



SAINT-GOBAIN

duragrout® CG

**NON-SHRINK, HIGH STRENGTH,
CEMENTITIOUS CABLE GROUT**

DESCRIPTION

duragrout® CG is a ready-to-use, aggregate free grout, specially formulated for the grouting of pre-stressed and post-tensioned cables in concrete. The formulation is chloride free and designed for applications that require a fluid shrinkage compensating grout where clearances are tight.

USES

- In contact with highly stressed steel in cable ducts
- In restricted spaces between precast wall panels, voids and fine fissures, beams and columns
- Grouting of anchor bolts, rods and pipes where the annular space is too small for conventional aggregate containing grouts (clearances of 6 to 25 mm)
- Repairs to concrete, such as cracks and honeycombing, filling small voids, for under pinning, loose floor and road slabs
- Grouting cable anchor plates or other types of ground anchors where the grout will be in contact with highly stressed anchorages
- Grouting behind shafts and tunnel linings

ADVANTAGES

- Dustless, >80% dust reduction during handling/mixing
- High fluidity, shrinkage compensated and chloride free
- An aggregate free grout enables it to be pumped into areas inaccessible to conventional grouts or grouting methods
- Ease of placement by pump or pouring the grout that hardens without bleeding or settlement shrinkage

- Pumped and/or recirculated for relatively long period of time
- Develops high strength at fluid consistency that meets the compressive strength and non-shrink requirement of CRD-C611 and ASTM C1107
- Specially selected, hydraulic, cementitious formula that protects stressed tendons, bolts or bars from the risk of corrosion
- Ensuring maximum bond and protection against ingress of water

DESIGN CRITERIA

High performance, fluid, non-shrink cementitious grout for a minimum clearance to be grouted of 6 to 25 mm is required between elements, offering a <15 second flow for 1 litre of grout through a flow cone (CRDC 611). That provides a compressive strength > 65 MPa at 28 days.

The grout will be **duragrout® CG**, a pre-packed, single component, non-shrink, fluid cable grout applied in accordance with the recommendations of **a.b.e.®** including curing with **duracure PR** (Pliolite Resin) or **duracure WB** (Waxed Based) compound.

TYPICAL PROPERTIES

(@ 8.75 litres of water/25 kg bag)

CRDS 611 (flow cone) - seconds:	
grout flow at T3 min	25 sec
grout flow at T30 min	25 sec
1 litre grout flow at T3 min	13 sec
1 litre grout flow at T30 min	14 sec
Nominal Compressive Strengths - MPa @ 25 °C using 0.35% H₂O : Powder m/m (BS EN 445:2007)	
1 Day	10 MPa
3 Day	25 MPa
7 Day	41 MPa
28 Day	67 MPa
Grout expansion % (BS EN 445:2007):	
T1 hour	0.93%
T2 hours	1.40%
T3 hours	1.40%
Fresh wet density	1.94 g/cm ³
Theoretical yield at 8.75 litres water added/25 kg	17 litres/25 kg
All results are based on controlled laboratory conditions. Variations may be experienced based on site conditions, site trials may be conducted to establish the consistency required.	

SURFACE PREPARATION

All surfaces including cables and ducts must be clean, sound and free of oil, grease, corrosion, dirt and loose particles or coatings that may reduce the bonding properties of the grout or react unfavourably with the steel after stressing.

PUMP SITE TRIAL

Test the pump and grout lines with water to make sure they are capable of providing and withstanding the required pressure, and to see that all connections are drip-tight. Loss of water from slow or non-moving grout can result in a blocked line.

Plug, ball or gate valves should be provided at the pump outlet, at the inlet ends of vertical cable duct and at both ends of the horizontal ducts.

Also, a valved by-pass hose or pipe from the pump discharge line back to its hopper is strongly recommended. This is so that grout recirculation from pump to hopper can be maintained during connection changes and other pumping delays.

The inside diameter of pipe, hose and valves through which **duragrout® CG** is to be pumped should be designed to meet the requirement of the proposed pumping rate, height and distance. The grout line should be the same size or larger than the opening at the end of the duct.

Reductions at connections should be discouraged but, if made, should be made smoothly through tapered fittings without abrupt changes or sharp edges.

Avoid elbows and any line restrictions where grout is to be pumped through.

MIXING

Place approximately 7 litres of water in the grout mixer first, then, whilst mixing slowly add the grout and mix for 2 to 3 minutes. Add the balance of the mixing water, 1.75 litres, and mix approximately for 1 minute to obtain the correct consistency ensuring the grout is homogenous and free of lumps. Pour the grout into the pump hopper through a screen with 3 mm openings to separate any lumps and start pumping.

APPLICATION

duragrout® CG should be poured/pumped into the cavity at one point only to avoid entrapping air. If grout is not placed immediately after mixing, keep the material agitated or circulated through the pump.

Grouting mixture that stiffens up due to an extended time lapse must be discarded and a fresh batch mixed. **duragrout® CG** can be compacted by gentle rodding or punning.

Do not re-temper the grout should the consistency drop due to time lapse, discard the product and mix a fresh batch.

Site conditions such as the size and complexity of the space to be grouted, pumping line diameters, height, mixing and pumping methods, and temperatures are factors which determine the actual amount of water needed. It is advisable to make the initial batch more fluid than required in order to lubricate the pump and grout lines, but do not continue with the more fluid grout for longer than necessary.

Have available one or more mixers with the capacity to allow mixing and pumping to proceed simultaneously and continuously.

It is recommended to have a source of high pressure wash water with connections for flushing out grout hoses or partially grouted cable ducts in case the pumping must be interrupted.

COVERAGE

One bag of **duragrout® CG** will yield approximately 0.017m³ (17 litres) of grout when mixed with 8.75 litre water per 25 kg.

CLEANING

duragrout® CG should be removed from tools and mixing equipment immediately after use and before material has set with clean water. Cured material can be removed mechanically.

PROTECTION ON COMPLETION

Exposed grout surfaces must be protected from wind or high temperature, which can cause rapid drying. Cover exposed surfaces with damp sacks for at least 7 days. Do not allow the sacks to dry out. Alternatively apply **duracure PR** (Pliolite Resin) or **duracure WB** (Waxed Based) curing compound.

TEMPERATURE AND RELATIVE HUMIDITY

Surface, ambient and water temperatures should not be less than 5 °C and rising. The ideal temperature range for application is between 20 °C and 30 °C.

PACKAGING

duragrout® CG is supplied in 25 kg polyethylene lined paper bags.

HANDLING AND STORAGE

duragrout® CG has a shelf life of 12 months if kept in a dry store in sealed bags. If stored in high temperature and in high humidity locations the shelf life may be reduced.

IMPORTANT NOTE

This data sheet is issued as a guide to the use of the product(s) concerned. Whilst **a.b.e.**® endeavours to ensure that any advice, recommendation, specification or information is accurate and correct, the company cannot accept any liability for application – because **a.b.e.**® has no direct or continuous control over where and how **a.b.e.**® products are applied.

FURTHER INFORMATION

Where other products are to be used in conjunction with this material, the relevant technical data sheets should be consulted to determine total requirements.

a.b.e.® has a wealth of technical and practical experience built up over the years in the company's pursuit of excellence in building and construction technology.

Please consult our website for our latest data sheets.

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a.b.e.* is an ISO 9001:2015 registered company
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