



CRETESTONE

STONEGROUT GP-65

(Non Shrink High Strength Expansive Grout)

Description

STONE GROUT GP 65 is recommended for precision grouting where it is essential to with stand static load in typical applications like base plate of Generators, compressors, boilers etc. It is basically a free flow no shrink, high strength expansive grout. It is based on port land cement with graded aggregates and additives which impart controlled expansion in the plastic state. The non-shrink grout function is three folds, to fill the voids between the base plate and the concrete foundations completely and permanently without shrinkage or separating from either to transfer all loads from the base plate to the concrete foundation and to maintain precise alignment. It effectively transfers all operational loads to the foundation.

Uses

- Precision grouting
- Grouting of base plates of turbines, compressors, boiler feed pumps
- Anchoring for a wide range of fixings.
- Masts, anchor bolts and fence posts

Features & Benefits

- Masts, anchor bolts and fence posts
- Non-shrink: basically, a non-shrink
- Excellent flow characteristics
- Ensures high level contact with bond area
- Chloride free
- Does not affect the steel or foundation bolts.
- Gaseous expansion system compensates for shrinkage and settlement in the plastic state
- No metallic iron content to cause staining
- Pre-packed material overcomes onsite batching variations
- Free flow ensures high level of contact with load bearing area

Application Methodology

Step no 1: Surface Preparation

The substrate must sound clean and free from contaminations, all loose particles must be removed. The Steel and concrete surfaces must be etched mechanically to enhance the bonding properties. Bolt holes and fixing pockets must be blown clean of any dirt or debris.

Pre-soaking

Pre soak the concrete surface with lots of clean water before the application is carried out. All the surplus water is removed before the grouting application.

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EXPANSION
STONE
CRETE

Step no 2: Product Mixing

For better results mix the material mechanically. To enable the grouting operation continuously it is essential that sufficient man power and mixing capacity are available at the site.

Product Application

Water Powder Ratio: W/P: 0.18 Consistency: Flow able Grout Water required for 25 Kgs bag: 4.5 ltr

Flow Characteristics

The flow is basically depends on the gap width and the head of the grout and governed by the gap width.

Yield

13.0 ltr at flow able consistency for 25 Kgs of HDPE Bags

Placing

At 30°Celsius the grout within 20 minutes of mixing to gain the full benefits of the expansion process Working Condition: Do not place the grout when the ambient temperature is 5 deg Celsius. Use hot water to gain the strength when the temperature is low and cold water when the temperature is high.

Working time

Following mixing the material should be placed within 15 minutes depending upon the temperature and other conditions for best results.

Curing

The entire exposed surface must be adequately cured with clean water.

Shuttering

The form work should be constructed to be leak proof. This can be achieved by using suitable material or by using foam rubber strip or mastic sealant beneath the constructed form work and between joints.

Technical Data

Freshwet density	Approximately 2220 Kg/m ³ Depending on actual consistency used
Time for expansion (after mixing)	Start : 20 minutes Finish : 120 minutes

Compressive strength: (BS 1881- Part 116:1983)

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STONE GROUT GP 65 CRETE

Age Days	Strength Compressive
Flowable W/P 0.18	
1 Day	24N/mm ²
3 Days	45N/mm ²
7 Days	55N/mm ²
28 Days	66N/mm ²

Note: Size of the cubes used 70.6mm*70.6mm*70.6mm tested at 30°C.

Age Days	Flexural Strength: (ASTM C 348)
7 Day	4N/mm ²
28 Days	10N/mm ²
Pullout bond strength	17 N/mm ² @ 7 days 20 N/mm ² @ 28 days
Young's modulus (ASTM 469 - 94)	28 kN/mm ²

Tensile Strength: (ASTM C 307)	3.5N/mm ² @ 28 days 30°C.
Coefficient of thermal expansion	11 x 10 ⁻⁶ /°C
Unrestrained expansion	2 - 4% in the plastic state enables to overcome shrinkage.
Pressure to restrain : plastic expansion	0.004 N/mm ² approx.
Dynamic load resistance	Specimens of STONE GROUT GP 65 showed no signs of distress after subjecting them to alternate loads of 5 / mm ² & 25 N/mm ² at the rate of 500 cycles/ minute for 20,00,000 cycles of Fatigue loading.

Compressive strength with addition of aggregates			
Age (days)	Compressive strength (N/mm ²) W/P 0.18 % of aggregates (IS 516 - 1959)		
	50%	75%	100%
1	29	30	33
3	49	51	56
7	61	62	66
28	68	74	77

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Specification Clauses

Performance specification

All grouting shown on the drawing must be carried out with a pre packed cement based product which is chloride free.

It shall be mixed with clean water to the required consistency. The grout must not bleed or segregate. A positive volumetric expansion shall occur while the grout is plastic by means of gaseous system.

Removable hopper

For large pours the grout may be hand placed or pumped into a removable hopper (trough) Pouring should be from one side of the void to eliminate any air or pre soaked water becoming trapped under the base plate. It is advisable to pour the grout across the shortest distance of travel. The grout head must be maintained at all times so that a continuous grout front is achieved. Where large volumes have to be placed Stone Grout Gp 65 may be pumped. A heavy duty diaphragm pump is recommended for this purpose. Screw feed and piston pumps may also be suitable.

Packing

25 Kgs HDPE bags

Storage

Store under cover, out of direct sunlight and protect from extremes of temperature. Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging.

Disclaimer

Whilst any information contained herein is true, accurate and represents our best knowledge and experience, no warranty is given or implied with any recommendations made by us, our representatives or distributors, as the conditions of use and the competence of any labour involved in the application are beyond our control.

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