



UniquePolymerSystems.com

The Engineer's Choice

... for Solutions

UPS 1801/3/4/5 PRHT High Temperature Emergency Pipe Repair Bandage is a high performance rapid curing moisture activated repair bandage, specifically developed for the repair of leaking pipes, which is activated by immersion in water.

UPS 1801/3/4/5 PRHT is ideal for pipe repairs to low pressure systems at high temperatures. As a general guide, a repair built up to a thickness of approximately 12mm (½") will withstand a maximum service pressure of 10 bar (150 psi). Higher pressures, up to 50 bar, can be achieved by first applying a 'plug' of UPS 19060 SG as described herein, always at users discretion.

Product Features

- Easy to apply, requiring no special tools or equipment.
- Temperature resistance up to 450°C (842°F) & down to -20°C (-4°F).
- Specially selected woven polyester fabric impregnated with a polyurethane resin, which is activated by immersion in water.
- Ideal for repairing pipes operating at low pressures.
- Designed for use for repairs up to 500mm diameter.
- Can be used on a wide variety of surfaces, including all metals and many types of plastics.
- WRAS approved product.

Correct bandage size is relevant to pipe dimension (with holes approximately 3 - 6mm (118 - 236mil) diameter).

Surface Preparation

All pressure should be removed from the pipe. For leaks where pressure cannot be removed, holes should be stopped using a pipe repair clamp or UPS 455/456 TA. Remove all oil, grease, loose rust scale, sealant tape and paint from the repair area. Rough score a 10cm (4 inch) patch around the pipe centering on the leak site.

If the pipe is pitted with rust, surfaces must be wire brushed to remove the loose scale. If the surface is smooth, as with copper or stainless steel, surfaces should be roughened with a coarse file, rasp or saw blade. For plastic pipe, the external mold release must be removed. Abrade surfaces with coarse grit sandpaper. A saw blade may also be used to create a crosshatch pattern. This is particularly useful on polypropylene and PVDF piping.

Application Procedures

Before and during application, lightweight disposable gloves should be worn to protect the hands.

UPS 1801/3/4/5 PRHT is a single component material, which should be immersed in water and squeezed two or three times for about five seconds prior to use.

Remove roll from water and wrap quickly and tightly as follows.

Centre tape over leak site, wrap from bottom of roll, pulling firmly throughout application. After 5-7 passes, resin foam will come through the tape, which is desirable and aided by pulling tightly. Continue until entire roll is applied, building to a minimum thickness of 12mm (½"); use a second roll if necessary. Firmly press and smooth end of roll into wrap in the direction of application. Wet gloves in water, smooth and firmly press the wet resin back into the wrap.

When used in conjunction with a 'plug' of UPS 19060 SG repair using the above instructions but having first plugged the hole. Knead a bead of putty in a gloved hand and flatten out into a disc placed centrally over the hole pressing gently and feathering the edges. Leave to semi-harden (full cure 20 minutes) before applying the tape, although the tape may be applied immediately if necessary.

KEEP HANDS MOVING QUICKLY AND WET GLOVES FREQUENTLY TO AVOID STICKING

Continue rapid hand movement pressing and polishing resin in motions around and parallel to the pipe. Continue process until resins are no longer tacky. The repair should now have a smooth, hard surface and an enamel-like appearance with no fabric protruding through the surface.

NOTE: If a thicker application is needed, spend a little less time finishing the first roll and immediately begin the application of the next. Finish the final roll as if a single roll application.

Technical Data & Performance

Characteristics

Which Size Bandage Do I Need?

Bandage Size	Pipe Nominal Diameter
UPS 1801 PRHT 50mm X 1.8m	>100mm (3 15/16")
UPS 1803 PRHT 50mm X 3.6m	>200mm (7 7/8")
UPS 1804 PRHT 75mm X 3.6m	>300mm (11 13/16")
UPS 1805 PRHT 100mm X 3.6m	>400mm (15 3/4")

Drying & Cure Times at 20°C (68°F)

Useable Life	2 – 3 minutes
Initial Set	5 minutes
Full Mechanical Cure	30 minutes
<i>Once hardener, the material should be left for the following periods of time at 20°C (68°F) before being subjected to the conditions indicated. These times will be doubled at 10°C (50°F) and halved at 30°C (86°F)</i>	

Appearance

Single Pack	White
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Over Coating Times

Minimum	The applied material can be over coated as soon as it is touch dry
Maximum	The over coating time should not exceed 30 minutes
<i>Where the maximum over coating time is exceeded, the material should be allowed to harden before being abraded or flash blasted to remove surface contamination.</i>	

Shelf Life

2 years if unopened and store in normal dry conditions (15-30°C / 60-86°F)

Solids Content

100%

Pack Sizes

This product is available in the following pack sizes:
 UPS 1801 PRHT 50mm X 1.8m Pack of 10
 UPS 1803 PRHT 50mm X 3.6m Pack of 5
 UPS 1804 PRHT 75mm X 3.6m Pack of 5
 UPS 1805 PRHT 100mm X 3.6m Pack of 5

Maximum Heat Resistance

450°C (842°F)

Maximum Service Pressure

10 bar (150 psi) - ½ inch / 12mm thick repair
 27.5 bar (400 psi) – 1 inch / 25mm thick repair

Mechanical Properties

Flexural Strength ASTM D790	32Mpa (4,640 psi)
Tensile Strength ASTM D6382	19Mpa (2,740 psi)

Shore D Hardness ASTM D2240	82
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Adhesion (Bond Strength)	14Mpa (2,000 psi)
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Chemical	Resistance
Citric Acid <10%	R
Crude Oil	R
Diesel	R
Formic Acid <10%	R
Zinc Chloride	R
Phosphoric Acid < 10-20-75%	R
Potassium Carbonate	R

Key: R – Resistant for continuous immersion.

Part of Chemical Resistance Chart – Full Resistance Chart Available on Request.

Quality: All Unique Polymer Systems LTD Products are supplied under the scopes of the company's fully documented quality system.

Warranty: Unique Polymer Systems LTD warrants that the performance of the product supplied will confirm to the typical descriptions quoted within this Technical Data Sheet provided the material is stored correctly and used according to the procedures detailed in the Technical Data Sheet for the material.

Health & Safety: Please ensure good practice is observed at all times during the mixing and application of this product. Protective gloves must be worn during the mixing and application of this product. Before mixing and applying the material please ensure you have read the fully detailed Material Safety Data Sheet.

Legal Notice: The data contained within this Technical Data Sheet is furnished for information only and is believed to be reliable at the time of issue. We cannot assume responsibility for results obtained by others over whose methods we have no control. It is the responsibility of the customer to determine the products suitability for use. Unique Polymer Systems LTD accepts no liability arising out of the use of this information or the product described herein.