



Atlas Minerals & Chemicals, Inc.



DATA SHEET

PI-007 (10-89²)
Supersedes PI-007 (1-89)

PORCELAIN REPAIR KIT

DESCRIPTION AND USES

The ATLAS® Porcelain Repair Kit consists of a primer, hand-moldable putty and glaze. It is a quick and easy way to restore broken sections of porcelain insulators, bushings and other ceramic parts. Repairs may be made in the shop or in the field. The one part primer is quick drying. The repair putty consists of a polymer resin component and a hardening component which are mixed together to provide a putty with the consistency of modeling material. Insulator Glaze is a one component, air drying, protective polymer glaze coating presenting a smooth, glossy finish. It withstands corrosive attack, has superior weathering resistance, and prevents contamination. It forms a tough, smooth, flexible film which bonds well directly to ATLAS' repair putty. Insulator Glaze is suitable for rural, industrial and marine atmospheres. The ability to withstand weathering even in moist, salt laden, atmospheres is an outstanding characteristic of Insulator Glaze.

PACKAGING

The repair kit carton contains one bottle primer, two boxes of repair putty sticks (36 pairs), and two 1/2 pint cans of glaze. The shipping weight is 9 lb. (4 kg.). When ordering glaze specify color. The repair kit may be ordered complete with one can of brown glaze and one can of gray glaze, or with only brown glaze or gray glaze.

COVERAGE

Each repair kit contains approximately 76 cubic inches (1245 cm³) of repair putty. The contents of each 1/2 pint can of glaze will cover approximately 14 sq. ft. (1.3 m²) when applied to provide 1.5 mil (0.04 mm) dry thickness.

PREPARATION

When beginning a repair, have on hand the following tools:

- An abrasive stone or sandpaper for removing sharp edges.
- Small brushes for applying primer and finish glaze.
- A knife or single-edge razor blade for trimming and contouring the putty.

PHYSICAL PROPERTIES

POLYMER REPAIR PUTTY		
PROPERTY	TEST METHOD	TYPICAL VALUE
Water Absorption	ASTM C413	0.2%
Dielectric Strength		250 volts / mil
Working Time 70°F (21°C)		30 minutes
INSULATOR GLAZE		
PROPERTY	TEST METHOD	TYPICAL VALUE
% Solids		34 to 38, by weight
Viscosity, Cps. @ 77°F (25°C)	Brookfield	200 to 400
Weight / Gallon	Hydrometer	8.8 to 9.0 lb.
Dry to Touch @ 75°F (24°C)		60 minutes
Flash Point	Tag Closed Cup	75°F (24°C)

- Water - Potable water must be available for washing the hands and as an aid in smoothing the putty.
- Optional tools: During application a heater, such as the heat gun used for shrinkable tubing, will accelerate the setting time of the putty. This is required when temperatures are below 65°F (18°C). An oven may be used when making repairs in the shop.

When insulator will be vertical during the repair, support may be needed to prevent the repair material from slumping before it cures. Cut a plastic template to fit the insulator. Mix a small amount of putty and press it on the plastic and allow it to cure. Verify that it will release from the support template. If it does not, then use a different plastic, such as polyethylene. Duct tape may be required to hold the support in place while the repair putty cures.

TEMPERATURE DURING APPLICATION

The ideal temperature is 70°F (21°C) to 85°F (30°C). At these temperatures the installation can be accelerated by the direct application of heat. Heat must be applied when the ambient temperature, and temperature of the part to be repaired, are below 40°F (5°C). When temperatures are above 85°F (30°C) it will be helpful to shade the work area while the repair is being made.

