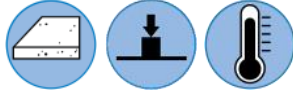


HARD-ROK JET PATCH



Product Description

HARD-ROK JET PATCH is a polymer modified portland cement blend of specialty aggregates and admixtures providing a rapid setting, high strength, durable concrete repair for use on airport runways, taxiways, concrete floors, highway pavements, bridge decks and other applications requiring early resumption of traffic or use. JET PATCH is formulated to meet the requirements of ASTM C928 Standard Specification for Packaged, Dry, Rapid-Hardening Cementitious Materials for Concrete Repairs. HARD-ROK JET PATCH is premixed, requiring only the addition of potable water. This unique mortar provides outstanding results and enables projects to be completed more rapidly than with conventional patching and repair materials.

General Uses & Applications

- Concrete repair applications such as bridge decks, concrete pavements and joints, airport runways and taxiways, industrial floors, loading docks, pre-stressed and pre-cast concrete
- Applications requiring rapid compressive strength gain

Advantages & Features

- High early strength with low permeability
- Freeze thaw resistant
- Thermal expansion and contraction similar to concrete
- Flowable and self-compacting
- Sulfate resistant

Availability: Adhesives Technology Corp. (ATC) HARD-ROK products are available through select distributors providing all your construction needs. Please contact ATC for a distributor near you or visit our website to search by zip code.

STANDARDS & APPROVALS

DOT Listed

(See ATC website for current list of Department of Transportation approvals throughout the United States)

Color & Ratio: Concrete Gray

Storage & Shelf Life: Store in unopened containers in cool and dry conditions. Store between 40 °F (4 °C) and 95 °F (35 °C).

Installation & Coverage: Manufacturer's Printed Installation Instructions (MPII) are available within this Technical Data Sheet (TDS). Due to occasional updates and revisions, always verify that you are using the most current version of the MPII. In order to achieve maximum results, proper installation is imperative.

Clean Up: Always wear appropriate protective equipment such as safety glasses and gloves. Clean uncured materials from tools and equipment using mild solvent. Cured material can only be removed mechanically.

Limitations & Warnings:

- Substrate and ambient temperature must be > 40 °F (4 °C)
- When work environment or substrate falls below 70 °F (21 °C), precondition product to 70 - 75 °F (21 - 24 °C) prior to use
- Maximum 3 in. (76 mm) layer neat, but no less than 1/2 in. depth
- For spalls > 3 in. (76 mm) add pea gravel - See MPII
- Do not re-temper after initial set
- Must be placed within 12 minutes after mixing
- Color variations may occur

Safety: Please refer to the Safety Data Sheet (SDS) for HARD-ROK JET PATCH published on our website or call ATC for more information at 1-800-892-1880.

Specification: The fast-set cementitious grout shall be a single component, rapid setting, high-strength, grout with an initial set time of 16 minutes per ASTM C266. At 28 days, the grout shall have a minimum compressive strength of 11,797 psi (81.3 MPa) per ASTM C109 and a flexural strength of 1,430 lb/ft³ (22,909 kg/M³) per ASTM C348. The product shall be HARD-ROK JET PATCH from Adhesives Technology Corp., Pompano Beach, Florida.

ORDERING INFORMATION

TABLE 1: HARD-ROK JET PATCH PACKAGING

Package Size	50 lb. Bag
Part #	HR-JP
Bag Weight (lb.)	50.4
Pallet Qty. (Bag)	56
Pallet Weight (lb.)	2,866



MATERIAL SPECIFICATION

TABLE 2: HARD-ROK JET PATCH Performance to ASTM STANDARDS^{1,2}

Property	Parameter	ASTM Standard	Units	Results
Set Time	Initial	C266	min	16
	Final			25
Compressive Strength	1 hr	C109	psi (MPa)	5,203 (35.9)
	1 day		psi (MPa)	7,621 (52.5)
	7 day		psi (MPa)	10,604 (73.1)
	28 day		psi (MPa)	11,797 (81.3)
Split Tension Strength	1 hr	C496	psi (MPa)	625 (4.3)
	1 day		psi (MPa)	803 (5.5)
	28 day		psi (MPa)	888 (6.1)
Flexural Strength	1 hr	C348	lb/ft ³ (kg/M ³)	1,030 (16,501)
	1 day		lb/ft ³ (kg/M ³)	1,430 (22,909)
	28 day			
Bond Strength (Slant Shear)	1 hr	C1042	lb-F (kN)	2,175 (9.7)
	1 day		lb-F (kN)	2,249 (10.0)
	28 day		lb-F (kN)	4,655 (20.7)
Flow	15 min	C928	%	100.0
Length Change	28 day	C157	%	0.04

1. Results based on testing conducted on a representative lot(s) of product. Average results will vary according to the tolerances of the given property.

