

TECHNICAL DATA

DESCRIPTION: HP Underwater Grout is a single component, high early strength repair mortar designed for use in marine environments. HP Underwater Grout combines the latest concrete technologies and high quality raw materials to yield a very fast setting repair mortar that will not segregate when placed in underwater applications. This cement based mortar can be used on vertical, horizontal or overhead surfaces above and below grade.

USE ON: Tunnels, sea walls, pile jackets, spill ways, dams, pilings and piers

- ADVANTAGES:**
- Very fast setting - less than 10 minutes
 - Will not segregate when placed underwater
 - Vertical, horizontal or overhead surfaces
 - Above and below grade
 - Fully cured in less than 2 hours
 - Can be extended

	2 hours	1 day	7 days	28 days
Compressive Strength (ASTM C 109 Modified)	3000 psi (20.7 MPa)	4000 psi (27.3 MPa)	6800 psi (46.57 MPa)	7000 psi (48.27 MPa)
Flexural Strength (ASTM C 293)				1200 psi (8.3 MPa)
Bond Strength (ASTM C 882)			1500 psi (10.3 MPa)	2000 psi (13.8 MPa)
Setting Times (ASTM C 266)	Initial Set 10 minutes		Final Set 20 minutes	
Length Change (ASTM C 157)	+ .01% @ 28 days			
Scaling Resistance (ASTM C 672)	0 rating – no scale			
Yield	55 lb bag neat = .46 ft ³		Extended with 50 lb gravel = .8 ft ³	

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- MIXING:** HP Underwater Grout can be mixed in a rotary drum or other suitable mechanical mixer. Introduce measured amount of water to mixer. No more than 5 quarts per bag. If adding aggregate, add one-half the required water to the aggregate in an operating mixer. Add HP Underwater Grout to water and aggregate, then add the remaining water, mixing for no more than three minutes to obtain desired consistency. Dump batch and immediately deliver HP Underwater Grout mix to properly prepared substrate. For vertical or overhead repairs use less than 5 quarts of water and mix to desired consistency.
- CURING:** Cure as soon as possible after the repaired area has hardened. For best results, saturate with water and cover with wet burlap and polyethylene. Curing compounds may be used when a water cure is not practical.
- LIMITATIONS:** HP Underwater Grout should be used when ambient temperatures are at 40°F (4°C) and rising. Lower temperatures produce a slower set; higher temperatures produce a faster set. For temperatures below 40°F (4°C) consult with the manufacturer for special cold weather placement provisions which include but are not limited to conditioning of the materials, use of heated mix water and thermal protection. In hot weather use chilled water for mixing.
- PACKAGING:** HP Underwater Grout is packaged in 50 lb (22.68 kilo) Kraft multi-wall, polyethylene lined bags. Yield when mixed with water is approximately .42 ft³.

CAUTION: WARNING! CONTAINS FREE SILICA & PORTLAND CEMENT. DO NOT BREATHE DUST. May cause delayed lung injury (silicosis). Follow OSHA safety and health standards for crystalline silica (quartz). Cement powder or freshly mixed concrete grout or mortar may cause skin injury. Avoid contact with skin and wash exposed skin areas promptly with water. If any cement powder or mixture gets into the eyes, rinse immediately and repeatedly with water and get prompt medical attention.