

## HIGH AND LOW PRESSURE PIPE REPAIRS



TRK19601	ThistleWrap Pipe Repair Tape	50mm x 1.5mtr
TRK19603	ThistleWrap Pipe Repair Tape	50mm x 3.6mtr
TRK19604	ThistleWrap Pipe Repair Tape	75mm x 3.6mtr
TRK19605	ThistleWrap Pipe Repair Tape	100mm x 3.6mtr
TRK19000	Std Resin and Hardener	
TRK11000	Engineers A Kit	
TRK13000	Engineers C Kit	

**EMERGENCY PIPE REPAIRS**

The following ThistleBond section is concerned with the emergency repair of pipework upto 8" diameter and should be read in conjunction with the Technical Data Sheets of the following ThistleBond Product: ThistleWrap Pipe Repair Tape

**COMMON DEFECTS**

Holes and cracks in sections of pipework, couplings, threads and welding seams.

**PREPARATION**

All work should be carried out in strict accordance with the relevant ThistleBond Technical Data Sheet. The product selection and application techniques should be based on the diameter of the pipework being repaired.

**SURFACE PREPARATION**

The pressure within the system to be repaired must be turned off and all product allowed to drain away, leaving a dry surface around the damaged area. Using a wire brush or coarse sandpaper the area to be repaired must be cleared of any loose material and rust. Once abraded the damaged area must be cleaned using ThistleBond Universal Cleaners.

**APPLICATION TECHNIQUE**

Choose a ThistleWrap Pipe Repair Tape relevant to the diameter of the pipe. Dip the Bandage into a container of COLD water for 20 seconds, remember to squeeze the bandage 4-5 times to expel any air. Over the damaged area wrap the bandage over the pipework, overlapping each pass and covering at least 2" on either side of the damaged area. As you wrap the bandage tight, resin should bubble to the surface and must be massaged smooth, using a gloved hand. If the bandage feels dry, pour cold water over the bandage after each pass, remembering massage the resin thoroughly. Once the bandage has come to an end, smooth off the resin and leave the bandage to set hard.

**TECHNICAL SUMMARY**

PRODUCT	DIAMETER PIPEWORK	WORKING LIFE (20 °C)	FULL CURE (20 °C)
THISTLEWRAP 50MM X 1.5MTR	MAX 2.0"	2-3 MINUTES	25 MINUTES
THISTLEWRAP 50MM X 3.6 MTR	MAX 3.5"	2-3 MINUTES	25 MINUTES
THISTLEWRAP 75MM X 3.6 MTR	MAX 5.5"	2-3 MINUTES	25 MINUTES
THISTLEWRAP 100MM X 3.6MTR	MAX 8.0"	2-3 MINUTES	25 MINUTES

**EMERGENCY PIPE REPAIRS**

The following ThistleBond section is concerned with the emergency repair of pipework and tank seams and should be read in conjunction with the Technical Data sheets of the following ThistleBond Product: Standard Resin and Hardener

**COMMON DEFECTS**

Holes and cracks in sections of pipework and leaking tank seams.

**PREPARATION**

All work should be carried out in strict accordance with the relevant ThistleBond Technical Data Sheet. The product selection should be based on the type of repair to be carried out.

**SURFACE PREPARATION**

The pressure within the system to be repaired must be turned off and all product allowed to drain away, leaving a dry surface around the damaged area. Using a wire brush or coarse sandpaper the area to be repaired must be cleared of any loose material and rust. Once abraded the damaged area must be cleaned using ThistleBond Universal Cleaners.

**APPLICATION TECHNIQUE**

Repair to pipe work – ThistleBond Standard Resin and Hardener can be used on any diameter pipe work. Mix the tin of resin thoroughly and brush onto the damaged surface, ensure the Resin exceeds the damaged area by a minimum of 3". Wind the Glass Tape roll around the pipe work, overlapping the tape by 50%, once you have reached the end of the repair do not cut the tape. Brush more resin over the glass tape and begin to wind the glass tape of the first layer of glass tape. Repeat this application up to 4 times depending on the pressure tolerance required.

Repair to leaking tank seam- Before applying the Resin and Hardener measure the surface area to be repaired and cut three areas of Glass Mat for the repair, ensure that the Glass Mat exceeds the surface of the repair by 3" in all directions. Mix the ThistleBond Standard Resin and Hardener thoroughly and brush onto the surface of the damaged area. Lay one layer of the Glass Mat onto the applied Resin and hardener, then using a stiff bristled brush, apply more of the mixed product to the surface of the Glass Mat. Ensure the Matting is thoroughly soaked with Resin. Repeat this application three times and then allow the product to fully cure.

