



Atlas Minerals & Chemicals, Inc.



# DATA SHEET

PI-010 (8-00<sup>2</sup>)  
Supersedes PI-010 (5-90)

## ATLAS® EPOXY POLE REPAIR SYSTEM RESTORE POLE TOPS, FILL WOODPECKER HOLES

### PRODUCT DESCRIPTION

EPOXY POLE FILLER and EPOXY POLE PATCH are multi-component polymer resin based repair and reconstruction materials formulated for on-site quick and easy use. EPOXY POLE FILLER restores pole tops and fills nesting cavities. EPOXY POLE PATCH is for surface restoration where a lineman's climbing spikes must penetrate. The EPOXY POLE REPAIR SYSTEM eliminates replacement of most damaged utility poles.

### BASIC USES

A hollow wooden pole, whether due to a woodpecker nesting site or below ground deterioration, can fail in high winds or due to ice formation. Pole top deterioration also weakens cross arm fasteners. The EPOXY POLE REPAIR SYSTEM makes it possible to repair and reconstruct wood utility poles in place. Complete reconstruction, with corrosion and weather resistant POLE FILLER, extends pole life, reduces outage times, and eliminates the need to remove apparatus from the damaged pole. The maximum service life of a pole is realized, often with no loss of service during the repair, when restoration is made with the EPOXY POLE REPAIR SYSTEM.

### The principle benefits are:

- Fill woodpecker holes.
- Reconstruct rotted pole tops.
- Repair broken poles.
- Restore poles with groundline and below ground deterioration from insects or fungal and bacterial rot.
- Repair fire and vehicular damage.
- Repair materials are corrosion and weather resistant.

EPOXY POLE FILLER fills cavities caused by wood deterioration or woodpecker attack. EPOXY POLE PATCH is used on exposed pole surfaces and permits climbing irons to be used. POLE PATCH is easily penetrated by climbing irons.

## PHYSICAL PROPERTIES ATLAS EPOXY POLE FILLER

PROPERTY	TEST METHOD	TYPICAL VALUE
Density	ASTM C905	129 lb./cu. ft. (2.07 g./cc.)
Tensile Strength, 7 days @ 77°F (25°C)	ASTM C307	1,900 psi. (13 MPa)
Compressive Strength, 7 days @ 77°F (25°C)	ASTM C579	8,600 psi. (59 MPa)
Flexural Strength, 7 days @ 77°F (25°C)	ASTM C580	4,000 psi. (28 MPa)
Flexural Modulus of Elasticity	ASTM C580	4.08 x 10 <sup>5</sup> psi. (2,815 MPa)
Water Absorption	ASTM C413	0.05%
Flammability	ASTM D635	V2 less than wood
Working Time, 75°F (24°C)		15-20 min.
Color		Natural

## PHYSICAL PROPERTIES ANCHOR-LOK™ PE POLE WRAP

PROPERTY	TEST METHOD	TYPICAL VALUE
Classification	ASTM D1248	Type 111, Grade W9
Density	ASTM D792	59.3 lb./cu. ft. (0.95 g./cc.)
Tensile Strength, 7 days @ 77°F (25°C)	ASTM D638	3,700 psi. (25.5 MPa)
Coefficient of Thermal Exp., in./in./°F (cm./cm./°C)	ASTM D696	6.9 x 10 <sup>-5</sup> (12.4 x 10 <sup>-5</sup> )
Hardness, Shore D-2		66
Flexural Modulus of Elasticity	ASTM D638	140,000 psi. (965 MPa)
Water Absorption	ASTM D570	< 0.01%
Flammability	ASTM D635	Slow
Ultimate Elongation		660%
Notch Impact Strength, ft. lb. / in of notch	ASTM D256	6.46
Volume Resistivity		> 10 <sup>15</sup> ohm-cm
Approx. Wt. / Sq. Ft., 1/8" thick		0.8 lb. (363 g.)
Color		Black

## PACKAGING AND COVERAGE ATLAS EPOXY POLE FILLER

35 lb. 12 oz. (16.2 kg.) unit consists of:  
One - 4 lb. 12 oz. (2.2 kg.) can Resin  
One - 4 lb. (1.8 kg.) can Hardener  
One - 27 lb. (12.3 kg.) bag Aggregate  
The unit package will fill approx. 1/3 cu. ft.

