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Emcekrete BCG-TX

Thixotropic Grout for overhead anchors

Product

Emcekrete BCG-TX is a one component cement-based powder which requires only the addition of water to produce a thixotropic grout. Emcekrete BCG-TX has low shear and is highly pumpable and is purposely designed for various mined tunnel and civil engineering applications. Emcekrete BCG-TX incorporates special micropozzolants, silica fume and additives to form a cementitious grout which is chloride and sulphate resistant and remains serviceable up to 100 years in typical underground condition.

Emcekrete BCG-TX is a low shear grout which will flow under pumping pressure but remains thixotropic. This enables the grout to be applied in vertical or overhead areas with minimum risk of grout leakage and ensures full encapsulation of anchor bolts or canopy tubes. Emcekrete BCG-TX is positively compensated for both chemical and drying shrinkage and achieves an excellent pull off strength and tight filling of cavities and voids within the ground strata.

Product Properties

- Readily Pumpable
- Thixotropicity with anti washout
- High strength
- High chloride resistant
- Highly durable

Areas of Application

- Rock bolt grouting
- Rock fissure grouting
- Grouting of canopy tubes
- Underground cavity filling

Application

Mixing

Measure and place 80% of potable water into mixing vessel. Start mixer and then slowly add Emcekrete BCG-TX powder gradually and mix to achieve uniform lump free consistency. Then adjust with remaining water to reach the desired consistency for each grouting stage. it is critical that final mixing is continued for a further 2 - 3 minutes to before transferring grout to holding vessel.

High speed shear mixer is recommended.

Pumping

Suitable pumping equipment and grouting method for varying site application shall be evaluated beforehand. Grout retains optimal workability for approx. 60 minutes at 23C and its important to plan your mixing and grouting speed accordingly.

Always flush out the mixer and pump hopper and grout hose with sufficient water prior to start of mixing and grouting. Ensure that all lines and hoses are clear and unblocked before start of pumping.

Only start grout mixing when the site is ready for grout placement. It is important to keep continuous pumping to avoid the formation of air pockets within the grout body. Always grout to prescribed back pressure.

Application consideration

Beware of changing grout setting condition due to ground and water temperature. Every 10-deg. change will double or half the respective setting rates.

The use of chilled water and keep material and equipment from prolonged exposure to sun are among good practices to observe for successful application.

Where ground is extremely porous and highly absorbent, it is advisable to pumping water to prewet bolt holes and its immediate surrounding before commencement of grouting work.

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Technical Data of Emcekrete BCG-TX			
Characteristic	**Unit**	**Value**	**Comments**
Water Addition	litres	6.0 – 7.0	per 20 kg bag
Yield 30% water 35% water	litres	 12.8 13.7	per 20 kg
Bleeding at 2 hours at 35 % water	%	0	
Flow consistency at 25 ºC	%		
At 35 % water T= 0 minute T= 60 minutes	cm	 14/ 21 14/ 20	EN 1015-3 Drop table test
Maximum Particle Size	Micron	50	100% passing
Drying Shrinkage @ 28 days	micron	< 500	ASTM C 157
Chloride content	%	< 0.01	AS1478.2
Compressive Strength 6.0 litres water per 20kg	MPa	 30 55 70	 @ 1 Day @ 7 days @ 28 days
7.0 litres water per 20kg	MPa	26 50 60	@ 1 Day @ 7 days @ 28 days
Modulus of Elasticity	GPa	>2.60	AS1012.17
Setting Time, 25 ºC	minutes	Initial set – 180 Final set - 240	ASTM C191

Product packaging of Emcekrete BCG-TX	
Form of Delivery	20kg, 1000kg bags
Storage conditions	Can be stored in original sealed packs at temperatures between +5 and +35°C in dry conditions for at least *12 months*. The same requirements are valid for transport.
Disposal	Packs must be emptied

Safety Advice

Please take notice of the safety information and advice given on the packaging labels and safety information sheets.

Note: The information on this data sheet is based on our experiences and correct to the best of our knowledge. It is, however, not binding. It has to be adjusted to the individual structure, application purpose and especially to local conditions. Our data refers to the accepted engineering rules, which have to be observed during application. This provided we are liable for the correctness of this data within the scope of our terms and conditions of sale-delivery-and-service. Recommendations of our employees which differ from the data contained in our information sheets are only binding if given in written form. The accepted engineering rules must be observed at all times.

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