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Water Cut-Off Grout

Pumpable Grout

Description

Water Cut-Off Grout is an unsanded blend of cement, silica fume (microsilica) and other carefully selected admixtures. It is designed to be a pumpable grout that resists washout by flowing water and behaves similar to a microfine cement.

Where to Use

- Any application where flowing water must be overcome.
- Pumped into rock fissures to stop water flow in mines and tunnels.
- Grouting earth tieback anchors into porous soil where water is flowing into drill holes.

Advantages

- Water Cut-Off Grout is pumpable, yet resists washout from flowing water.
- Extremely fine particle size allows grout to penetrate into soils and rock not penetrable by normal cementitious grouts.
- Evenly distributed particle size reduces bridging and plugging within the grouted mass yielding a higher quality grout and great void reduction at lower pumping pressures.
- Requires only the addition of potable water. It does not require the addition of caustic or difficult-to-handle mixtures.
- The bond between Water Cut-Off Grout and steel is greatly enhanced compared to ordinary grouts.
- Can be mixed to a wide range of consistencies and pumped using standard cementitious grouting equipment.

Procedures

- Mix Water Cut-Off Grout to as stiff as consistency as the pump can handle. This will range from between 9 and 11 litres of mix per 30 kg bag. Mix water should not exceed 11 litres per bag.
- Introduce water into a clean high shear mixer and then add Water Cut-Off Grout while operating the mixer at medium speed. Mix at high speed for at least 5 minutes.

- A very thorough high-speed mixer is necessary – an older style mortar mixer is not satisfactory for this.
- Decrease mixer speed to low, but ensure that mixing continues while pumping the grout.
- The grout has a pot life of 1 to 1.5 hours.

Technical Data

Compressive Strength (ASTM C109)

(Water Cut-Off vs. Earth Tieback Formulation)

1 day: 7 Mpa/1020 psi – 37 Mpa/5370 psi.

7 day: 14 Mpa/2030 psi – 70 Mpa/10,150 psi

Packaging

Water Cut-Off Grout is packaged in 30 kg, heavy-duty polyethylene-lined bags that yield approximately $2/3 \text{ ft}^3$ of hardened grout. Allow 5% wastage.

Safety Precautions

Water Cut-Off Grout contains Portland cement plus non-caustic, non-toxic microsilica and carefully selected additives. Normal safety wear such as dust mask and rubber gloves used. Refer to MSDS.