

CEMCRETE HS

High Early Strength Cementitious Non-shrink Grout

Description:

CEMCRETE HS is a high compressive strength cementitious non-shrink flowable grout. It is formulated to suit in projects that specifically requires high and early strength development. CEMCRETE HS consists of special blend of cement, silica sand, selected aggregate and chemical additives to give, when mixed with water a self-leveling, non-shrinking and very fluid mortar, with high initial and final mechanical strength. It is ideally used in several applications such as void filling, grouting under steel structural base plates, fence posts, precast erection machine base filling, and when high strength grout is required. When mixed with water, CEMCRETE HS transform into a flowable mix which makes it easier to apply to fill irregular spaces.

CEMCRETE HS has excellent characteristics of adhesion to the substrate, impermeability and flowable consistency. It is featured by thermal expansion coefficient similar to high quality concrete.

Applications:

CEMCRETE HS is applied as grouting in many applications including:

- Under plates of beams in steel structures.
- Under machinery bases grouting.
- Grouting of structural elements.
- Anchoring bolts and footings.
- Floor patching and void filling.
- Precast elements erection.

Advantages:

- Shrinkage compensated, high precision grouting purposes.
- Suitable for heavy duty support under machines base plates.
- High compressive strength and impact resistance.

- Low permeability and high strength which cause very good protection against chlorides and carbon dioxide.
- Low alkali content minimizes the risk of alkali-silica reaction.
- Does not contain metallic aggregate, nor chlorine content.
- Self-compacting, flowable nature eliminates honey combing while applying without vibration.
- Easy to use by trowel or pouring, or pumping.
- Excellent bond to concrete substrates.
- Thermal expansion coefficient and permeability coefficient which is similar to high quality concrete.

Instructions for Use:

Surface Preparation:

The surface must be solid, compact, clean, free from dust, cement laitance, oil, grease, etc. All loose parts of concrete should be removed. A coarse surface profile with aggregate exposed is preferred.

Soak the surface with water prior to start grouting and allow to drain. Concrete surface should be damped (with no free water) in order to avoid possible water absorption at the moment of casting.

Base plate must be clean and free from oil, grease, or any other contaminated material. Formwork should be constructed to be leak proof to avoid any material loss as CEMCRETE HS is a free flowing grout.

Mixing:

CEMCRETE HS must be mixed mechanically with low speed drill mixer 200 - 300 rpm, fitted with a suitable paddle. To prepare the mortar, pour into a cement mixer or into a container about 3.3 – 3.5 Lt. of clean water (depending on the required consistency), then add 25 Kg bag of CEMCRETE HS and mix for few minutes till obtaining a homogeneous mixture, free from lumps. Always add the powder to the water when mixing cementitious products.

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Application:

The mixed grout should be poured only from one side of the formwork to eliminate the entrapment of air. This can be achieved by pouring the grout across the shortest distance. While pouring, maintain a constant, preferably of at least 15 cm on the side where the grout has been poured. Allow 10 cm clearance between the side of the form and the base plate of the machine.

Do not add extra water to the mix more than what specified. If the mix starts to harden, do not add more water to remix. In this case do not use the mix and prepare a new one.

Once the poured product starts to dry, it should be cured in accordance with good concrete curing practice and protected from sun, rain and winds. Curing shall be done with curing compound CEMCURE AR, or with a wet Hessian cloth covered with polyethylene sheet.

Standards:

CEMCRETE HS conforms to:

- ASTM C109/109M-11, ASTM C827, ASTM C940
- BS 1881, BS 4551 & BS 6319 part 3
- UNI 8147

Coverage:

CEMCRETE HS bag of 25 kg achieves 12.5 liters of wet grout.

Packaging:

CEMCRETE HS available in 25 kg paper bags.

Storage:

Store in original packing in dry conditions away from direct sunlight and high humidity levels.

TECHNICAL PROPERTIES

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|-----------------------|--|
| Appearance | : Grey Powder |
| Volumetric Change | : Up to 2% in 24 hours |
| Dry Density | : 2.20 kg/ Lt |
| Pot life time at 25°C | : 60 minutes |
| Compressive Strength | : 50 Mpa.S @ 1 day ≥ 75 Mpa.S @ 7 days ≥ 90 Mpa.S @ 28 days |
| Flexure Strength | : 1.8 Mpa.S @ 1 day ≥ 7.5 Mpa.S @ 7 days ≥ 9.5 Mpa.S @ 28 days |
| Chloride Content | : 0.0% |
| Fluidity | : Initial 10-20 sec <20 sec after 30 min |
| Setting Time | : Initial 2.0 hours Final 3.5 hours |

Shelf Life:

CEMCRETE HS can be utilized within 12 months of production date if stored in proper conditions in unopened original packing.

Remarks:

- Do not apply where ambient temperatures are below 5°C.
- Variations of temperature may increase or reduce the initial and final setting time of the mortar.
- During the peak temperature of the day in the summer season, working area should be covered if work to be executed externally. Use cold water for mixing and keep all tools and mixer in shaded areas

Health and Safety:

- Use goggles and gloves during application. Do not breathe dust of product.
- Avoid contact with eyes or skin.

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This technical data sheet is not considered as local building codes. It shall be used as general reference for the product, based on our current knowledge and experience. However the company do not accept any liability arising from the use of its products as it has no direct control on how and where the product is applied.

