UPS-PJPC THISTLEBOND PROFESSIONAL PIPE REPAIR KIT
INSTRUCTIONS FOR USE

In Partnership with Parker James, Unique Polymer Systems delivers mission-ready, defence-grade repair & protection systems.

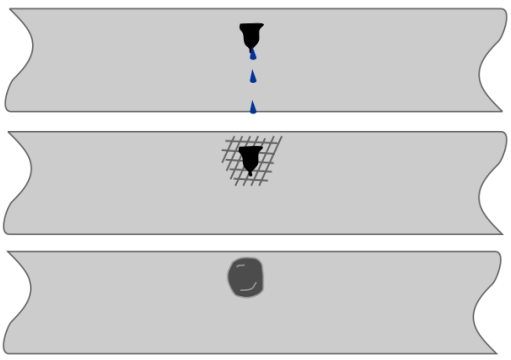
INSTRUCTIONS – PLEASE READ BEFORE USE

For best results, it is easier to make the repair with pressure turned off.

STEP 1 – SEALING THE LEAK

If pressure CAN be turned off: Seal the leak with UPS-PJPC THISTLEBOND STICK GRADE METAL.

1. Turn off the water supply. Clean and roughen the area to be repaired and dry it as much as possible. For lead pipe repair, use the "Pressure Cannot Be Turned Off" method below.
2. Wearing the gloves provided, cut off the desired quantity of UPS-PJPC THISTLEBOND STICK GRADE METAL, remove the film, and knead until the colour is uniform. The putty has a working life of only 5 minutes, so work quickly.
3. Press the mixed putty into the hole, ensuring it overlaps the sides and creates a complete seal. Do not push the putty too deeply inside the pipe to prevent blockage.
4. Smooth the putty and feather the edges using wetted fingers if necessary. Let it set for 4 to 5 minutes before moving on to STEP 2 – Applying UPS-PJPC THISTLEBOND EMERGENCY PIPE REPAIR BANDAGE.



Turn off pressure before starting repair

Clean and roughen surface around leak

Apply UPS-PJPC THISTLEBOND STICK GRADE METAL over the hole and ensure a good seal

If pressure CANNOT be turned off: Stop the leak with UPS-PJPC SEAL-FLEX TAPE & UPS SEAL-FLEX BOOSTER.

Use Small UPS-PJPC SEAL-FLEX TAPE with UPS-PJPC THISTLEBOND EMERGENCY PIPE REPAIR BANDAGE sizes up to and including 100mm x 3.6m, and Large UPS-PJPC SEAL-FLEX TAPE with 100mm x 5.0m and above.

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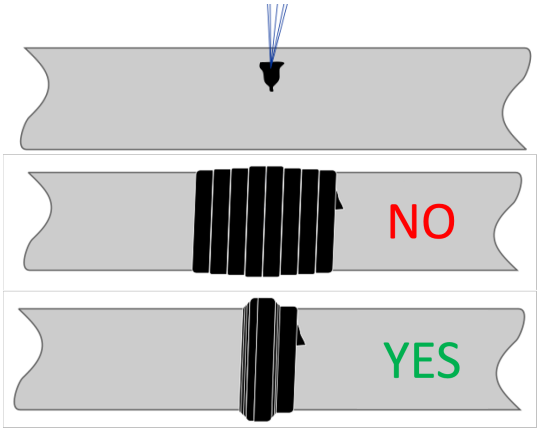
UPS-PJPC SEAL-FLEX BOOSTER is used on pipes over 150mm during STEP 6. Refer to the instructions on the UPS-PJPC SEAL-FLEX BOOSTER packaging before beginning the repair.

1. Clean the repair area of any loose material. Avoid making scratches in the direction of the pipe.
2. IMPORTANT! If the pipe surface is corroded, pitted, or too uneven to make a good seal with UPS-PJPC SEAL-FLEX TAPE, use the UPS-PJPC THISTLEBOND STICK GRADE METAL to improve the surface or fill in '*steps'* between joints before applying the tape.
3. Peel back the release film from the start of the UPS-PJPC SEAL-FLEX TAPE. Apply the UPS-PJPC SEAL-FLEX TAPE with the white guideline facing outwards.
4. Anchor the UPS-PJPC SEAL-FLEX TAPE to the pipe by positioning it to the side of the leak and making a full wrap around the pipe so it grips itself.
5. Wrap the UPS-PJPC SEAL-FLEX TAPE towards the leak, stretching it as tightly as possible to at least three times its length. Remove the release film during application, ensuring the tape overlaps half its width each time.
6. Once over the leak, continue applying the tape directly over the leak area, stretching it as tightly as possible to apply full pressure. Do not '*chase the leak'* or wrap too far away from the leak location. For a longitudinal split, apply the tape so it overlaps half its width each time over the length of the split. Work back and forth to apply even pressure.
7. Continue wrapping until the leak stops and the complete roll is used. If the leak is not completely stopped, wait 30 minutes to see if the tape '*beds in'* to the pipe surface. If the leak continues after 30 minutes, apply a second tape directly over the first. Continue adding tapes until the leak is completely sealed.



