



TECHNICAL DATA SHEET

METAL-TECH P.R.

Single Component Polyurethane Pipe Repair Bandage



Thortex Metal-Tech P.R. is a high performance rapid curing moisture activated repair bandage, specifically developed for the repair of leaking pipes.

Thortex Metal-Tech P.R. is based on a specially selected woven polyester fabric impregnated with a polyurethane resin, which is activated by immersion in water. **Thortex Metal-Tech P.R.** is ideal for pipe repairs to low pressure systems. As a general guide a repair built up to a thickness of approximately 12mm (½ inch) will withstand a maximum service pressure of 10 bar (150psi).

High pressures repairs, up to 50 bar can be achieved by first applying a 'plug' of **Thortex Metal-Tech S.G.** over the leak.

Pipes up to a nominal diameter of 65mm may be repaired using **Thortex Metal-Tech P.R.** with holes approximately 3-6mm diameter, although slightly larger pipes and holes can be effectively repaired using a plug of putty as described herein, always at users discretion.

Before proceeding, please read the following information carefully to ensure that the correct application procedure is fully understood.

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.

Remove all oil, grease, loose rust scale, sealant tape and paint from the repair area. Rough score a 10 cm (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 mould release must be removed. Abrade surfaces with a coarse grit sandpaper. A saw blade may also be used to create a cross hatch pattern. This is particularly useful on polypropylene and PVDF piping.

APPLICATION

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

Thortex Metal-Tech P.R. 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 plies, 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 ½ inch (12 mm), 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 **Thortex Metal-Tech S.G.**, repeat the above instructions but having first plugged the hole. Knead a small bead of putty in a gloved hand and flatten out into a disc centrally over the hole pressing gently and feathering out the edges. Leave to semi-harden (full cure 30 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.

Detailed working recommendations are available from the Technical Centre on request

PHYSICAL CONSTANTS

Mixing Ratio Supplied ready for use.

Appearance Resin impregnated bandage.

Drying & Cure

Times at	UsableLife	2-3 minutes
20°C (68°F)	InitialSet	5 minutes
	FullMechanical Strength	30 minutes

Volume Solids 100%

V.O.C. Nil

Shelf Life Use within 12 months of purchase. Store in original sealed containers at temperatures between 5°C (40°F) and 30°C (86°F).

PHYSICAL PROPERTIES

Flexural Strength 32 N/mm² (4640 psi)
ASTMD790

Tensile Strength 19 N/mm² (2755 psi)
ASTMD6382

Hardness (Shore D) 82
ASTMD2240

Adhesion (Bond Strength) 14 N/mm² (2000 psi)

Maximum Heat Resistance 270°C (500°F)

Maximum Service Pressure

(½ inch/12 mm thick repair) 10 bar (150 psi)

(1 inch/25 mm thick repair) 27.5 bar (400 psi)

HEALTH AND SAFETY

TX4/0306

As long as normal good practice is observed **Thortex Metal-Tech P.R.** can be safely used.

Keep skin contact to a minimum. Use disposable gloves. Wash off areas of contact with soap and water.

A fully detailed **Material Safety Data Sheet** is either included with the material or is available on request.

PACKAGING

Supplied as a rolled bandage in an air tight sachet. Bandage dimensions approximately 1.5 meters.

The information provided in this Product Data Sheet is intended as a general guide only and should not be used for specification purposes. The information is given in good faith but we assume no responsibility for the use made of the product or this information because this is outside the control of the company. Users should determine the suitability of the product for their own particular purposes by their own tests.



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