

# SOLHYDGROUT CABLE

High-performance, sand-free, non-shrink anchoring grout

SOLHYDGROUT CABLE is an expansive, sand-free cementitious grout specifically formulated for anchoring applications requiring a high-performance, pumpable, non-shrink grout.

## USES

SOLHYDGROUT CABLE is designed for anchoring grout applications requiring high early and ultimate strength, excellent pumpability at various consistencies depending on the selected injection method, controlled expansion for shrinkage compensation, and superior corrosion protection for embedded steel elements. It is formulated with CSA A3001-compliant Portland cement and carefully selected performance-enhancing admixtures.

### **TYPICAL USES:**

- Injection of anchor rods, bars, cables, or bolts used for ground support in soil and rock
- Grouting of CT-type or equivalent bolts in rock
- Filling of narrow and confined voids
- Structural grouting for standard piles or micropiles
- Ground anchoring for excavation support and soil stabilization
- Filling of tubular piles and post-grouting of micropiles
- Injection grouting for ground support in mining and tunneling applications

## PRODUCT FEATURES

- Rapid early-age strength development enabling faster load application
- Wide fluidity range for easy placement and excellent pumpability depending on the injection method
- Thixotropic properties at high consistencies to minimize grout loss in fractured ground
- Shrinkage-compensated formulation ensuring long-term dimensional stability
- Superior washout resistance for reliable performance under water ingress or in humid environments
- Very low bleeding, maintaining uniform consistency during setting
- Reduced permeability for enhanced protection of embedded anchors
- High resistance to sulfate attack

## SURFACE PREPARATION

All contact surfaces for SOLHYDGROUT CABLE must be completely free of oil, grease, laitance, and any other foreign materials.

## PRODUCT MIXING

- SOLHYDGROUT CABLE must be mixed vigorously using a high-shear mixer (such as a 2000 rpm drill-type mixer or equivalent) for 2 to 3 minutes, until a smooth and homogeneous grout is obtained. The mix should then be kept in gentle agitation (low speed) until placement.
- Recommended water content for pumpable consistencies:
   6.25 L to 9.0 L per 25 kg bag, depending on the required flowability and strength.
- For most anchoring applications, a water content of 8.25 L per bag is recommended.
- For a thicker (paste-like) consistency, suitable for bottom-up injection or CT-type anchor bolt grouting, a water content of 6.25 to 6.75 L per bag is recommended.
- Use only clean, potable water for mixing, along with a precise dosing system for all
  mixing operations.
- Add the water into the mixer first, then gradually incorporate the powder while mixing continuously.
- $\bullet$  Avoid over-mixing to prevent premature setting due to heat generation, and maintain the grout temperature between 15 °C and 30 °C.
- In cold weather, keep the grout at a minimum temperature of 21 °C prior to injection, by controlling the temperature of the mixing water and/or product bags

