

TECHNICAL DATA SHEET

Description:

The PowerPatch® Pad N Pole™ Repair system repairs and restores damaged utility enclosures, preventing human, water, pest or debris entry through the repaired defect.

The PowerPatch® Pad N Pole™ two-part adhesive bonds to fiberglass, polyethylene, metal, concrete and composites. Fiberglass cloth (saturated with the adhesive) provides structural integrity for a durable, long lasting repair

PowerPatch® Pad N Pole™ Repair comes in a kit that contains everything needed for a repair. The adhesive is easy to dispense and quickly wets the fiberglass cloth. The fiberglass can be layered as necessary to create a thicker and stronger structure. Repairs are quick and easy, and can be done in the field with a single visit.

Performance:

Repairs made with PowerPatch® Pad N Pole™ Repair withstand exposure to extreme outdoor temperatures, from -60° F to 200° F.

PowerPatch® Pad N Pole™ Repair is versatile with optional use of single or multiple layers of fiberglass material. Multiple layers are appropriate for increased strength over larger defects. A wide variety of defects from small cracks to holes up to six inches in diameter can be repaired.

PowerPatch® Pad N Pole™ Repair is quick, and many defects can be repaired in as little as 3 minutes. However, the PowerPatch® Pad N Pole™ mixed resin allows at least 30 minutes working time. Repairs reach full strength about 12 hours after application, but can be painted immediately after application so no return visit is needed.



Fiberglass cloth saturated with the high-strength, two-part resin makes the permanent PowerPatch® Pad N Pole™ Repair.

Product Benefits:

- Seals defects from unwanted entry
- Easy to use - quick repair
- Protects and seals enclosure
- Sunlight (UV) resistant
- Withstands environmental extremes
- Multiple use, field-ready kit
- Complete field repair in a single visit

Typical Applications:

PowerPatch® Pad N Pole™ Repair may be used on a variety of outdoor enclosures including:

- Transformer Pads & Enclosures
- Lighting Pedestals
- Telecom Junction Enclosures
- Above Ground Conduits

Component Physical Properties:

The PowerPatch® Pad N Pole™ Adhesive is a 2-part thixotropic paste packaged in a cartridge applicator. The supplied mixing nozzles ensure proper mixing as the product is extruded from the cartridge.

<u>Property</u>	<u>Part A (Resin)</u>	<u>Part B (Curing Agent)</u>
Color	Beige	Amber
Form	Thick Paste 700,000 cps	Liquid 900 cps
Odor	No Odor	No Odor
Specific Gravity (water = 1)	0.96	1.21

Typical Properties:

PowerPatch® Pad N Pole™ Adhesive cures to form a solid, durable seal.

<u>Property</u>	<u>Typical Value</u>
Color	Beige
Peak Exotherm @ 70° F	< 110° F
Hardness 7 Days @ 70° F (Shore A Durometer)	90
Flexibility 7 Days @ 70° F	Excellent
Tensile Strength (lap shear adhesion, Aluminum @ 77° F)	1400 lbs/in ²
Dielectric Strength (ASTM D149):	450 Volts/Mil
Peel Adhesion (ASTM D1876)	34.3 lb/in
Impact Resistance (ASTM G 14):	
On Fiberglass	>100 in-lbs
On Galvanized Steel	>100 in-lbs
On Polyethylene	>100 in-lbs

Materials:

PowerPatch® Pad N Pole™ Repair adheres to:

- Fiberglass
 - Steel
 - Composites
 - PVC
 - Polyethylene
 - Concrete
 - Steel
 - Aluminum
-

Environmental Resistance:

PowerPatch® Pad N Pole™ Repair withstands the typical rigors of the enclosure environment.

It shows no significant change in adhesion in temperature cycle testing (0° F/130° F for 10 cycles).

It shows no significant change in adhesion in 12 month exposure to sunlight (some darkening of color).

Chemical Resistance:

The chemical resistance of a stainless steel screen to fiberglass bond (with the Pad N Pole™ adhesive) was tested by comparing peel adhesion after reagent immersion to non-immersed adhesion. Samples were immersed in the reagent at 70° F for 3 months.

<u>Chemical Exposure</u>	<u>Percent of Control</u>
Salt Water (4%)	95%
Alkaline Soap Solution (pH = 12)	100%
Odorless Mineral Spirits	90%

The PowerPatch® Pad N Pole™ Repair shows good resistance to salt water, alkaline soap solutions and mineral spirits (paraffinic solvent).

Application:

PowerPatch® Pad N Pole™ Repair is easy to use.

If necessary, dig out sod and soil to reveal at least 2 inches of undamaged surface around the defect. Abrade the area to be repaired for approximately 1½ inch around the damage using the abrasive cloth included in the kit. Clean and dry the abraded area with the Type HP™ Tandem Pack (HP-P158ID), removing all dirt and other contaminants. As in any repair involving adhesive application, starting with a clean surface is very important

Cut the fiberglass cloth to overlap the damage by approximately 1 inch all the way around. Generously apply the two-part Pad N Pole™ Adhesive Resin to the cleaned surface around the damaged area. Lay the fiberglass fabric over the damaged area, pressing the edges into the Pad N Pole™ Resin. Smooth and press down with the foam brush. The patch will cling to the adhesive covered area and quickly saturate with the Pad N Pole™ Resin.

