

DRYMiX®

Dry Grout NS Coarse (Non Shrinkage)

Cement based high quality, ready mixed,
high strength, non-shrinking expanding
grouting mortar.

Description:

Dry Grout N-S Coarse is cement based high quality, ready mixed high strength non-shrinkage flowing grouting mortar in powder form and coarse aggregate - according to sieve analysis C 03-404 Table (1) grading requirements - that requires only the addition of water on site.

Composition:

Dry Grout N-S Coarse is specially manufactured and modified to give high strength in all forms, enhance expansion and flow ability, non-shrinkage properties, and decrease water and oil permeability

Standards: Dry Grout N-S Coarse complies ASTM C1107, C 476 and CRD-C621- standards

Uses:

Dry Grout N-S Coarse is used for grouting of the following:

- Grouting of anchor bolts and holes and dowel fixation.
- Grouting of steel column base plates.
- Grouting of pre-cast elements and concretes (walls, barriers, boundaries, domes ...etc)
- Grouting of general industrial equipment.
- Grouting of generators, gas and steam turbines.
- Grouting of expansion joint of bridges and roads.
- Grouting of concrete bases and beams in bridges.
- Repairing and filling of cracks and honeycombs in concrete elements and ceilings.
- Cavities, gaps and recesses into the concrete mass filling.
- Repairing of walls and concrete sections prior to being waterproofed (Water and oil tanks)
- Grouting around door frames, and drainage pipes.

Dry Grout N-S Coarse can be pumped, vibrated or compacted.

Advantages:

- Easy to use and apply (pumping, vibration or compact)
- Specially modified with additives to give high strength, high flowability, and no shrinkage properties.
- Doesn't oxidize in humidity or in contact with water, as it contains no metal particles.
- Excellent bonding to concrete, steel and iron.
- Highly durable, with high mechanical properties in all 3 forms: flowable, plastic, dry pack (higher than concrete)
- Chloride free, with high alkaline ph. value that protects metal from rust and corrosion.
- High impermeability to oil and water.
- Various forms and consistencies are obtained when different mixing rate is used (According to the mention mixing ratios in the data sheet)

Technical Data:

Color	Grey
Base	Portland cement grade 52.5, graded clean silica sand, and selected additives.
Powder Density	Approx. 2 ton/m ³
Application Thickness	Up to 50 cm
Pot Life	Approx. 30 minutes at °25 C
Bonding to concrete @ 28 days	6.5 N/mm ²

Packaging:

Dry Grout N-S Coarse is available in 25 kg bags.

Mix Proportion:

Approx. 3 ± 0.5 liters of water/ 25 kg bag. (Plastic form for manual application)

Approx. 3.75 ± 0.2 liters of water/ 25 kg bag. (Flowable for pumping applicaiton - shot crete)

(Depending on the condition of the substrate)

Coverage Rate:

Approx. 20kg/m² @ 1 cm thickness.

(Coverage rate may vary depending on surface condition)

Surface Preparation:

- All substrates should be clean and free from oil, dust, dirt, paint and curing agents. (Chipping or whip sand blasting is preferred).
- Don't use bush hammers to avoid crushing the aggregates, leave them in place.
- Surfaces should be damp but free from standing water prior to the application of Dry Grout N-S Coarse.
- Soak the area to be grouted by Dry Grout N-S Coarse for 24 hours in water, to minimize local absorption and to help in the free flow of the grouting mortar.
- In case of grouting anchor bolt holes: Use a compressed air blower to clean the holes, and make sure they are dry and water-free before being grouted with Dry Grout N-S Coarse.
- Base plates and anchor bolts should be clean and free from oil, grease and paint.
- Make sure that the formwork is secure and water tight to prevent any leakage or movement during applying the grouting mortar Dry Grout N-S Coarse.
- In hot weather, base plates and foundations should be shaded from direct sunlight.
- Dry Grout N-S Coarse must be cured for 3 days by spraying water, or using any suitable curing agent (After the mortar has achieved its initial setting, or bleeding water has evaporated)

Application Procedures:

- Add the required quantity of fresh cool, clean water in one deep damp container. Then, add the contents of the 25 kg bag gradually and mix till the mixture is uniform and free from lumps. Leave the mixture for 1 minute, then remix for 2 – 3 more minutes. • Please note that using excess water than the mentioned amount will cause cracks, segregation and low strengths.
- Dry Grout N-S Coarse should be immediately applied, to obtain full expansion properties (within pot life: up to 30 minutes)
- Pour or Pump the grouting mortar continuously, while using metal strappings to help the mortar flow or/and expand over large areas uniformly and to eliminate air bubbles.
- As soon as the grout is placed, protect the exposed grouting mortar using a damp hessian to keep the moist in, till the grout is firm
- Dry Grout N-S Coarse is applied in thickness of up to 50 cm.

Storage:

Shelf life is 12 months from manufacturing date, in a dry, covered storage area.

Health and Safety:

While using the product, gloves and goggles should be worn.

Splashes to skin or eyes should be washed with clean water, in case of prolonged irritation, seek medical advice.

Bonding to Steel		
	Plain Bars	Deformed Bars
@ 7 days	3 N/mm ²	20 N/mm ²
@ 28 days	4 N/mm ²	30 N/mm ²
Shrinkage Rate (National Research Center) ASTM C531	0.313 %	
Setting Time according to ASTM C191 specs		
Flowable	9 Hours	
Plastic	7 hours and 3 minutes	
Setting Time according to NRC		
Initial	1 hour and 50 minutes	
Final	3 hour and 40 minutes	

Compressive Strength according to ASTM C109 Specs		
According to Spec	Flowable	Plastic
@ 1 day	18 N/mm ²	21 N/mm ²
@ 3 days	39 N/mm ²	43 N/mm ²
@ 7 days	43 N/mm ²	46 N/mm ²
@ 28 days	45-50N/mm ²	50 N/mm ²
Compressive Strength according to NRC		
@ 3 days	36.26 N/mm ²	
@ 28 days	59.76 N/mm ²	
Flexural Strength Accroding to ASTM C348 Spec		
According to the starndards (ASTM C348) @28 DAYS	Flowable	Plastic
	10 N/mm ²	11.5 N/mm ²
Flexural Strength Accroding to NRC		
@ 3 days	5.35 N/mm ²	
@ 28 days	12.41 N/mm ²	
NOTE: The test results of the national research center show that the compressive and flexural strength are above the ASTM C109 and ASTM C348 specs by approx. %30		

DISCLAIMER
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