- Shipping docks
- Foundations.
- Water tanks
- General under water concrete repair.

## Standards & Specifications at 24°C

<b>Color</b>	Grey (other colors are available upon request)
<b>Toxicity</b>	Non-toxic
<b>Water/Powder ratio</b>	0.15 - 0.17
<b>Maximum Particle size</b>	6 mm
<b>Setting time @ 24° C</b>	Initial 4 hrs. Final 6 hrs.
<b>Workable time @ 24° C</b>	40 min
<b>Dry density</b>	≈ 1.3 Kg/L
<b>Fresh density</b>	≈ 2.1 Kg/L
<b>Adhesion to concrete substrate BS EN 13813</b> <small>(Adhesion depends very much on proper surface preparation)</small>	> 1.0 N/mm <sup>2</sup>
<b>Flow according to BS EN 1015-3</b> (Without Jolting)	≥ 23 Cm at 0.16 water/powder ratio
<b>Flexural strength at 28d according to BS EN 196-1 (MPa)</b>	> 6 MPa
<b>Compressive strength according to BS EN 196-1 (MPa)</b> (4x4x16 prisms)	

Water/Powder ratio	Age			
	24 hours	7 days	14 days	28 days
0.16	≈15	≈30	≈35	≈40

## Package & Coverage

**VICAGROUT-UW36** is supplied in 25 Kg bags. (Other sizes maybe available upon request)

After mixing with 4L water, the 25 Kg bag yields about 13.8 liters of grout.

Allowance should be made for any possible wastage or surface unevenness when estimating.

## Application Instructions

### Surface preparation

- In order that maximum bond strength is achieved between the substrate and **VICAGROUT-UW36**, all substrates should be sound, clean, and free from laitance, dust, loose particles, grease, oil or any other foreigner matter. The substrate must be rough, porous and load bearing.
- **Permanent immersion applications:** High-pressure water jetting is recommended for substrate preparation.
- **Non-permanent immersion:** Acceptable techniques include high-pressure water jetting, sandblasting, or scabbling.
- **Metal surface requirements (iron/steel):** All surfaces must be thoroughly cleaned to remove scale, corrosion, oil, grease, and other contaminants prior to treatment.

### Mixing

- Pour about 3.75 – 4.25 liters of clean water into the mixing vessel for each complete 25 kg bag of **VICAGROUT-UW36**. Slowly add the **VICAGROUT-UW36** to the water whilst continually mixing for 3 - 5 minutes.
- For best results introduce half of the water then all the powder then the remaining water quantity.
- Mechanical mixing is essential using either a high torque slow speed drill with a Grout Stirrer or a grout mixer set on a slow speed. (High speed or colloidal mixing will cause thixotropy leading to loss of flow).
- Hand mixing is not recommended. Do not mix more grout than can be placed within 15 to 20 minutes.
- Do not add extra water or other ingredients.

### Application

- **Placement Method:** The material can be placed via pouring or pumping through a flexible delivery hose, ensuring it reaches the base of the formwork.
- **Flow Control:** Regulate grout discharge to prevent water entrapment during placement.
- **Hose Positioning:** The delivery hose may be gradually lifted to minimize back pressure but must remain submerged below the grout surface at all times.

### Layer Thickness Limitations

- **Above-water placement:** Maximum single-layer thickness of 100mm
- **Underwater placement:** Maximum single-layer thickness of 180mm
- **Exceeding recommended thickness:**  
Place in sequential layers, or incorporate smooth, rounded aggregate (5-10mm particle size) to mitigate thermal buildup. Maximum aggregate addition: 25kg per bag of **VICAGROUT-UW36**. (site lab testing is required)

### Curing

- Curing is will not be required in submerged conditions.
- In exposed conditions, immediately after placing the grout, all exposed areas should be covered with clean wet hessian and kept moist until grout surface is ready to be finished, or until final set.
- After final setting, continue the curing process with soaking, wet hessian or a curing compound for a minimum period of 3 days to activate the shrinkage compensation system. Curing is very important for the success of the task.

### Precautions

- Protect the **VICAGROUT-UW36** bags from direct sun rays or any other source of heat before use; this can lead to a very fast setting. Avoid working on hot substrates and avoid mixing with hot water, the temperature of both the grout and elements coming into contact with the grout should be in the range of +5°C to +35°C.
- Never exceed the stated water dose and temperature to avoid bleeding, segregation and further cracking.
- Never remix with water to retrieve its initial workability.
- For application types and thickness other than the stated, please refer to our technical office.

## Health and safety

**VICAGROUT-UW36** is alkaline when mixed with water and should not come into contact with skin or eyes. Avoid inhalation of dust during mixing and wear safety glasses, dust mask and gloves. If skin contact occurs, wash thoroughly with clean water. Should eye contact occur, rinse immediately with plenty of clean water and seek medical advice. Full health and safety data are given in Product Safety Data Sheet.

## Storage & shelf life

**VICAGROUT-UW36** should be stored in normal temperature and closed shaded dry area in undamaged original packing. It is recommended to be re-tested after 6 months from the production date if packed in paper bags and placed over shrink wrapped pallets and retested after 18 months if packed in plastic bags.

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