**ATLAS EPOXY POLE PATCH**

14 lb. 5 oz. (6.5 kg.) unit consists of:

One - 3 lb. 5 oz. (1.5 kg.) can Resin

One - 1 lb. (.5 kg.) can Hardener

One - 10 lb. (4.5 kg.) bag Powder

The unit package will fill approximately 100 square inches two (2) inches deep.

**PREPARATION****EQUIPMENT:**

**Mixers** - The materials may be mixed using hand tools or machine mixers. A KOL five gallon mixer or a drill motor with a mixing paddle are satisfactory.

**Vibrator** - An air or electric vibrator, such as is used for vibrating concrete forms, will be helpful in compacting the POLE FILLER. Fasten it on the exterior of the pole. Observe the Vibrator Manufacturer's Operating and Safety Instructions.

**Funnels** - A large funnel, or a pouring trough which can be readily formed from sheet metal or cardboard is a help in placing EPOXY POLE FILLER into confined spaces, such as woodpecker holes.

**Hand tools and materials** - Trowels or wide blade smoothing spatulas (like putty knives or dry wall smoothing blades) assist in finishing the surface of placed material. Hammers for nails or drivers for threaded fasteners will be needed for work requiring forming. Rubber Gloves for handling POLE PATCH and POLE FILLER. Duct tape or other strong tape.

**Fasteners** - Galvanized or corrosion resistant screws or nails for fastening form sheets.

**Forms** - A suitable wrap-around temporary form is helpful when filling a pole top. Cardboard, which is removed after the EPOXY POLE FILLER has hardened, is frequently used.

**Hardware Cloth** - 1/2" mesh Hardware Cloth for woodpecker nesting hole repairs.

**POLE PATCH and POLE FILLER** - Store materials at a temperatures between 70°F and 80°F (21°C to 27°C) overnight or long enough for the materials in the containers to reach this temperature. In cool weather, carry the materials in the heated cab of the truck to keep them warm.

**PREPARING THE POLE FOR POLE FILLER AND POLE PATCH**

Loose wood, soil, and other contaminants must be removed. Although the repair compounds will cure under wet conditions, better adhesion is obtained when surfaces are clean and dry.

**Pole Tops** - After removing contaminants wrap a heavy cardboard around the top of the pole and nail it temporarily in place. This will serve as a form to retain the POLE FILLER until it hardens, at which time the cardboard form may be removed.

**Woodpecker holes** - Determine the limits of the nest using a foot rule or probe. When the cavity extends above the woodpecker entry hole (the roof of the nest), drill a large hole (1-1/2") at the top of the cavity to

allow the placement funnel to enter. Prepare a wood dowel or other plug to close the woodpecker entry hole. If the woodpecker entry hole is at the top of the cavity, it may be used as a filling point for the placement funnel.

**MIXING****POLE FILLER**

The materials are supplied in pre-measured unit packages with the resin, hardener, and aggregate in the correct proportions. When ready to use, combine the liquid resin and hardener ingredients and mix until they are uniform in color. Then add the aggregate and continue mixing until the desired consistency is obtained.

Smaller amounts may be mixed, but care must be exercised to maintain the correct mixing ratios between the three components. When mixing smaller amounts than the unit, use the following ratios:

**POLE FILLER:** One volume of resin to one volume of hardener and four volumes of aggregate.

**POLE PATCH:** Three volumes of resin to one volume hardener. Mix until they have a uniform color. Continue mixing while slowly adding POLE PATCH Powder until a smooth, homogenous, hand moldable mixture is obtained.