#### MATERIAL PHYSICAL PROPERTIES

| PROPERTIES ACHIEVED at a FRESH GROUT TEMPERATURE of 21°C (70°F) |                 |  |                    |                               |                    |                              |                    |
|---|-----------------|--|--------------------|-------------------------------|--------------------|------------------------------|--------------------|
| Consistency (pumpable)  |                 | Thick / Paste                            |                    | Flowable**                    |                    | Extra-flowable               |                    |
| Water content per bag   |                 | 6.25 L to 6.75 L<br>(1.65 - 1.78 US Gal) |                    | up to 8.25 L<br>(2.18 gal US) |                    | up to 9.0 L<br>(2.38 gal US) |                    |
| Flow – ASTM C939  |                 | N/A                                      |                    | 20 - 30 sec                   |                    | 10 - 20 sec                  |                    |
| ASTM C940   | Bleed – %       | 0%                                       |                    | 0%                            |                    | 0%                           |                    |
|   | Expansion – %   | 3-6%                                     |                    | 3-6%                          |                    | 3-6%                         |                    |
|   | Segregation – % | 0%                                       |                    | 0%                            |                    | 0%                           |                    |
| Curing temperature  |                 | 21°C (70°F)                              | 5°C (41°F)         | 21°C (70°F)                   | 5°C (41°F)         | 21°C (70°F)                  | 5°C (41°F)         |
| Setting time  |                 | 4 hours                                  | 12 hours           | 6 hours                       | 14 hours           | 8 hours                      | 18 hours           |
|   | 12 hours        | 15 MPa (2,175 psi)                       | -                  | 10 MPa (1 450 psi)            | -                  | 5 MPa ( 725 psi)             | -                  |
| Compressive<br>strength<br>ASTM C109*                           | 1 day           | 35 MPa (5,075 psi)                       | 10 MPa (1,450 psi) | 30 MPa (4,350 psi)            | 5 MPa ( 725 psi)   | 25 MPa (3,625 psi)           | -                  |
|   | 3 days          | 40 MPa (5,800 psi)                       | 35 MPa (5,075 psi) | 35 MPa (5,075 psi)            | 30 MPa (4,350 psi) | 30 MPa (4,350 psi)           | 25 MPa (3,625 psi) |
|   | 7 days          | 50 MPa (7,250 psi)                       | 45 MPa (6,525 psi) | 45 MPa (6,525 psi)            | 40 MPa (5,800 psi) | 40 MPa (5,800 psi)           | 35 MPa (5,075 psi) |
|   | 28 days         | 70 MPa (10,150 psi)                      | 60 MPa (8,700 psi) | 60 MPa (8,700 psi)            | 55 MPa (8,000 psi) | 50 MPa (7,250 psi)           | 45 MPa (6,525 psi) |

\*Compressive strengths obtained with cubes confined for a minimum of 12 hours and moist cured

\*\*Consistency recommended for most anchor grouting applications



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## PRODUCT APPLICATION

- When pumping, inject the grout immediately after mixing using suitable equipment such as a piston or screw-type pump, while keeping the grout continuously agitated or in motion.
- For a thick (paste-like) consistency, do not stop agitation for more than 15 minutes to prevent premature stiffening of the material.

# ESTIMATING / YIELD

A 25 kg (55 lb) bag of SOLHYDGROUT CABLE, mixed with 6.25 L to 9.0 L of mixing water, will yield approximately 14.75 L ( $0.52 ft^3$ ) to 17.50 L ( $0.63 ft^3$ ) of fresh grout.

Yield may vary depending on the water content and site conditions.

## CURING

All exposed surfaces must undergo moist curing for 24 hours.

## PRECAUTIONS / RESTRICTIONS

- High-shear mixing (min. 2000 rpm for 2–3 minutes) is required to achieve the targeted expansion.
- Clean tools and equipment with water before the grout hardens.
- Only add chemical admixtures or diluents approved or recommended by BMQ Solutions.
- Follow the water quantities specified in this document.
- Store materials in a dry location.
- Application temperature must be at least 4 °C (39 °F) and maintained for 24 hours after application.
- Apply best practices for grouting under cold or hot weather conditions, if applicable.
- Areas subject to severe vibration are not recommended.
- Water content, fresh grout temperature, and curing temperature significantly influence setting time and strength development.
- BMQ Solutions is not responsible for corrosion caused by impurities in wash, saturation, or mixing water, or by contaminants in the spaces to be grouted or from materials used in the application.
- To minimize washout, and where the injection method allows, BMQ Solutions recommends reducing the water content to 6.25 L per 25 kg bag.
- Always consult the Safety Data Sheet before use.

## PACKAGING

## **SOLHYDGROUT CABLE:**

Bags 25 kg (55 lbs)

Qty: 56 bags per pallet

Other packaging formats are available upon request; please contact your BMQ Solutions representative.

### RECOMMENDED TOOLS

The following tools will assure a cost effective, satisfactory installation:

- · Specialized injection grout mixer
- Electric drill with "Jiffy" type mixer
- · High-shear (colloidal) injection grout mixer
- Injection grout pump with agitator for high-volume applications
- ASTM C939 flow cone
- Mixing water measurement system

## CLEANING

Use water to clean all tools immediately after use.

## STORAGE

Store in cool dry heated area on skids avoiding all moisture. Can be kept in unopened bags for 12 months.

## SAFETY

See Material Safety Data Sheet.

Contains Portland cement and silica sand. May irritate eyes and skin. Avoid contact with eyes or prolonged contact with skin. In case of contact, flush thoroughly with water. Avoid breathing dust.