Cebo Holland

Product Data Sheet

Cebo Drill-Grout

Industrial Drilling

Description & Properties

*Cebo Drill-Grout is a **self-setting suspension** which can be used for HDD drilling, Micro Tunnelling as well as Vertical Drilling to fill annular spaces completely. Cebo Drill-Grout can also be used for other applications such as **filling holes of pulled piles**.*
*Cebo Drill-Grout hardens into a **plastic material** with a low water permeability which prevents mixing of underground water layers. By using Cebo Drill-Grout subsidence of the ground can be prevented and steel pipes are protected against corrosion.*
*Cebo Drill-Grout is tested for use in groundwater by the "**Hygiene-Institut des Ruhrgebiets**".*

Typical properties			
Parameter	**Test method / In accordance with**	**Requirement**	**Typical property**
Grain size	Passing 125 µm dry sieve	Min. 95% < 125 micron	**≈ 95.0%**
Moisture content	DIN 18121-1	≤ 13% (m/m)	**4 - 8%**
Specific density			**≈ 2600 kg/m^3**
Bulk density			**≈ 900 kg/m^3**
Composition			**Cement/Bentonite**
Typical properties 16% suspension			
Parameter	**Test method / In accordance with**	**Requirement**	**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**
Specific density	ANSI/API RP 13B-1		**1.11**
Suspension density			**1.110 t/m^3**
Filtrate loss			**20 ml**
pH	ANSI/API RP 13B-1		**12.1**
Shear strength after 7 days (20°C)	Vane shear tester		**3.5 kPa**
Shear strength after 21 days (20°C)	Vane shear tester		**11.0 kPa**
Shear strength after 28 days (20°C)	Vane shear tester		**22.0 kPa**
Max. pressure strength after 28 days	CUR 189		**≈ 0.15 N/mm^2**
Permeability (K-value)	CUR 189		**1 x 10^{-9} (m/s)**
Workability			**< 48 hours**

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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 min. 160-180 kg Cebo Drill-Grout to 1 m^3 water. Fine adjustments are made to the consistency by varying the solid content; recommended Marsh time minimal 45s. S.G. should be min. 1.11

Use in HDD:

Cebo Drill-Grout is designed to add at the same time as the pipe is pulled in. In this way, the existing slurry will be driven out the hole. Therefore it is advised to test the density of the suspension before pulling the pipe. The density of Cebo Drill-Grout should be much higher than the slurry in the drilling hole. This will help you to replace the slurry 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:

Add Cebo Drill-Grout from the bottom through a tremie pipe to remove the existing drilling fluid out of the hole and replace it completely by Cebo Drill-Grout.
Warning! When working on a water source, 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 filter tubes. Test the specific density of the fluid in the borehole before injecting the Cebo Drill-Grout. This specific density should be as low as possible.

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.

Cebo Drill-Grout is available in 25 kg bags and in big bags.

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.

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