

Enduro 50 Grout^ä

Non-Shrink, Non-Metallic

Description

Enduro 50 Grout™ is specially designed for damp pack to fluid applications. It is a blend of Portland Cement and natural aggregates with cementitious expansive agents.

Manufacturer

Conspec
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Customer Service (800) 348-7351
Technical Service (877) CONSPEC

Use

Recommended applications include grouting of equipment bases, column bases, precast walls, tilt-up panels, tie holes, anchor bolts etc.

Benefits

- Flowable and self-leveling
- Non-staining; will not rust
- Non-shrink for maximum bearing
- Does not contain any corrosive chemicals such as chlorides
- High strength

Applicable Standards

Corps of Engineers CRD C-621.
ASTM C-1107, Grades A, B & C.

Architectural Specifications

Non-shrink Grout: All grouting shall be performed with a CRD C-621 non-shrink grout. Grout must be designed for a range of consistency from plastic to fluid. Grout shall be used in accordance with ACI recommendations and the manufacturer's directions. Approved product: Conspec Enduro 50 Grout™ or approved equivalent.

Application

Preparation: Remove all dirt, oil, and loose or foreign material. Any metal in contact with grout must be free of rust, oil, grease, etc. Surface must be sound and roughened to insure proper bonding. Prior to placing grout, surface should be saturated for a minimum period of four hours and preferably twenty-four hours. Remove all excess water before placement of grout. Bolts, base plates, and equipment must be secure and rigid before placement of grout.

Forms: Must allow for a continuous placement of grout. Provisions for venting to avoid air entrapment must be made. Placing from one side, provide a 45° angle in the forms to a height suitable to provide a head of grout during placement. On all sides provide a minimum 1/2"(.64 cm) horizontal clearance between the base plate

and forms. Forms should be at least 1" (2.54 cm) higher than the bottom of the base plate.

Mixing: DO NOT mix by hand. Use a mechanical mixer: For small jobs, use a 1/2" (.64 cm) low speed drill with a wire or egg beater type paddle; for large jobs, use a mortar mixer.

Start with minimum water requirements. **Add water to mixer first**, then slowly add powder. Add additional water as required for desired consistency. Water requirements per bag are:

Plastic

50 lbs. grout (22.7 kg)
6.50 to 7.00 pints water
0.85 to 0.88 gal.
7.05 to 7.30 lbs. (3.20-3.31 kg)
3.18 to 3.29 liters

Flowable

50 lbs. grout (22.7 kg)
7 to 8 pints water
0.88 to 0.94 gal.
7.30 to 7.80 lbs. (3.31-3.54 kg)
3.29 to 3.79 liters

TEST DATA						
Compressive Strength (ASTM C-109)	Plastic		Flowable		Fluid	
	psi	(MPa)	psi	(MPa)	psi	(MPa)
3 days	5000	(34.5)	4500	(31.0)	3500	(24.1)
7 days	7300	(50.3)	5800	(40.0)	5000	(34.5)
28 days	10500	(72.4)	8000	(59.3)	7200	(49.6)
Expansion Percentage (CRD C-621)						
3 days	0.05%		0.03%		0.01%	
14 days	0.05%		0.03%		0.01%	
28 days	0.05%		0.03%		0.01%	
Yield Approximately	.43 ft. ³ (.0122 m ³)		.44 ft. ³ (.0125 m ³)		.45 ft. ³ (.0127 m ³)	

Fluid

50 lbs. grout (22.7 kg)
8.00 to 9 pints water
1.00 to 1.14 gal.
8.33 to 9.5 lbs. (3.78-4.31 kg)
3.79 to 4.2 liters

Note: The data shown is based on controlled laboratory testing. Reasonable variation from results shown can be expected. Field and laboratory testing should be controlled on the basis of the desired placing consistency, rather than strictly on the water content.

Curing: Immediately cover with clean wet rags (DO NOT use burlap) and keep moist until final set. After final set, remove rags and apply an ASTM C-309-91 Conspec curing compound.

For placements greater in depth than 3" (7.6 cm) up to 25 lbs. (11.3 kg) of washed 3/8" (1 cm) pea gravel must be added to each 50 lb. bag of grout.

