FORCE-12K
NON-SHRINK HIGH STRENGTH PRECISION GROUT

Spec-Krete

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Technical Data Sheet

General:
Premium high strength non metallic grout will not promote corrosion to any metal or produce harmful expansive gases. Grout is formulated for general high strength grouting where a quick non-shrink Portland cement grout is specified. It will deliver high flow characteristics and excellent workability.
Dimensional stability and heat is controlled during curing resulting in a tight set and suitable for situations where the early development of strength is critical. Product is able to bear compressive load transfer from columns, bearing plates, anchors, dowels and any structural grouted embedment.

Surface preparation and mixing:
Clean area to remove all laitance, contaminants, oil and dirt. If using acid, neutralize areas with a solution of one tablespoon baking soda per gallon of water. Wash off solution with a garden hose.
Use clean potable water and mix till desired consistency. Mix till either a dry pack or a product that flows.
Initial strength development is affected by the amount of mixing water, therefore, use the chart (table 1) as a guide, but care should be taken when considering any un-suitable applications beyond the product ability. Use a drill mixer by adding the powder to a pre-measured amount of water and mix to a smooth lump free consistency. Only mix enough that can be conveyed and applied before initial set. Do not re-temper. Discard when material hardens beyond proper use.

Caution: Do not alter in any way or add any other additives to this material.

Forming:
When forming cavities to fill seal corners to prevent slipping, use non-absorbent materials in conjunction with a release agent and allow vents for all entrapped air to escape as the cavity fills.

Pumping and placement:
Utilize a suitable commercial grout pump.
Consistency can vary due to ambient temperatures. Hot weather will accelerate setting as with cold conditions can retard it, therefore, behavior should be estimated based on a prevalent temperature of 70°F. It is strongly advised to test a small amount of material prior to the actual placement to determine the product temperature behavior and best placement method.

Limitations:
Areas of constant movement. Never apply to a hot substrate or when freezing and thaw conditions are anticipated. Avoid installation when temperature is expected to fall below 40°F in the first 24 hours of curing. Also see table 2.

Curing:
Cure exposed surfaces for 72 hours using curing blankets, mist or chemical membrane curing compound.

Clean Up:
Clean all tools and equipment using vinegar scrub followed by a soap solution and rinse. Dried grout must be mechanically removed.

Installation:
Formed surfaces should be treated with a suitable release agent to eliminate water absorption in the cavity. Mix to premeasured water with a blade paddle in a suitable container to convey to placement or pump.

Packaging:
50 # plastic pails, Paper multiwall valve bags.

Yield:
0.45 Cu/Ft. (mixed flowable)

Technical Data:
(Applicable Standards)

ASTM C-1107 Standard for Packaged Non-Shrink Grouts

ASTM C-109 Compressive test method cubes test.

ASTM C-827 Height change at early age in test specimens.
ASTM C-1090 Dimensional changes in Hydraulic grouts

ASTM C-939 Grouts Flow test (Flow cone method)

ASTM C-E488 Strength pull test for anchors in concrete and masonry.

US Corps of Engineers CRD 621
US Corps of Engineers CRD 588

Physical Data:
Compressive strength ASTM C-109 (C-1107)
Maximum Expansion (ASTM C1090)

Plastic Consistency:
1 day 3,000psi
3 days 9,500psi
7 days 10,250psi
28 days 13,900psi
Expansion: .02% max

Flowable Consistency:
1 day 3,000psi
3 days 9,000psi
7 days 9,500psi
28 days 12,500psi
Expansion: .02% max

Fluid Consistency:
1 day 2,500psi
3 days 5,000psi
7 days 6,500psi
28 days 8,500psi
Expansion: .02% max

Pull out strength ASTM E488: 35,000psi
(using 2000 psi concrete, 1" bolts in a 10" x 3" bed)

Table. 1 Required water for mixing:
(for each 50# unit)
Consistency:
Fluid: 10 pints
Flowable: 8 pints
Plastic: 7 pints

Table. 2 Workability: (initial set)

ASTM C-191 (vicat method) 70°F
Flowable consistency: 30 minutes

Averages:
(50-70°F) 30 to 45 minutes
(70-90°F) 20 to 30 minutes

Product Safety:
Consult product Material Safety data Sheet for information on the safe handling of this material. Avoid breathing dust and avoid prolonged skin contact. Use eye and skin protection specially when mixing the product. Keep away from children and pets and dispose of package and unused product properly. Contains Portland cement and silica that can cause burns and respiratory irritation. Silica dust has been known to cause silicosis with prolonged unprotected use. Wear respiratory protection when handling dry material and during mixing.
Contains no organic hazardous components.

Warranty: When product is used according to directions and when properly used, warranty is limited to 6 months after product is supplied to the purchaser in the original container.
Refund of the purchase price only if deemed defective at manufacture. This product is intended for industrial professional use by competent tradesmen. with sufficient knowledge and experience on use and proper handling of these products.
The purchaser agrees to assume all responsibility for installation, product suitability, application, job warranties, use, transport and disposal of product Builders Construction Products shall not be liable to the purchaser or any third party for costs of labor or direct or indirect and incidental or consequential damages related to the use or suitability of this product. No other warranties are implied. Responsible disposal of used products and packaging is the responsibility of the purchaser and or user. This product does not contain hazardous or controlled substances considered harmful to the environment. While we try to publish the most accurate information, we reserve the right to correct any unintentional mistypes or incorrect statements as the are discovered. If at any time you have doubts about any of the contents in our literature, we request you to call us.

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