

Hard-Rok

Fast-Set Cementitious Grout



**Initial set time of
20 minutes
Final Set Time in 60
minutes at 75 °F (24 °C)**



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PRODUCT DESCRIPTION

HARD-ROK ANCHORING CEMENT is a rapid setting, high strength, non-shrink, non-metallic cementitious product used in anchoring and grouting applications. This hydraulic cement is quickly and easily mixed with water to either a pourable or putty-like consistency and reaches initial set time in 20 minutes and final set time in 60 minutes - 75 °F (24 °C).

GENERAL USES & APPLICATIONS

- » Fence posts, gates, anchoring threaded rod and reinforcing bar (rebar), railings, signs and parking meters
- » Anchoring bolts and machinery
- » Patching holes and cracks in roads and sidewalks

ADVANTAGES & FEATURES

- » Initial set time of 20 minutes
- » Fast setting, with full set time in 60 minutes at 75 °F (24 °C)
- » Non-shrink and non-metallic
- » High flexural strength
- » Bond strength outperforms rebar
- » Both exterior and interior use
- » Withstands water erosion



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HARD-ROK ANCHORING CEMENT PERFORMANCE TO ASTM STANDARDS

Property	Parameter	ASTM Standard	Units	Result
Compressive Strength	3 hrs	C109	psi (MPa)	2,100 (14.5)
	1 day		psi (MPa)	4,500 (31.0)
	3 days		psi (MPa)	4,900 (33.8)
	7 days		psi (MPa)	5,600 (38.6)
	28 days		psi (MPa)	7,200 (49.6)
Flexural Strength	-----	C293	psi (MPa)	1,260 (8.7)
Density ¹	-----	C138	lb/ft ³ (kg/M ³)	129 (2,067)
Bond Strength ³	1/2 in. A325 Bolt ²	C900	lb-F (kN)	28,900 (128.6)
	1 in. A325 Bolt		lb-F (kN)	73,000 (324.7)
	#4 Deformed Rebar ²		lb-F (kN)	26,500 (117.9)
	#8 Deformed Rebar ²		lb-F (kN)	75,000 (33.4)
Tensile Strength	7 days	C307	lb-F (kN)	450 (3.1)

1. Density based on 115 lbs. of HARD-ROK mixed with 1.75 gallons of water.

2. Failure mode was failure of the steel anchoring element.

3. For 1/2 in. A325 bolt, the hole diameter was 1 1/2 in. and the depth of hole was 6 in. For 1 in. A325 bolt the hole diameter was 2 1/4 in. and the depth of the hole was 10 in. For #4 rebar, the hole diameter was 1 in. and the depth of the hole was 8 in. For #8 rebar, the hole diameter was 2 in. and the depth of the hole was 16 in. Values reported represent ultimate failure loads.

HARD-ROK ANCHORING CEMENT SET TIME¹

Base Material Temperature °F (°C)	Initial Set Time	Final Set Time
75 (24)	20 mins	1 hr

1. Temperature will affect set times, with colder temperatures causing slower set times and warmer temperatures causing faster set times.