

**FORMULATORS, MANUFACTURERS AND CONSULTANTS OF
SPECIAL CONCRETE PRODUCTS**

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ROCKBOND UNDERWATER GROUT AND CONCRETE**DESCRIPTION:**

ROCKBOND UNDERWATER GROUT (RB UWG) powder is a premixed cementitious grout powder specially formulated for flowing underwater applications. The compound contains a blend of cement powders, high quality graded sands and a union of admixtures. The grout powder, when mixed with water, produces a material that is cohesive, mobile, self-compacting, flowing and displays excellent resistance to washout when brought into contact with water. ROCKBOND UNDERWATER CONCRETE (RB UWC) has similar properties to the grout, but the material contains a crushed rock aggregate and is applied to fill larger volume voids. The powders are packaged in 25kg moisture proof durable bags and have a shelf life of 5 years.

SPECIAL PROPERTIES:

- * Incorporates a blend of several anti-wash-out agents
- * Will not “fog”, disperse or breakdown when placed or poured underwater.
- * Extremely stable, will not segregate or bleed under pressure, and is readily pumpable.
- * Self smoothing, self levelling and self compacting.
- * Excellent underwater bond to stone, brick, masonry, concrete and steel.
- * High ultimate compressive, tensile and mechanical strengths.
- * Weatherproof, waterproof, impermeable and resistant to chemical attack.
- * Can be used above and below the waterline.
- * High yielding, economical, non flammable, non toxic, odour free, user friendly and safe to use.
- * Long lasting shelf life of 5 years or more when bags are stored in a cool, dry and dark place

USES:

- + General underwater void filling applications.
- + Marine and fresh water underwater concrete repair and protection.
- + For use in hostile locations such as tidal and splash zones.
- + For the repair of seawalls, harbours, quays and jetties, ramps and slipways.
- + Fortification and repair of river and sea defences.
- + Repair and consolidation of water retaining structures, dams, pillars and bridge columns.
- + Waterlogged foundations, anchorages, pilings, conduits, pipes and sewers.
- + In situations where a quick, early strength gain is required.

MIXING INSTRUCTIONS:

ROCKBOND UNDERWATER GROUT powder is mixed with water using a ROCKBOND CONCRETE STIRRER (RB CS), an electric power tool (1kW) and a ROCKBOND 25 LITRE MIXING CONTAINER (RB 25LMC). Use a ROCKBOND FORCED ACTION PAN MIXER (RB FAPM) to mix larger amounts of material.

Add 4.00 litres of water to the container or mixer.

Pour 25kg of powder onto the water while mixing.

For batches of 2 or more bags, repeat the procedure.

After all the powder has been added, mix for 30 seconds.

The grout is now ready for use.

ROCKBOND UNDERWATER GROUT (RB UWG) AND CONCRETE (RB UWC).

MIXING INSTRUCTIONS CONTINUED...

Alternatively, small amounts of the grout can be prepared by slowly adding the powder to a quantity of water in a suitable container and mixing and adding the water to give the appropriate consistency correct for the job in hand, not too stiff or too wet. Do not over water the mix. Mixing by hand is NOT recommended

ROCKBOND UNDERWATER CONCRETE powder is mixed with water at 12% water content: 3.00 litres of water/25kg bag.

APPLICATION PROCEDURE:

Tailor the grout to fit the job in hand: for an underwater accelerated grout with a good thick, cohesive high anti washout property, mix with water at a low water content, say at 12% water/powder ratio, equivalent to 3.0 litres of water per 25kg bag. For an underwater retarded fluid grout with a lower anti washout characteristic placed by tremie pipe, mix at a higher water content, say at 18% water/powder ratio, equivalent to 4.5 litres of water per 25kg bag.

All necessary preparatory work must be completed before the grout or concrete is mixed.

Ensure that all surfaces with which the material comes into contact with are clean and free of marine growth. The use of a water jet will produce a good and strong substrate on which to apply the material.

Use ROCKBOND UNDERWATER ACCELERATED MORTAR (RB UWAM) to seal shutters. Make sure joints are watertight and shutters are strong enough to contain and support the material. The grout or concrete can be pumped or tremied into place. Make sure the flow is continuous and that air is not introduced into the material.

Normally, for sections greater than 60mm, where there is a high degree of mechanical attack, impact, and abrasion, ROCKBOND UNDERWATER CONCRETE should be used.

Once the material is in place and has gained sufficient strength, any exposed grout or concrete above water must be cured with ROCKBOND CURE (RB C) at the rate of 10m²/litre. During adverse curing conditions, repeat the procedure.

TECHNICAL DATA:

ROCKBOND UNDERWATER GROUT (RB UWG)

TYPICAL DATA at 16% water/powder ratio at 20°C

CONSISTENCY: Mobile grout

CONSISTENCY LIFE: 30 minutes

DENSITY: 2100kg/m³

MINIMUM COMPRESSIVE STRENGTH:

1	7	28	Days
25	40	60	MPa

YIELD: 25kg of powder yields 12.75 litres of Underwater Grout
1m³ of Underwater Grout requires 1.950 tonnes of powder

ROCKBOND UNDERWATER GROUT (RB UWG) AND CONCRETE (RB UWC).

TECHNICAL DATA CONTINUED...

ROCKBOND UNDERWATER CONCRETE (RB UWC)

TYPICAL DATA at 12% water/powder ratio at 20°C

CONSISTENCY: Mobile concrete

CONSISTENCY LIFE: 30 minutes

DENSITY: 2200kg/m³

MINIMUM COMPRESSIVE STRENGTH:

1	7	28	Days
10	25	60	MPa

YIELD: 25kg of powder yields 11.50 litres of Underwater Concrete
1m³ of Underwater Concrete requires 2.175 tonnes of powder.

HEALTH, SAFETY AND STORAGE:

ROCKBOND UNDERWATER GROUT AND CONCRETE powders are non toxic and safe to use. However, use the same precautions as with any cementitious product: wear goggles, protective clothing and a dust mask while mixing and applying the material. Consult the relevant MSDS for further details. Store in a cool, dry, dark place.

FURTHER INFORMATION:

Should you require further information on this product, or details of other ROCKBOND SPECIAL CONCRETE PRODUCTS, then please do contact our Technical Department:

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<https://rockbond.co.uk/wp-content/uploads/2023/07/PL4511RockbondUnderwaterGroutUWGandConcreteUWCJun2023.pdf>

IMPORTANT NOTE:

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