



# Enduro 50

Cement based, non-corrosive, non-shrink grout

## PRODUCT DESCRIPTION

Enduro 50 is a non-shrink, non-corrosive, non-metallic grout. It is formulated as a cement based product with high quality raw materials. Enduro 50 offers pumpability, heat and thermal shock resistance and provides controlled, net positive expansion. Enduro 50 is designed for interior and exterior grouting of precast concrete components, structural column base plates, pump and machinery bases, anchoring bolts, rebar, dowels, bearing pads, keyway joints and crane rails. It finds applications in paper mills, oil refineries, food plants, chemical plants, sewage and water treatment plants etc.

## 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 Specification for non-shrink grout:
- ◇ CRD-C 621 – Grades A, B, C
- ◇ ASTM C-1107 – Grades A, B, C Specification for non-shrink grout
- ◇ ASTM C-827 –Enduro 50 yielded a controlled positive expansion

## PROPERTIES, TEST DATA

Compressive Strength (ASTM C-109)			
	Dry-Pack	Flowable	Fluid
	psi (MPa)	psi(MPa)	psi(MPa)
1 day	5000(34.5)	2500(17.2)	2000(13.8)
3 day	7000(48.2)	5000(34.5)	4000(27.6)
7 days	9000(62.0)	6000(41.4)	5000(34.5)
28 days	10000(68.9)	8000(55.1)	7500(51.7)
Expansion Percentage (ASTM C-1090)			
1 day	0.02%	0.02%	
3 days	0.03%	0.03%	
14 days	0.08%	0.03%	
28 days	0.09%	0.08%	

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

## APPLICATION

### Surface Preparation

Thoroughly clean all contact surfaces. Existing concrete should be strong and sound. Surface should be roughened to insure bond. Metal base plates should be clean and free of oil and other contaminants. Maintain contact areas between 45°F (7°C) and 90°F (32°C) before grouting and during curing period. For hot and cold weather applications, contact Dayton. Thoroughly wet concrete contact area 24 hours prior to grouting, keep wet and remove all surface water just prior to placement. If 24 hours is not possible, then saturate with water for at least 4 hours. Seal forms to prevent water or grout loss. On the placement side, provide an angle in the form high enough to assist in grouting and to maintain head pressure on the grout during the entire grouting process. Forms should be at least 1" (2.5 cm) higher than the bottom of the base plate.

### Mixing

A mechanical mixer with rotating blades like a mortar mixer is best. Small quantities can be mixed with hand tools. When mixing less than a full bag, always first agitate the bag so that a representative sample is obtained. Place approximately 3/4 of the anticipated mix water into the mixer, add the grout mix, adding the minimum additional water necessary to achieve desired consistency. For hot weather conditions (greater than 85°F [29°C]) mix with cold water (approximately 40°F [4°C]). For cold weather conditions (less than 50°F [10°C]) mix with warm water (approximately 90°F [29°C]).

### Water Requirements

Desired Mix	Water per 50 lb. (22.7 kg) Bag
Plastic	7 pints (3.3L)
Flowable	8 pints (3.8L)
Fluid	9 pints (4.2L)

Mix for a total of five minutes ensuring uniform consistency. For placements greater in depth than 3" (7.6 cm), up to 25 lbs. (11.3 kg) of washed pea gravel (3/8" [1 cm] maximum size) must be added to each 50 lb. (22.7 kg) bag of grout. The approximate working time (pot life) is 30 minutes. This will vary somewhat with ambient conditions.

### Placement

Grout should be placed preferably from one side of grout box to avoid entrapping air pockets. Grout should not be over-worked or over-watered causing segregation or bleeding. Vent holes should be provided where necessary. When possible, grout bolt holes first. Placement and consolidation should be continuous for any one section of the grout. Forms may be removed when grout is completely self-supporting. Cut away areas where grout excessively restricts movement of steel, i.e., edges of base plates, etc. For best results, grout should extend downward at a 45° angle from the lower edge of the steel base plates

or similar structures. When nearby equipment causes vibration of the grout, such equipment should be shut down for a period of 24 hours at 73°F (23°C).

### Curing

Exposed grout surfaces must be cured. Dayton recommends using the WB Resin Cure, Cure & Seal WB or a wet cure for 3 days. Maintain the temperature of the grout and contact area at 45°F (7°C) to 90°F (32°C) for a minimum of 24 hours.

### Clean Up

Use clean water

### WASTE DISPOSAL

Dispose of waste material and empty packaging in accordance to Federal, State and Local requirements. Refer to the product's MSDS for further information.

### ESTIMATED YIELD

(Flowable Consistency)

.43 cu.ft. per 50 lb. (.0122 m3 per 22.7 kg) bag  
 .61 cu.ft. per 50 lb. (.017 m3 per 22.7 kg) bag extended with 25 lbs. (11.3 kg) of washed pea gravel [3/8" (1cm) maximum size]

### PACKAGING

ITEM #	Package	Weight			
		Gals	Liter	lb.	kg
301768	Gallons	1	3.8		
300442	Bags			45	20.4

### STORAGE

Shelf life of unopened bags, when stored in a dry facility, is 12 months. Excessive temperature differential and /or high humidity can shorten the shelf life expectancy.

Store in a cool, dry area free of direct sunlight. Refer to Technical Data Sheet and Material Safety Data Sheet for more detailed information prior to use

### LIMITATIONS

Do not re-temper after initial mixing. Do not add other cements or additives to the Enduro 50. Setting time for the Enduro 50 will slow down during cold weather [less than 50°F (10°C)] and speed up during hot weather [greater than 80°F (27°C)]. Prepackaged material segregates while in the bag, thus when mixing less than a full bag it is recommended to first agitate the bag to assure it is blended prior to sampling. Contact Dayton for specific recommendations.

### MANUFACTURER

Conspec a brand of Dayton Superior Corporation  
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### WARRANTY

Dayton Superior Corporation ("Dayton") 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 Dayton, the product is free of manufacturing defects and conforms to Dayton's product properties in force on the date of acceptance by Dayton of the order. Dayton shall only be liable under this warranty if the product has been applied, used, and stored in accordance with Dayton's instructions, especially surface preparation and installation, in force on the date of acceptance by Dayton of the order. The purchaser must examine the product when received and promptly notify Dayton in writing of any non-conformity before the product is used and no later than 30 days after such non-conformity is first discovered. If Dayton, 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 Dayton officer is authorized to modify this warranty. The information in this data sheet supersedes all other sales information received by the customer during the sales process. THE FOREGOING WARRANTY SHALL BE EXCLUSIVE AND IN LIEU OF ANY OTHER WARRANTIES, 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.

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