

1. Product Name

Hard-Rok™

Fast Set Anchoring Cement

2. Manufacturer

Adhesives Technology Corp.
450 East Copans Road
Pompano Beach, FL 33064
Ph: (800) 892-1880 or (954) 782-2221
Fax: (800) 362-3320 or (954) 782-2499
E-mail: info@atc.ws
Web Address: www.atc.ws

3. Product Description

GENERAL DESCRIPTION

HARD-ROK™ Anchoring cement is a high strength, fast setting, non-shrink, nonmetallic cementitious product used for anchoring and grouting applications. This hydraulic cement is quickly and easily mixed with water to either a pourable or putty-like consistency. **HARD-ROK™** has a working time of 8 minutes and sets hard in 15 minutes at 75°F. when mixed to fluid consistency and is stronger than concrete in less than 60 minutes. **HARD-ROK™** is equally effective indoors or outdoors and when cured is not affected by flowing water or freeze thaw cycles. **HARD-ROK™** is packaged in 50 lb. moisture proof plastic pails.

Quick Selection Guide	
Color	Concrete Grey
Initial Set Time (75°F)	15 minutes
Final Set Time (75°F)	60 minutes

BASIC USE

HARD-ROK™ is specifically formulated for anchoring threaded rods, bolts, rebar, railings, signs, posts, parking meters, & machinery in concrete, brick, stone and other substrates. It is effective for patching holes and cracks in concrete floors, masonry walls, roads and sidewalks and for re-pointing mortar joints. **HARD-ROK™** is a high quality controlled hydraulic cement.

FEATURES

- **High Strength Fast Cure Anchoring Cement:** 8 minute working time with fast initial set of 15 minutes at 75°F when mixed to fluid consistency.
- **Minimum Compressive strength in 60 minutes:** Eliminates wasteful downtime. Note: Higher temperatures will accelerate set time and lower temperatures will extend it.
- **Ideal for interior and exterior applications:** No crowning or coating of hole is necessary.
- **Contains no metals** to rust and cause unsightly stains. In addition, it is alkaline and will not promote rusting of iron, steel or aluminum.
- **Compressive strength of 7,200 psi** in 28 days insures a firm bed in grouting applications.
- **Mixed to a free flowing consistency:** Flows like pancake batter eliminating the labor required in Roding or vibrating to eliminate voids.
- **Mixed to a putty-like consistency:** May be troweled into areas where minimal slump is desired insuring optimum performance in horizontal or vertical applications.
- **Use less than competing products:** Drill hole only 1/4" diameter larger than object to be installed.
- **Withstands water erosion** and when submerged in water provides performance similar to high quality concrete.
- **Only water needs to be added** eliminating longer mixing times, additional training and jobsite inventory often associated with other products requiring additional additives.
- **Exterior Applications:** No crowning or coating necessary.

*note, cement mixtures contain small amounts of gypsum. No additional gypsum has been added

APPLICATIONS INCLUDE:

- Anchoring Threaded Rods, Bolts and Rebar Dowels
- Anchoring Railing, Signs, Posts and Parking Meters
- Anchoring Machinery
- Patching Holes and Cracks in Concrete

LIMITATIONS:

- **DO NOT** thin with solvents; addition of solvents will prevent cure
- **DO NOT** add excess amounts of water or additional water as the mix begins to set up.

COLOR: Concrete Grey

SOLIDS: Weight: 100% Volume: 100%

SHELF LIFE: 12 Months

STORAGE: Store in unopened containers at 40°F – 95°F.

SIZE/PACKAGING: (Ordering Information)		
HARD-ROK™ is available in:	Pallet Qty	Truckload Qty
50 lb. pail; part number: HR-AC	42 units	821 units

Manufactured In The U.S.A.

4. Technical Data

COMPRESSIVE STRENGTH When mixed to a pourable consistency	
Age	Compressive Strength (psi)
1 Hour	1,954
3 Hours	2,361
1 Day	6,556
28 Days	7,200

COVERAGE: 1 lb. of Hard-Rok will yield approximately 15 cubic inches (when mixed with water) 50 lb. pail of Hard-Rok will yield approximately 750 cubic inches (0.43 cubic feet)



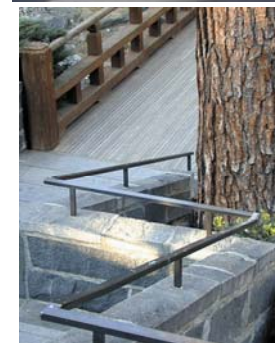
HARD-ROK was independently tested in accordance with ASTM specifications.

