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CONSTRUCTION PRODUCTS
DIVISION OF 87317 CANADA LIMITED

CPD® NON-SHRINK GROUT PRE-MIX (H.E.S. – SR)

DESCRIPTION

CPD® Non-Shrink Grout (H.E.S.-SR) is a pre-blended, high early strength, sulphate resistant, ready-to-use cement base grout containing non-ferrous fluidifiers, silica fume and anti-shrinkage compounds accurately blended with graded siliceous aggregate and Portland cement. It requires only the addition of water at the job site.

WHERE TO USE

CPD® Non-Shrink Grout (H.E.S.-SR) is used for grouting structural steel column base plates, anchor bolts, bridge bearing seats, machinery bases, reinforced masonry walls and wind turbines.

BENEFITS

- can be placed in different consistencies ranging from plastic to self-leveling
- flowability facilitates placement in confined areas
- complete bearing surface contact ensures uniform load distribution
- no ferrous additives to cause staining
- expansive agents ensure uniform, consistent expansion
- excellent freeze-thaw and salt resistance
- does not contain corrosive additives, such as calcium chloride
- resistant to oil, some chemicals and moisture

LIMITATIONS:

- do not use where chemical attack is possible
- protect from freezing
- minimum thickness 25mm (1")
- maximum thickness 150mm (6")
- for thickness over 150mm (6") contact your CPD Technical Representative
- must not be used as patching compound or topping in unconfined areas
- do not exceed maximum water ratio
- do not place grout where service temperatures exceed 160°C (320°F)
- do not place grout where temperatures are below 4.4°C (40°F) or above 32°C (90°F)

PROPERTIES

Compressive Strength (ASTM C942 according to ASTM C1107 of ASTM C109, 50mm/2" cubes confined) @ 21° C (69.8°F)

Flowable* 4L/25 kg (1.05 US gal/55 lb)

1 day	45 MPa (6,527 psi)
3 days	55 MPa (7,977 psi)
7 days	70 MPa (10,153 psi)
28 days	90 MPa (13,053 psi)
Initial Set Time	5 hrs
Final Set Time	6 hrs

Volume Change (ASTM C1090) (%)

1 day	0.00	0.0 – 0.30
3 days	0.00	0.0 – 0.30
14 days	0.00	0.0 – 0.30
28 days	0.02	0.0 – 0.30

Flexural Strength (ASTM C348) (MPa)

7 days	9.1MPa (1,320 psi)

Bond Strength (ASTM C882) (MPa)

1 day	10.3 MPa (1,494 psi)
7 days	10.8 MPa (1,566 psi)

Rapid Chloride Permeability Test (ASTM 1202) (Coulombs)

At 28 days	772

Flexural Strength and Modulus of Elasticity (Tangent) (ASTM C580)

Flexural Strength

7 days	8.2MPa (1,194 psi)

Flexural Modulus

7 days	2.5 x 10^6 psi (2,500,000 psi)

The above information is representative of typical values obtained under laboratory conditions. Variations can be expected due to on site conditions and/or other testing methods.

Rev. 10.24

APPLICATION

SURFACE PREPARATION

All surfaces that will be in contact with the grout must be clean and free of grease, oil, standing water, laitance, loose material or any other contaminant that could impair substrate bond. Prior to grouting, foundation concrete should be roughened, cleaned and thoroughly wetted down. Free standing water should be blown clear just prior to grouting using oil free compressed air. Forms must be rigid and water tight. Construct them with sides one to two inches above the base plate allowing a "head" of grout to flow to the proper level. Vent high points to permit the escape of entrapped air.

Grout must be placed from one side only and allowed to flow to opposite form. Use only a minimum amount of water, consistent with flowability required. Do not exceed 4.0 L of water per 25 kg bag of grout (1.05 U.S. gal/55lb). Mix thoroughly for 3 to 5 minutes after the last bag of grout is added and place within an hour of mixing.

Keep grout agitated in mixer at all times. As the grout sets, cure exposed surfaces with CIPADECK® Cure & Seal or damp burlap. Ideal grouting temperature is 10°C to 25°C (50-77°F).

Cooler temperatures will retard the rate of strength gain in all mixes. Keep surrounding concrete and contact steel above 4.5°C (40°F) for at least 72 hours after completion of grout pour.

MIXING AND PLACING

CPD® Non-Shrink Grout (H.E.S-SR) may be pumped or poured in place. In all cases, no foreign materials are to be added without first contacting your CPD® Technical Representative. For multiple bag mixes the use of a mortar mixer (not a concrete mixer) is required. For one bag mixes the use of a heavy-duty low speed drill (300 to 400 rpm) with a Jiffy mixing paddle is recommended. After all the powder has been added to the water continue mixing for 3 minutes.

COVERAGE

0.014m³ (0.47ft³) per 25 kg (55lb) bag (at the maximum 4L (1.05 U.S. gal) water content).

PACKAGING

25 kg. (55 lb) multi-wall bag.

STANDARDS

Formulated to comply with U.S. Corps of Engineers CRD-C621-92 and ASTM C1107-91.

STORAGE

May be stored short term anywhere under tarp on pallets as long as the product is kept dry. Dry heated warehouse storage is recommended for extended storage.

SHELF LIFE

One year from the date of manufacture when stored in original, unopened package and under normal warehouse conditions.

SAFETY PRECAUTIONS

Consult Safety Data Sheet for specific instructions. SDS # 18.

WARRANTY

The recommendations made and the information herein is based on our own and independent laboratory experience, and is believed to be accurate under controlled conditions. However, no warranty or guarantee of accuracy is made because we cannot cover every possible application of product nor anticipate every variation encountered in weather conditions, job-conditions, methods used and types of surfaces on which the product is applied.

The users shall make their own tests to determine the suitability of such products for any particular purpose.

CPD® makes no warranties with respect to this product, expressed or implied, without limitation, the implied warranties of merchantability or fitness for a particular purpose.

CPD®'s liability shall be limited in all events to supplying sufficient product to re-treat and/or repair the specific area to which CPD® product has been applied. CPD® reserves the right to have the true cause of any difficulty determined by accepted test methods. CPD® shall have no other liability, including liability for incidental, consequential or resultant damages, however caused, whether due to breach of warranty, negligence, or strict liability.

THIS WARRANTY MAY NOT BE MODIFIED OR EXTENDED BY REPRESENTATIVES OF CPD®, ITS DISTRIBUTORS OR DEALERS.