



Product Data Sheet

Cebo Drill-Grout

Industrial Drilling

Cebo Drill-Grout is a self-setting suspension used to completely fill annular spaces in HDD, Microtunneling and Vertical Drilling operations. Cebo Drill-Grout can also be used for other applications such as sealing holes of pulled piles. The product hardens into a plastic material with a low water permeability, preventing underground water layers from mixing. By using Cebo Drill-Grout, subsidence of the ground can be prevented, and steel pipes are protected against corrosion.

Advantages

- Low water permeability
- Easy to mix
- Low mixing ratio
- High flowability

Typical Properties

<u>Parameter</u>	<u>Test method / In accordance with</u>	<u>Required</u>
Moisture content	DIN 18121-1	≤ 13%
Grain size	Passing 125 μm dry sieve	≥ 95% < 125 μ
Specific density	-	≈ 2300 kg/m ³
Bulk density	-	≈ 900 kg/m ³

In so far as we can ascertain, the above-stated information is correct. However, we are unable to provide any guarantees with regard to the results that you will achieve with this. This specification is provided on the condition that you determine yourself to what degree it is suitable for your purposes.

Typical Properties - 160 kg Cebo Drill-Grout / 1 m³ water

Parameter	Test method / In accordance with	Typical Property
Marsh Viscosity	-	≈ 45 s/l
Plastic Viscosity	-	≈ 9 cP
Yield Point	-	≈ 23 lb/100 ft ²
Gels	10 seconds	≈ 25 lb/100 ft ²
	10 minutes	≈ 29 lb/100 ft ²
Filtrate Loss	-	≈ 20 ml
Workability	-	< 48 hours
Shear strength / 14 days (10°C)	Vane shear tester	≈ 0 kPa
Shear strength / 21 days (10°C)	Vane shear tester	≈ 0 – 5 kPa
Shear strength / 28 days (10°C)	Vane shear tester	≈ 7 kPa
Shear strength / 42 days (10°C)	Vane shear tester	≈ 15 kPa

Recommended Use

The properties of Cebo Drill-Grout are being optimized when the make-up water has the following properties - Conductivity: < 1000 µS/cm, pH: 7.5 – 10, Total hardness: < 100 ppm.

Add a minimum of 160 - 180 kg Cebo Drill-Grout to 1m³ water. Fine adjustments are made to the consistency by varying the solid content; recommended Marsh Funnel Viscosity, minimal 45 seconds. Density should be 1.11 kg/m³ minimum.

Use in HDD: Cebo Drill-Grout is designed to be injected at the same time as the pipe is pulled. In this way, the existing slurry will be displaced. Therefore, it is advised to test the density of the suspension before pulling the pipe. The density of Cebo Drill-Grout should be higher than the slurry in the borehole. This will help to displace the fluid out of the borehole with the Cebo Drill-Grout. Use a barrel reamer (which is smaller than the last reamed diameter) for injecting the Cebo Drill-Grout during pulling of the pipe(s), with 2 nozzles on the machine side and the maximum nozzles at the pipe side open. This set-up will help to remove the old slurry at the front side of the barrel.

Use in Vertical Drilling: Inject Cebo Drill-Grout from the bottom of the borehole through a tremie pipe to remove the existing drilling fluid out of the hole and displace it completely by Cebo Drill-Grout. **Warning!** When installing a water well, it can be necessary to add a clay stop on top of the filter pack. In this way, it is not possible for Cebo Drill-Grout to penetrate into the filter pack and/or screened casing. The density of Cebo Drill-Grout should be higher than the slurry in the borehole. This will help you to displace the fluid out of the borehole with the Cebo Drill-Grout. The volume of Cebo Drill-Grout must be 15% more than the calculated volume to be sure that the drilling fluid is fully replaced with Cebo Drill-Grout. Thermal conductivity values for the Cebo Drill-Grout range from 0,6 to 0,7 W/m²K depending on the mixing ratio.

Certification & Accreditation

- Cebo Drill-Grout is tested for use in groundwater by the "Hygiene-Institut des Ruhrgebiets".
- Cebo Drill-Grout is recognized and registered according to BRL 5078 by Bodem+

Expiry Date

Cebo Drill-Grout is to be used within 6 months after production date. Please speak to your Cebo contact person for information regarding use after expiry date.

Cebo Drill-Grout is available in 25 kg bags and in 1000 kg Big Bags.

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