HARD-ROK™ Anchoring Cement uses smaller hole diameters than is needed by other competitive products, saving a great deal of money on material and labor. Please view the chart below for more information.

HARD-ROK™ ANCHORING CEMENT PRODUCT VOLUME SAVINGS						
Anchored Object Dia. (in)	Embedment Depth (in)	Hole Dia.* 1/4" Greater than Object Dia. (in)	Product Volume Savings	Hole Dia.* 1/2" Greater than Object Dia. (in)	Product Volume Savings	Competition* * Recommended Hole Dia. (in)
1/2	1-1/2	3/4	44%	1	-	1
3/4	2-1/4	1	56%	1-1/4	31%	1-1/2
1	2-1/2	1-1/4	61%	1-1/2	44%	2
1-1/4	2-5/8	1-1/2	64%	1-3/4	51%	2-1/2
1-1/2	2-3/4	1-3/4	66%	2	56%	3
2	5	2-1/4	68%	2-1/2	61%	6

APPLICATION ADVANTAGES OF HARD-ROK™ OVER COMPETING PRODUCTS

- No need to make the hole wider at the bottom than the top by wobbling the drill to undercut the bottom.
- No strength loss or deterioration when submerged in water. It provides performance similar to high quality concrete. No painting with waterproof paint or sealer is necessary. Hard-Rok does not contain gypsum or any water sensitive materials.
- Only water needs to be added: Eliminating longer mixing times and jobsite inventories of needed additives; No dispensing tools or mixing nozzles are needed as with epoxy and other adhesive systems.
- No need to drill extremely large diameter holes. Only slightly larger holes are needed. Hard-Rok is the only cementitious product allowing small diameter holes for high strength anchoring.
- Select from iron and aluminum railings, pvc tubing, wood, rebar, smooth dowels, headed bolts, threaded rod with nut attached (no washer needed) to accomplish your anchoring project.
- No crowning or coating is necessary. This product is ideal for interior or exterior use, unlike most other competitive products. Hard-Rok may even be used underwater.
- Will not shrink as other competitive can do. Hard-Rok will trowel level and stay level.
- Ultra high pull-out strength (see load table on page 1).



Manufactured In The U.S.A.

5. Installation Job site preparation and work flow to achieve desired results, carefully follow procedures

How to Mix HARD-ROK™

Always use a clean container. Never add sand, gravel or other foreign substance to HARD-ROK. This can weaken the product and effect setting. Mix no more product than can be used in 15 minutes at 75°F.

Two Consistencies

HARD-ROK™ may be used in either fluid consistency for pouring or trowelable consistency for application with putty knife or trowel. Either consistency provides high strength.

WARNING: WATER TEMPERATURE MUST NOT EXCEED 78°F

WARNING: NEVER USE MORE WATER THAN RECOMMENDED. This will reduce strength, increase the possibility of separation of materials and may cause product to become soft and produce undesirable results. **MAXIMUM 3.6 quarts of water / pail.**

Fluid (Pouring) Consistency:

To achieve desired results, water to HARD-ROK™ ratio must be measured accurately. The correct amount of potable water is 2.3 fl oz for each 1 lb of Hard-Rok or 11.5 fl oz for 5 lbs. or 115 fl. oz. (3.6-qt or 3.4 liters) for 50 lbs. Measure the amount of HARD-ROK™ and water to be mixed. Add all of the water to the mixing container first then mix in the Hard-Rok using a low rpm drill and mud mixer for **AT LEAST 3 minutes** to assure uniform consistency with no lumps.

Plastic (Trowelable) Consistency:

For best results, water to HARD-ROK™ ratio must be measured accurately. The correct amount of potable water for plastic consistency is 1.5 fl oz for each 1 lb. of Hard-Rok or 75 fl oz (2.34 quarts, 2.2 liters) for 50 lbs. Add all of the water to the mixing container first then mix in the HARD-ROK™ using low rpm drill and a mud mixer. At first dry lumps will form, keep mixing for 1 to 1 ½ minutes until powder absorbs water producing proper consistency with no lumps.

IMPORTANT: DO NOT ADD ADDITIONAL AMOUNTS OF WATER AS THE MIX BEGINS TO SET UP. Excess water reduces strength, durability, and increases set time as with any hydraulic cement product. Follow ACI and ICRI recommended guidelines for best results.