2. Results based on pourable consistency of 12.8 % water by weight.

INSTALLATION INSTRUCTIONS (MPII)

PREPARATION

Surface – The concrete surface must be a minimum of 28 days old, sound, clean, 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 JET PATCH is to be installed must be saturated with water (saturated/surface-dry, or SSD) at the time of application. However, any freestanding water that has accumulated must be removed by compressed air or vacuuming. All concrete of poor quality that is in contact with reinforcing steel should be removed. Remove rust from exposed reinforcing steel by brushing or sandblasting prior to repairing with JET PATCH. Have all necessary tools and materials near work area to permit rapid and continuous placement of JET PATCH. **NOTE:** Feather-edging is not recommended. Refer to International Concrete Repair Institute publication No. 310.1R-2008 for further surface preparation suggestions.

MIXING HARD-ROK JET PATCH

Always use a clean mixing container. **Precondition product to approximately 70 °F (21 °C) and store in cool location until time of usage. Water should also be approximately 70 °F (21 °C).** It is recommended that no less than one bag is mixed at a time. Prior to mixing the first batch of HARD-ROK JET PATCH, wash out mixer and determine the number of bags to be mixed at one time. Mix only the amount of JET PATCH that can be placed in approximately 10 minutes. Add required amount of cold 70 °F (21 °C) water to a clean, 5 gallon (19 L) pail. **NOTE:** For a trowelable consistency, add 12 % water by weight, or 92 oz. (2.7 L) of water for a full 50 lb. bag. For a self-leveling or pourable consistency, add 12.8 % water by weight, or 98 oz. (2.9 L) of water for a full 50 lb. bag. Mix JET PATCH into water with a low rpm drill and mixing paddle as rapidly as possible but without dumping in the full bag. The actual mixing device shall have paddles / impellers capable of thoroughly blending stiff mortar (epoxy compound mixers have been found suitable). Mix the JET PATCH for 3 to 5 minutes or until a smooth uniform consistency with no lumps is achieved. **Do not use more water than indicated.** Excess water may cause bleeding, segregation and loss of structural properties of the product. Care should be exercised not to form a downward-flowing vortex causing entrapment of air, resulting in a porous surface.

HAND MIXING OF SMALL BATCHES: Place small quantity of water into a container, add HARD-ROK JET PATCH and mix by hand using a spoon or paddle, until desired consistency is achieved.

MIXING WITH PEA GRAVEL: For repairing depths of 1/2 in. to 3 in. (13 mm to 76 mm), HARD-ROK JET PATCH should be used as packaged. For depths of greater than 3 in. (76 mm), it is recommended that 3/8 in. (10 mm) pea gravel or pea stone be added to the JET PATCH. Due to the nature of JET PATCH, the addition of 3/8 in. (10 mm) aggregate as specified below does not substantially affect performance or consistency, but will result in yield increase of approximately 40%. Follow basic mixing procedures for JET PATCH as modified below:

- Choose a clean (free of organic material) well-graded 3/8 in. (10 mm) aggregate
- Soak in clean water for approximately 24 hours prior to mixing with JET PATCH
- Drain off excess water prior to mixing. The total mixing water for the batch shall be reduced by the amount of free water found in the aggregate
- Follow normal mixing procedures for JET PATCH. After all water has been added and JET PATCH has come to uniform consistency, add approximately one 5 gallon (19 L) bucket of 3/8 in. (10 mm) aggregate for every two 50 lb. bags of JET PATCH
- Continue to mix until the aggregate is thoroughly dispersed throughout the JET PATCH

APPLICATION: Place the material immediately into thoroughly dampened area, at depths of not less than 1/2 in. (13 mm). Place from one side to the other, working material into sides and bottom of repair area to facilitate proper bonding. Screen and level to proper elevation of existing concrete. Excessive troweling is not required. **Under no circumstances should HARD-ROK JET PATCH be re-tempered using water or other additives.**

FINISH: As soon as HARD-ROK JET PATCH has reached final set, apply soaked burlap or pond exposed surfaces to inhibit rapid evaporation conditions due to high ambient temperature. When using this technique, delay application of cure/seal compound for 24 hours after final set or until surface has reached suitable moisture content for application.

Proper application is the responsibility of the user.