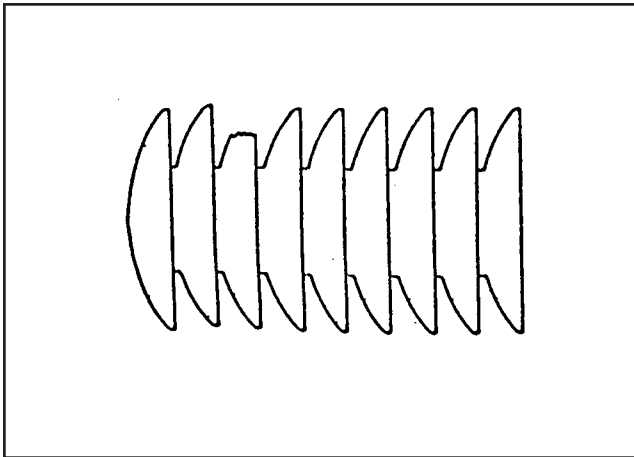


FIGURE 1

MIXING APPLICATION AND CURE

1. Surfaces - Remove all sharp edges with an abrasive stone or sandpaper. Thoroughly clean and roughen to a clean, sound, bondable surface free of all contaminants such as oil, dirt, dust and similar contaminants.
2. Whenever possible, position the broken, exposed surface as shown in Figure 1. When this is not possible, repairs made when the insulator is in a vertical position may have to be supported with a plastic template, cut to fit under the shape as shown in Figure 2.
3. Prime the surfaces to be mended with ATLAS Porcelain Primer and allow to dry to touch. Drying time is approximately 10 minutes at 70°F (21°C).
4. Remove the wrappings from one resin stick (resin printed in red) and one hardener stick (hardener printed in black). Combine and thoroughly mix both sticks, at least two minutes, until the color is uniform. No streaks should be visible. The mixing is usually done by rolling and twisting the two components between the hands.
Note: The size of the repair dictates quantity requirements. When the repair is approximately one and one-half cubic inches (25cm³), one pair of ATLAS Putty sticks will be required. Larger repairs will require proportionately more putty sticks. Very large repairs may require multiple applications until the restoration is complete. Always mix more putty than is required for the repair. This minimizes mixing and multiple knit lines for very large repairs requiring more than one layer. Roughen the bonding surfaces and allow to attain a slight set before applying subsequent layers.
5. When putty mixing is completed, thoroughly wash hands with soap and water. Dry hands before proceeding to place, mold and shape the putty.
6. Apply mixed putty to the primed surface. Press and form the putty into the desired shape. Moisten the fingers with water and shape and smooth the surface. A knife or razor blade wetted with water

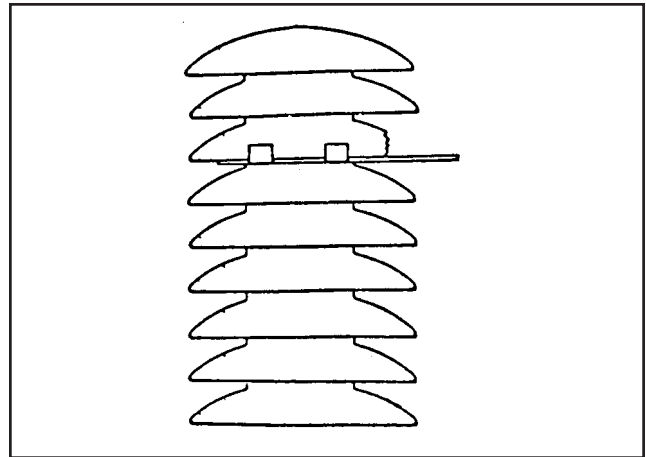


FIGURE 2

- will be helpful in trimming and contouring the putty after it has been pressed into place.
7. Wash hands with soap and water after the repair has been completed.
 8. Accelerate the cure by warming the repair using a heat gun or hot air blower. It should be warm to touch but not so hot that one can not hold the piece. When working in the shop the piece may be warmed in an oven at 125°F (52°C) for approximately 1 hour to accelerate the set.
 9. The putty may be sanded after it has cooled to room temperature.
 10. Uniformly brush apply one coat of glaze over the entire surface of the putty repair overlapping approximately 1/4" (6 mm) onto the adjacent area. Allow to dry for about one hour at 70°F (21°C) or force dry with a heat gun.
 11. The repaired piece may be returned to service after the glaze has dried.

CURE AND USE TIMES (approximate)

	70°F (21°C)	125°F (51°C)
Primer	15 minutes	*N.A.
Putty	16 hours	1 hour
Glaze	1 hour	20 minutes

*No acceleration required. Normal cure is 15 minutes.

CLEANING EQUIPMENT

Putty residue can be removed from hands and tools with soap and water. Primer and glaze can be removed from brushes and tools with paint thinners, such as lacquer thinner and ketone solvents.

STORAGE LIFE

When stored in a cool, dry place in unopened original containers the ATLAS Porcelain Repair Kit has a one year storage life. On a utility truck the storage life is approximately six months. The Primer and Glaze, in unopened containers, can be stored a year without deterioration.

RELATED INFORMATION

ATLAS' Bulletin EU1088 contains step-by-step photos showing a transformer bushing repair.

PRECAUTIONS

The materials referred to in this Data Sheet 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.

TECHNICAL SERVICES

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

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). 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.**