Yield: Yield per 50 lbs.(22.7 kg): Mixed with 9 pints (4.2 L) will yield approximately .43 ft.³(.0127 m³). Less water will reduce yield slightly. Yield with 25 lbs. Peastone = .58 ft³ (.016 m³).

Hot Weather Grouting: Provide shade for area to be grouted. Use cool mixing water. Protect grout from the sun for up to twenty-four hours.

Cold Weather Grouting: Raise the temperature of the area to be grouted with space heaters or steam. Preheat mixing water. Cover grout to retain warmth. Do not apply below 40°F(5°C).

Placing: Place continuously and quickly. Start from one side to avoid air entrapment. Be sure grout fills all spaces and remains in contact with plate. DO NOT VIBRATE. For damp packing, rod from one side to opposite side.

Packaging

50 lb. triple lined bag (22.7 kg)
60-50 lb. bags per pallet

Limitations/Precautions

DO NOT place at temperatures below 40°F(5°C) or if the temperature is expected to fall below 40°F(5°C) in the next twenty-

four hour period. At low temperatures, water requirement should be field tested.

When nearby equipment causes vibration of the grout, such equipment should be shut down for a period of 24 hours (@73°F, 23°C). DO NOT mix over 5 minutes. DO NOT over water. This can cause bleeding or separation. DO NOT retemper. DO NOT add cement, sand, aggregate or admixtures.

Caution. Contains Portland Cement and sand. Cement will cause irritation. Avoid contact. Use of a dust respirator, safety goggles and rubber gloves are recommended. Avoid prolonged contact with clothing. In case of contact with eyes, immediately flush with water for at least 15 minutes. Get prompt medical attention. DO NOT wear contact lenses when working with this product. DO NOT take internally. Keep out of reach of children.

Avoid hazards by following all precautions found in the Material Safety Data Sheet (MSDS), product labels and technical literature. Please read this information prior to using the product.

Warranty

Conspec warrants, for 12 months from the date of manufacture or for the duration of the published product shelf life, whichever is less, that at the time of shipment by Conspec, the product is free of manufacturing defects and conforms to Conspec's published specifications in force on the date of acceptance by Conspec of the order. Conspec shall only be liable under this warranty if the material has been applied, used, and stored in accordance with Conspec's instructions in this technical data sheet. The purchaser must examine the product when received and promptly notify Conspec in writing of any non-conformity before the product is used, or no later than 30 days after such non-conformity is first discovered. If Conspec, in its sole discretion, determines that the product breached the above warranty, it will, in its sole discretion, replace the non-conforming product, refund the purchase price or issue a credit in the amount of the purchase price. This is the sole and exclusive remedy for breach of this warranty. Only a Conspec officer is authorized to modify this warranty. The sales information on the Conspec website and received by the customer during the sales process does not supersede this

warranty and the specifications of the product in force on the date of sale. THE FOREGOING WARRANTY SHALL BE EXCLUSIVE AND IN LIEU OF ANY OTHER WARRANTY, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE AND ALL OTHER WARRANTIES OTHERWISE ARISING BY OPERATION OF LAW, COURSE OF DEALING, CUSTOM, TRADE OR OTHERWISE.

Limitation of Liability

Conspec shall not be liable in contract or in tort (including, without limitation, negligence, strict liability or otherwise) for loss of sales, revenues or profits; cost of capital or funds; business interruption or cost of downtime, loss of use, damage to or loss of use of other property (real or personal); failure to realize expected savings; frustration of economic or business expectations; claims by third parties (other than for bodily injury), or economic losses of any kind; or for any special, incidental, indirect, consequential, punitive or exemplary damages arising in any way out of the performance of, or failure to perform, this Agreement, even if Conspec could foresee or has been advised of the possibility of such damages. The Parties expressly agree that these limitations on damages are allocations of risk constituting, in part, the consideration for this agreement, and also that such limitations shall survive the determination of any court of competent jurisdiction that any remedy provided in these terms or available at law fails of its essential purpose.

Receiving

All bagged products should be checked for dryness prior to signing shipping papers.

Storage

Enduro 50 Grout™ should be stored in a cool, dry interior area. At no time should material be exposed to high moisture, rain or snow conditions.

Technical Services

Complete technical and specification services are available from the manufacturer and their authorized representatives and distributors.

Filing System

Additional literature and the Material Safety Data Sheet can be obtained from Conspec upon request.

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