HOW TO ANCHOR BOLTS, RAILINGS, POSTS AND RODS IN CONCRETE, BRICK OR STONE

1. Drill hole to proper depth. Blow out dust from bottom of the hole. Brush the hole out with a nylon brush. Finally, blow out dust again using compressed air or vacuum the hole clean. Hole MUST be free of dust before proceeding.
2. Surface and holes to receive HR anchoring cement must be brought to a saturated/surface-dry condition (SSD). This means that the pores of concrete are completely saturated with water but no water remains on the surface. Presoak the concrete surface for 30 minutes. Blow out all freestanding water with compressed air or vacuum out. Leave the hole clean.
3. Mix the HARD-ROK™ cement in a CLEAN CONTAINER. (See Above - "How to Mix HARD-ROK™")
4. For all vertically down anchoring and doweling either consistency may be used. (See Above - "How to Mix HARD-ROK™"). Pour the cement into the hole filling to the top then insert threaded rod or rebar to bottom of hole while turning clockwise or if preferred fill the space around the bolt to the top. Do not disturb for a minimum of 30 minutes at 75°F or apply load for a minimum of 60 minutes.
5. For anchoring in vertical walls, use the putty consistency (See Above - "How to Mix HARD-ROK™"). Fill the hole with the putty-like product first. Then tamp the bolt or stud into place. If the product becomes too fluid because of the tamping process and sags out of place, let it stand for a few moments and it will stiffen. Then smooth out the surface around the bolt with a putty knife or spatula.



Manufactured In The U.S.A.

HOW TO PREPARE CONCRETE FOR GROUTING

Preparation – The surface must be sound, clean, and free of debris and oil. Concrete must be shot blast, scarified or scaled to provide clean, freshly exposed aggregate. The concrete over which the **HARD-ROK™** is to be installed must be saturated with water at the time of application. However, any freestanding water that has accumulated must be removed by compressed air or vacuuming. Follow ACI and ICRI recommended guidelines for best results.

Grouting – When mixed to a fluid consistency, **HARD-ROK™** flows readily (See How to Mix for details). Therefore, proper confining devices should be provided for all openings before the first batch is mixed. Work should progress continuously without interruption so that the entire area to be grouted is completely filled before the mortar begins to stiffen. It is best to work from a side outward until the entire form is filled. Reinforcing rods or wire mesh may be used where desired.

Sample Specification – Repair Material shall be a single component, fast setting, non-shrink, nonmetallic cementitious product (hydraulic cement). The material must have an initial set of 20 minutes, a minimum compressive strength of 7,200 psi. In addition, the repair material **MUST NOT** have *gypsum as an ingredient, and must be capable of use for both indoor and outdoor applications. Shelf life must be a minimum of one year. Repair Material shall be **HARD-ROK™** Fast Setting Anchoring Cement manufactured by Adhesives Technology Corp., Pompano Beach, Florida. *note, cement mixtures contain small amounts of gypsum

BUILDING CODES

Installation of **HARD-ROK™** products must comply with applicable local, state and national code requirements

SITE CONDITIONS

Material shall be delivered in original unopened containers and stored in a dry environment at a temperature between 40° and 90°F.

PRECAUTIONS

- Wear safety glasses
- Avoid prolonged contact with skin.
- Keep out of reach of children
- Do not take internally
- If Ingested seek medical attention immediately.
- Eye contact. Flush with water for at least 15 minutes. Call a physician immediately.
- **Availability and Cost**

AVAILABILITY

HARD-ROK™ products are available through select distributors who can provide you with all of your construction needs. Please contact Adhesives Technology Corp. at (800) 892-1880 for a distributor near you.

COST

Cost information is available from your local distributor.

7. Warranty

All warranties of the product listed herein, in the corresponding ATC catalogue, and in any other current literature, expressed or implied, including warranties of merchantability and fitness for a particular purpose are specifically and expressly excluded with the following exception: At its sole discretion, ATC will repair or replace any product which it considers to be defective in material or workmanship, excepting normal wear and tear within sixty (60) days from the date of purchase from ATC. ATC shall not be liable for any injury, loss or damage, direct, indirect, incidental or consequential or arising out of use of, misuse of, negligence, accident or inability to use any ATC product.

8. Technical Services

For technical support contact Adhesives Technology Corp. at (800) 892-1880.

9. Maintenance

None required.

10. Filing System

Additional product information and specifications are available either on line at www.atc.ws or contact Adhesives Technology at (800) 892-1880 to get copies mailed to you.

Actual user performance and data may differ due to variations of base material, installation procedures and personnel, weather conditions and other factors. Adhesives Technology Corp. reserves the right to change specifications or information printed in this Tech Data Sheet without notice or liability for these changes. Adhesives Technology Corp. will not be liable for any claim based on the use of data or other information printed in this Tech Data Sheet.

Manufactured In The U.S.A.