**APPLICATION****WOODPECKER NESTING HOLES**

Reconstruction of wood utility poles damaged by woodpeckers is accomplished using EPOXY POLE FILLER and EPOXY POLE PATCH.

Complete preparation instructions above. If available, mount a vibrator on the pole near the nest. Large cavities can be loosely filled with stones or small wood blocks up to the entrance hole elevation. Leave at least a 2" open space from the face of the pole. Cut a piece of 1/2" mesh hardware cloth the size of the entrance hole and force into the hole against the previously placed stones and/or wood fill. Mix POLE PATCH, as described above and pack it into the large entry hole, forcing POLE PATCH into the hardware cloth and flush with the surface of the pole. Pack it tightly. Cover the packed woodpecker entry hole with Duct tape to ensure that leakage will not occur while filling the cavity with POLE FILLER. Mix POLE FILLER as described above. Place the pouring funnel spout into the previously drilled fill hole. Turn on the vibrator. Pour POLE FILLER through the funnel into the cavity until full. Operate the vibrator during this operation. When the cavity is full to within 2" of the fill hole, jug the fill hole using either POLE PATCH or a wooden plug. Finish by smoothing POLE PATCH flush with the pole surface or cut the wood plug flush. Small holes may be filled entirely with EPOXY POLE PATCH.

**CURING**

Rate of cure for POLE FILLER and POLE PATCH is dependent upon temperature. At 75°F (24°C) these materials should begin to harden in an hour. Pole top forms may be removed as soon as materials harden, usually within 4 hours.

**CLEANING EQUIPMENT**

Soap and water and rubbing with steel wool, cheesecloth, burlap, or other coarse cloth will remove EPOXY POLE REPAIR MATERIALS before they set. Solvents, such as toluene, acetone, xylene, 1,1,1-Trichloroethane or methyl ethyl ketone may also be used to clean tools and equipment before the materials harden.

**LIMITATIONS**

Repair materials must be between 70°F and 80°F for best use. When air and surface temperatures are below 50°F, it is recommended that the repair area be tented and heated. Although the materials will set under wet conditions, the best adhesion is obtained when surfaces are dry.

**STORAGE AND HANDLING**

Store EPOXY POLE FILLER and EPOXY POLE PATCH in a cool, dry place. Store out of direct sunlight. In unopened original containers, these materials can be stored for at least one year.

**MAINTENANCE**

**Repair** - Should the repair materials be found to have settled leaving empty space at the top of the repair, add freshly mixed material.

**TECHNICAL SERVICE**

ATLAS maintains a staff of Technical Service Representatives who are available to assist you with the use of ATLAS products. In the event of any difficulties on any job with the use of ATLAS materials, the job should be stopped immediately and ATLAS' Technical Service Department consulted for assistance.

**PRECAUTIONS**

EPOXY POLE PATCH and EPOXY POLE FILLER are for Industrial Use Only. They contain materials that present handling and potential health hazards. Consult Material Safety Data Sheets and the container labels for complete precautionary information.

**RELATED INFORMATION**

EPOXY POLE REPAIR SYSTEM DATA SHEET titled "Groundline and Below Ground Restoration," provides restoration information.

**WARRANTY**

ATLAS warrants that its products will be free from defects in workmanship and materials under normal use for a period of one (1) year from the date of shipment by ATLAS (provided the products are installed before the expiration of the shelf life). THERE ARE NO EXPRESS OR IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR THE PURPOSE FOR THIS PRODUCT WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. ATLAS' LIABILITY FOR ALLEGED BREACH OF THIS WARRANTY SHALL BE LIMITED TO REPAIR OR REPLACEMENT OF THE DEFECTIVE PRODUCT (BUT NOT INCLUDING REMOVAL OF THE DEFECTIVE PRODUCT OR INSTALLATION OF REPLACEMENT PRODUCTS), AND ATLAS SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES DURING THE WARRANTY PERIOD OR THEREAFTER. **ATLAS WARRANTY IS VOIDED IF PAYMENT FOR PRODUCT IS NOT RECEIVED IN FULL.**