T E C H N I C A L D A T A

UW GROUT

Underwater cementitious grout with corrosion inhibitor

DESCRIPTION

UW Grout is a pumpable underwater cement-based non-shrink grout with integral corrosion inhibitor for use in underwater repair such as pile restoration. UW Grout is designed for underwater use in tidal zones in applications requiring a non-shrink, non-metallic, wash out resistant grout in thicknesses from 1/2" up to several inches.
UW Grout is specially formulated for minimal wash-out and is salt-water resistant.

USE

Recommended for underwater grouting of bridge columns, concrete pilings, and dam repairs where a "wash-out" resistant, free flowing or pumpable non-shrink grout is required.

FEATURES / BENEFITS

- "Wash-out" resistant thixotropic consistency for dependable underwater repairs (displaces water)
- Free-flowing or pumpable consistency for easy application
- High early and ultimate strength for fast repair and turn around without chlorides
- Positive expansion for maximum durability and adhesion.
- Contains integral corrosion inhibitor

SPECIFICATIONS / COMPLIANCES

Complies with Corp of Engineers CRD C621 (plastic / flowable conditions) and ASTM C 1107

APPLICATION

Preparation: Substrate must be clean and sound. All loose material must be removed. Substrates which are permanently immersed should be sandblasted or cleaned with a high pressure water jet. Non-immersed or intermittently immersed substrates can also be prepared using these techniques. Depending on the circumstances, scabbling or brush hammering may be appropriate. In view of the flowable nature of UW GROUT, all form work must be grout-tight. This can be achieved using foam rubber sealing strips at the edges.

Mixing: The quantity of water required to achieve a flowable consistency must be accurately measured for each mix. Start with 7 pints and add additional water to bring the consistency to a flowable or pumpable yet cohesive mix. Do not exceed 8 pints of water. Each 50 lb bag requires approximately 7.5 pints of water. A mechanically powered grout mixer must be used. Ensure that the machine capacity and the number of workers is adequate to enable grouting to be carried out as a continuous operation. Place the specified amount of water in the mixer. Slowly add the contents of the UW GROUT bag, mixing continuously. When all of the contents have been added, mix continuously for a minimum of 3 minutes, making sure that a smooth, uniform mix is obtained.

APPLICATION (cont.)

Placing: UW Grout can be dry packed, poured or pumped into place. Place the grout within 20 minutes of mixing to gain the full benefit of the expansion process. Continuous grout flow is required and the grout should be poured or pumped through a flexible tube, minimum diameter 1/2" to the lowest point in the form.
At the start of the operation, the grout flow should be restricted in order to avoid any water entrapment. The bottom of the tube may be raised as necessary to reduce any back pressure, but should not be raised above the level of the grout. A 6" minimum depth is suggested below the grout surface to optimize performance.(tremie method).

Application Depth: In typical fiberglass pile jacket applications, the UW Grout can be placed from the bottom of the form/plug to the top of the pile jacket in a continuous pour, depending on the dimensions of the existing pile and the annulus to be filled.
Other factors to consider are the water temperature, the amount of reinforcing (if required), and the type of pile being encapsulated all of which can act as a heat sink in this environment.

TYPICAL TEST DATA

Set Time at 70° F (ASTM C266)	
Initial Set	100 min
Final Set	240 min
Expansion % (ASTM C 1090 flowable)	
1 day	0.03
7 days	0.03
28 days	0.03
Compressive Strength (ASTM C109)	
1 day	3500 psi
7 days	8050 psi
28 days	9100 psi
Bond Strength (ASTM C 882)	
7 days	2000 psi

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

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APPLICATION (cont.)

For large grout pours above water, it may be necessary to extend the UW GROUT using a clean, rounded and well graded aggregate in the size range 3/8" to 1/2".

The quantity of aggregate should not exceed 1 part aggregate to 1 part UW GROUT by weight. For such mixes, a mortar mixer should be used. Unrestrained surface areas should be kept to a minimum. Excessively large volumes should require a thermal analysis to determine any limitations on pour size.

Curing: Curing will not be required in intermittent or totally submerged conditions. However, when cast above water, cover immediately with clean wet rags and keep moist until final set.
After final set, remove rags and apply a SpecChem ASTM C 309-91 curing compound.

PACKAGING / YIELD

50 lb (22.7Kg) multiple plastic lined bag will yield approximately 0.42 cu. ft. in a flowable condition.
Also available in 3000lb super stacks.

Maximum extension (100% by weight) 50 lbs of 3/8" pea stone with 50 lbs of UW Grout will yield approximately 0.70 cu. ft.

LIMITATIONS / PRECAUTIONS

Do not exceed the recommended mix water amount. UW Grout is a fast setting product, so mixing equipment should be cleaned with water as soon as possible.

Do not allow repairs to freeze until the material has reached a minimum of 1000 psi compressive strength.
In adverse temperatures, follow ACI recommendations for hot/cold weather concreting practices.

Use only potable water for mixing.
Minimum surface and ambient temperature of 45°F and rising is required at the time of application.
For optimum results, condition material to between 65°F and 85°F.

Avoid hazards by following all precautions found in the Safety Data Sheet (SDS) product labels, and technical literature.

TECHNICAL SERVICES

For assistance, contact technical services at: 866-791-8700 816-968-5600www.specchemllc.com
24 HOUR EMERGENCY CONTACT:
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400-120-0751 (China)
000-800-100-4086 (India)
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Made in America

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SHELF LIFE / STORAGE

UW GROUT should be stored in a cool, dry interior area. At no time should material be exposed to high moisture, rain, or snow conditions. When stored in the original, tightly closed container, the shelf life is one year from the date of manufacture.

WARRANTY

NOTICE-READ CAREFULLY
CONDITIONS OF SALE
SpecChem offers this product for sale subject to and limited by the warranty which may only be varied by written agreement of a duly authorized corporate officer of SpecChem. No other representative of or for SpecChem is authorized to grant any warranty or to waive limitation of liability set forth below.
WARRANTY LIMITATION
SpecChem warrants this product to be free of manufacturing defects. If the product when purchased was defective and was within use period indicated on container or carton, when used, SpecChem will replace the defective product with new product without charge to the purchaser. SpecChem makes no other warranty, either expressed or implied, concerning this product. There is no warranty of merchantability. NO CLAIM OF ANY KIND SHALL BE GREATER THAN THE PURCHASE PRICE OF THE PRODUCT IN RESPECT OF WHICH DAMAGES ARE CLAIMED.
INHERENT RISK
Purchaser assumes all risk associated with the use or application of the product.

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