Generously apply additional Pad N Pole™ Resin to the top of the fiberglass cloth (including the cloth over the hole) and smooth with the brush until the cloth is fully saturated. Brush the Pad N Pole™ Resin ½ inch past the edges of the cloth, feathering the resin and ensuring that the edges of the cloth are well adhered to the surface. Pad N Pole™ Adhesive Resin will set in about 30 minutes and reach full strength in about 12 hours.

Larger repairs (> 2") will benefit by adding additional layers of cloth material. Additional layers can be added at any time, before or after the first layer has cured.

The repair area may be spray painted immediately (before full cure), and soil may be replaced at this time, enabling even a complex repair to be done in a single visit.

For additional installation information, please see the Pad N Pole™ Usage Instructions at:
www.polywater.com/BRKinstructions.pdf

Cure Rate:

PowerPatch® Pad N Pole™ Adhesive Resin has a working time of 30 minutes at 70° F, allowing ample time to perform repairs with care and precision. After thickening beyond the point that it can be spread, the product continues to cure, reaching maximum strength in 12 hours at 70° F.

Working and set time variation with temperature is shown below.

Temp.	Working Time	Set Time
40° F (4° C)	90 Minutes	24 Hours
52° F (11° C)	70 Minutes	20 Hours
60° F (16° C)	40 Minutes	16 Hours
70° F (21° C)	30 Minutes	12 Hours
88° F (31° C)	20 Minutes	8 Hours

Storage and Handling:

Keep cartridge tightly closed in a cool, dark, dry location. Reseal cartridge after use. All cartridges should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

Unopened product has a shelf life of one year.

Safety:

PowerPatch® Pad N Pole™ Repair has a low level of toxicity. Use good industrial hygiene practice and follow any precautions during use. Avoid personal contact with the uncured product. See MSDS for specific details.

Model Specification:

The statement below may be inserted into a customer specification to help maintain engineering standards and ensure work integrity.

The approved enclosure repair system is PowerPatch® Pad N Pole™ Repair. The repair system shall come in a multiple-use kit that will provide the materials needed for the repair.

The packaging shall automatically mix and meter the two-part repair adhesive. The cure rate of the adhesive shall allow 30 minutes of working time (at 70° F) to apply and smooth the repair. The repair shall be spray paintable immediately after application with no reduction in ultimate strength. Product shall be suitable for use on various enclosure materials, including fiberglass, HDPE, concrete, steel, aluminum, and composites.

Once cured, the repair shall be watertight. The bond shall be strong enough to withstand an impact of over 100 in-lbs on fiberglass as measured by ASTM G14.

The cured product shall be resistant to water, salt water, oils and ultraviolet degradation. The cured bond shall withstand temperature extremes from -60° F to 200° F. It shall withstand multiple freeze-thaw cycles. The cured product shall be non-conductive with a minimum dielectric strength of 450 Volts/Mil as measured by ASTM D149.

Order Information:

Cat #	Package Description
	Kit contains: 1 PowerPatch® Pad N Pole™ Repair Adhesive Cartridge 6 Mixing Nozzles 1 Strip of Sanding Cloth 6 HP™ Tandem Cleaning and Drying Wipes (HP-P158ID) 6 Foam Brushes 1 Square Foot Patch Material 1 Instruction Sheet 1 Dispensing Tool
BRK-KITG (1 unit/case)	Kit contains: 1 PowerPatch® Pad N Pole™ Repair Adhesive Cartridge 6 Mixing Nozzles 1 Strip of Sanding Cloth 6 HP™ Tandem Cleaning and Drying Wipes (HP-P158ID) 6 Foam Brushes 1 Square Foot Patch Material 1 Instruction Sheet (Dispensing tool not included.)
BRK-KIT (1 unit/case)	Bulk kit contains 6 Individual Kits, BRK-KIT 1 Dispensing Tool Included
BRK-KITB6G (1 unit/case)	Bulk kit contains 6 Individual Kits, BRK-KIT (Dispensing tool not included.)
BRK-KITB6 (1 unit/case)	1 Dispensing Tool
BRK-TOOL50 (1 unit/case)	Plunger insert for applicator, BRK-TOOL50
BRK-INSERT21 (1 unit/case)	

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Important Notice: The statements here are made in good faith based on tests and observations we believe to be reliable. However, the completeness and accuracy of the information is not guaranteed. Before using, the end-user should conduct whatever evaluations are necessary to determine that the product is suitable for the intended use.

American Polywater expressly disclaims any implied warranties and conditions of merchantability and fitness for a particular purpose. American Polywater's only obligation shall be to replace such quantity of the product proven to be defective. Except for the replacement remedy, American Polywater shall not be liable for any loss, injury, or direct, indirect, or consequential damages resulting from product's use, regardless of the legal theory asserted.

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and Pull-Planner™ Software

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