When pressure cannot be stopped

DO NOT chase leak or wrap too far from the leak

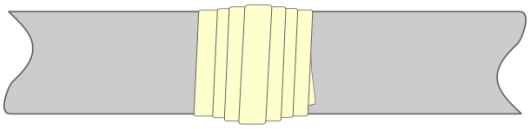
Wrap tightly over leak area to apply maximum pressure

STEP 2 – APPLYING UPS THISTLEBOND EMERGENCY PIPE REPAIR BANDAGE

1. Fill a bucket with enough water to submerge the UPS-PJPC THISTLEBOND EMERGENCY PIPE REPAIR BANDAGE.
2. Wearing gloves, remove the UPS-PJPC THISTLEBOND EMERGENCY PIPE REPAIR BANDAGE from the foil pouch. Work quickly, as the UPS-PJPC THISTLEBOND EMERGENCY PIPE REPAIR BANDAGE has a working time of 5 minutes.
3. Dip the UPS-PJPC THISTLEBOND EMERGENCY PIPE REPAIR BANDAGE into water and gently squeeze a few times to wet the resin.
4. Remove the UPS-PJPC THISTLEBOND EMERGENCY PIPE REPAIR BANDAGE from the water and tightly wrap it over the repair area, extending up to 50mm on either side of the leak to ensure complete coverage. While wrapping, tightly pull each layer, squeezing and moulding it into shape in the same direction as it was wrapped. Dip gloves frequently in water to prevent them from sticking. Continue moulding and smoothing until the UPS-PJPC

THISTLEBOND EMERGENCY PIPE REPAIR BANDAGE has sufficiently hardened to remain in place.

5. For best results, the UPS-PJPC THISTLEBOND EMERGENCY PIPE REPAIR BANDAGE should be approximately 10 layers thick.



Finish repair with UPS-PJPC THISTLEBOND EMERGENCY PIPE REPAIR BANDAGE

MAKING A REPAIR WHEN SPACE AROUND A PIPE IS RESTRICTED

UPS-PJPC SEAL-FLEX TAPE: Cut off a sufficient length from the roll to wrap several times around the pipe. Avoid contaminating the tape with dirt or dust. Use this method only if absolutely necessary, as it could compromise the effectiveness of the repair.

UPS-PJPC THISTLEBOND EMERGENCY PIPE REPAIR BANDAGE: Unwrap the UPS-PJPC THISTLEBOND EMERGENCY PIPE REPAIR BANDAGE completely from the roll first and wrap tightly, avoiding contamination with dirt. Use this method only if absolutely necessary, as it will reduce the effectiveness and strength of the repair. When using this method, wet each layer of the UPS-PJPC THISTLEBOND EMERGENCY PIPE REPAIR BANDAGE: as you wrap, rather than before, to extend the working time.

SLOWING UPS-PJPC THISTLEBOND EMERGENCY PIPE REPAIR BANDAGE SETTING TIME

The UPS-PJPC THISTLEBOND EMERGENCY PIPE REPAIR BANDAGE: sets in about 10 minutes, depending on temperature. For a longer working time, do not immerse the UPS-PJPC THISTLEBOND EMERGENCY PIPE REPAIR BANDAGE: in water first, but apply water to each layer as you wrap it. Note this will increase the cure time and may decrease adhesion.

PRESSURE RESISTANCE INFORMATION

Average mains pressure tends to be around 3 bar but can occasionally be as high as 10 bar.

Pressure Turned Off Method: Allow at least 1 hour to achieve pressure resistance up to 30 bar, but longer if possible, especially in cold conditions.

Live Leak Method: Consult the UPS-PJPC SEAL-FLEX TAPE calculation table for the number of tapes required to seal a live leak for a given pressure.

TECHNICAL DATA

Maximum Temperature: The maximum service temperature for the Leak Sealing application varies depending on the products used, each with its own temperature resistance. The overall maximum service temperature will be determined by the lowest temperature resistance among the products employed:

UPS-PJPC THISTLEBOND EMERGENCY PIPE REPAIR BANDAGE: 250°C / 480°F (has been successfully applied at 250°C with steam at 20 bar for a two-week temporary repair and at 200°C at 20 bar for over six weeks). Laboratory tests indicate thermal stability up to 300°C.

UPS-PJPC THISTLEBOND STICK GRADE METAL: Continuous – 120°C, Intermittent – 150°C.

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UPS-PJPC SEAL-FLEX TAPE: -90°C to +200°C.

Users must be satisfied that this product is suitable for the application, and all recommendations are for guidance only.

Ensure adequate eye protection is worn when repairing high-pressure live leaks.

The products that we supply are for professional use only, it is your responsibility to read the technical data sheets before you place an order and prior to application of the product

Quality
All Unique Polymer Systems products are manufactured and supplied in accordance with an ISO 9001 registered Quality Management System.

Warranty
Unique Polymer Systems warrants that the performance of the supplied product will conform to the typical descriptions provided in this specification, provided the material is stored correctly and used in accordance with the procedures outlined in the Technical Data Sheet.

Health & Safety
Please ensure good practices are followed at all times during the mixing and application of this product. Protective gloves and other recommended personal protective equipment must be worn. Before mixing and applying the material, please ensure you have read and fully understood all relevant information.

Legal Notice
The data provided in this Product Technical Data Sheet is for informational purposes only and is believed to be accurate at the time of issuance. However, we cannot assume responsibility for results obtained by others whose methods are beyond our control. It is the customer's responsibility to assess the suitability of the product for their intended use. Unique Polymer Systems accepts no liability arising from the use of this information or the product described herein.

About Use
Unique Polymer Systems is a global leader in advanced polymer composites and protective coatings, offering solutions for erosion, corrosion, and wear. With over 30 years of experience, we serve industries including Oil & Gas, Petrochemical, Marine, Paper & Pulp, Water, Power Generation, and Chemicals. Our focus is on providing reliable products and technical support through a global network of distributors.

About the UPS-PJPC Partnership
The UPS-PJPC product range represents a trusted collaboration between Unique Polymer Systems and Parker James Protective Coatings LTD. These high-performance repair and protection solutions are developed and manufactured by Unique Polymer Systems, with technical support and distribution through Parker James to deliver enhanced value and service to end-users.