

Non-shrink Grout

ST-NSG(ES)

Fast set high early strength shrinkage compensated cementitious grouting material with superior flowability and high compressive strength.



PRODUCT DESCRIPTION

ST-NSG(ES) is a dry packed proprietary premixed shrinkage compensating cementitious precision grout with high early strength property. It is specially designed for the use of grouting works with fast set and high early strength requirements, where excessive shrinkage is prohibited for the filling material. It can also be used, when mixed to a lower workability, as a patching material for minor structural instant repairs. ST-NSG(ES) is composed of rapid hardening cement, graded sand and non-shrink additives, which impart controlled expansion in both plastic and hardened states.

SUBSTRATE PREPARATION

The substrate surface must be free from oil, grease, or any kind of loose particles. Interfaces must be patched up to avoid scales, coatings, recessives, pockets, etc. to avoid hindrance of the flow/spread of grout. Bolt holes or fixing pockets must be blown clean to get rid of any dirt or debris. Pressure relief holes/exit should be provided to allow venting of isolated high spots. At appropriate time before grouting, normally several hours, interfaces must be pre-soaked with fresh water and clear up all free water on surfaces thereafter. When leveling shims are used and are to be removed after the grout goes hardened, they should be treated with a thin layer of grease before installation. Formwork should be leak-proof. Rubber/polystyrene stoppers or sealants can be used at joints or bolt holes.

FEATURES & BENEFITS

- ◆ Expansion at early stage and shrinkage compensated at ultimate stage
- ◆ Ultra high early strength and ultimate strength
- ◆ Can be mixed to plastic, flowable and fluid states with different water addition
- ◆ Free from chlorides, nitrates and sulphates
- ◆ High ultimate strength & low permeability
- ◆ Hydrogen free gaseous expansion
- ◆ No bleeding or segregation

AREAS OF APPLICATION

- ◆ Filling up gaps between reinforced concrete and/or precast concrete elements
- ◆ Patching material for minor structural instant repairs
- ◆ Grout for dowel bars installation
- ◆ Grout for machine base plates or tie bolt fixing
- ◆ Bridge bearings
- ◆ Consult Score Tech's staff for other suitable applications

MIXING & INSTALLATION

1. Mix ST-NSG(ES) with electric hand drill in a bucket or all-in-one grouting pump until the required consistency is achieved.
2. When mixing with electric hand drill for grouting purpose, mix the material with 80% of the recommended water quantity for at least 2 - 4 minutes and then add the remaining water and mix for another 1 minute to achieve the best effect of flowability.
3. Sufficient grout must be made available in order to ensure continuous grout pour is achieved. The mixed grout should be poured only from one side to the other side to reduce entrapment of air.
4. Careful planning should be given to the mixed quantity of ST-NSG(ES) to cope with the application time because of its fast set properties.
5. For large volume of grouting, ST-NSG(ES) can be applied by pump such as heavy-duty diaphragm pump, screw feed pump or piston pump. When pumping method is used, care should be taken for the cleaning of the pump right after the completion of grouting work.

CURING

Under normal circumstances, natural air curing is proved adequate for ST-NSG(ES). However, water mist curing is beneficial to ensure the best performance of ST-NSG(ES) under dry or windy condition.

PRODUCT INFORMATION

Colour	Khaki grey		
Maximum Grain Size	1.8mm		
Pot Life at 27 °C	~ 15 minutes		
Consistency	Plastic (for concrete repair / filling up tie holes)	Flowable (for filing bearing plates)	Fluid (for grouting)
Water Demand	3.5 - 4.4 litre	4.5 - 5.24 litre	5.25 - 5.75 litre
Wet Density	~ 2200 kg/m ³	~ 2150 kg/m ³	~ 2050 kg/m ³
Yield (1 m ³)	~ 75 bags	~ 72 bags	~ 67 bags

PRODUCT PERFORMANCE

Compressive Strength - at 2 hours - at 1 day - at 28 days	CS1:2010-12	≥ 35 N/mm ² ≥ 55 N/mm ² ≥ 65 N/mm ²	≥ 30 N/mm ² ≥ 50 N/mm ² ≥ 60 N/mm ²	≥ 25 N/mm ² ≥ 45 N/mm ² ≥ 55 N/mm ²
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* Note: The test standards for the product performance stated above refer to laboratory test only.

DISCLAIMER

Note: As the application condition may vary from site to site and may not be identical to the same condition under which the parameters in the brochure are drawn, the information provided on this Technical Data Sheet is for general guidance only. Warranty will not be given to the ultimate performance and application results of this material when the material is not kept, mixed, applied or cured strictly in accordance with the requirements and/or instructions listed out in this brochure or in other supplementary document.

PACKAGE

25 kg bag

SHELF LIFE

ST-NSG(ES) has a shelf life of 6 months if well kept in dry condition on lifted floor.

HEALTH & SAFETY

Wear NIOSH approved face mask or equivalent personal protective equipment when handling the material. ST-NSG(ES) contains cement which may cause an allergic effect or irritation to eyes and skin. When contact with eyes, flush immediately with large quantity of water.

REFERENCE STANDARDS

- ◆ Hong Kong Standard: CS1:2010

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