**THISTLEWRAP PIPE REPAIR TAPE****MIXING INSTRUCTIONS**

ThistleWrap is a specially treated woven glass fabric impregnated with a polyurethane resin, which is activated by immersion in water. ThistleWrap is ideal for pipe repairs to low pressure systems. As a general guide, a repair build up to a thickness of approximately 12 mm (½”) over the leak can withstand a maximum service pressure of 10 bar (150 psi). Higher pressures, up to 50 bar (725 psi), can be achieved by first applying over the leak, a ‘plug’ of ThistleBond twist-stick grade metal-filled epoxy putty (TRK No. 19060)

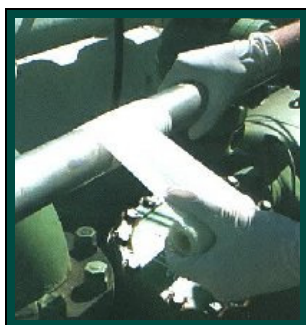
The above products are included in the **ThistleWrap Pipe Repair Kit (TRK No. 19500)**:  
Comprises: 5 units ‘ThistleWrap’ packaged in a robust plastic container (which serves as a water bucket) with 1 unit PlasSteel (125g), 5 pairs disposable gloves, mixing and application instructions.

**Instructions for use:**

1. Prepare pipe surface around repair area by wire brushing loose rust, paint etc. or if smooth, abrade with coarse emery cloth or similar.
2. Wearing protective gloves, remove roll from the foil bag and immerse in water (preferably fresh) for approx. 10 to 20 seconds, squeezing two or three time.



3. Remove roll from water and wrap quickly and tightly as follows: Centre tape over leak site, wrap from bottom of roll, putting firmly throughout application.



After several windings of tape, which should extend 1.5 to 2 pipe diameters each side of the hole, resin foam will come through the tape which is desirable and aided by pulling tightly. The tape should be wound on with a half width of tape overlap keeping it flat and even, maintaining tightness. Apply one or more rolls, as the repair dictates. Firmly press and smooth end of rolls into wrap in the

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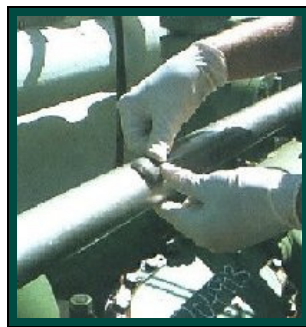
direction of application. Wet gloves in water, smooth and firmly press the wet resin back into the wrap.

**Keep hands moving quickly and wet gloves frequently to avoid sticking. As the repair cures it will warm up very slightly, which is normal.**

4. 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 fiberglass substrate showing through the resins.

**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.

**Note 2:** If the hole in the damaged pipe is larger than 3mm, you can use Thistlebond TRK19060 Metal Repair Stick to first “plug the hole”. After curing you can then processed as in step 1.



#### **Drying/Cure times at 20°C/68°F**

Usable life	2-3 mins
Initial set	5 mins
Full mechanical strength	30 mins

#### **Cleaning**

After application dispose of gloves

#### **Health and Safety**

As long as normal good practices are observed, ThistleWrap can be safely used. Keep skin contact to a minimum. Use disposable gloves. Wash off areas of contact with soap and water.

**THISTLEWRAP PIPE REPAIR USER CHART**

Pipe nb	Pipe circum	8 circum	50 x 1.5m	75 x 3.60m	100 x 3.60m
15	47	424	One	-	-
20	63	566	One	-	-
25	79	707	One	-	-
32	101	90	One	-	-
40	126	1131	One	-	-
50	157	1414	One	-	-
80	251	2262	Two	-	-
100	314	2828	Two	One	One
125	393	3535	-	One	One
150	471	4242	-	Two	Two
200	628	5656	-	Two	Two
250	786	7070	-	Two	Two
300	943	8483	-	Three	three
mm	mm	mm	-	-	-

Hydrostatic tests based on 9 wraps around circumference procedure in accordance with API 6 and a.s.m.e. 8.  
 Chemical resistance  
 Resists most chemicals (see separate detailed list)

2-4mm holes on 20mm centres  
 First leak @ avr 14 bar over three tests  
 Temp Resistance (when cured) 150c  
 Tensile strength of bandage 2051 newtons  
 Dielectric test Max 16,000 volts @ breakdown

**THISTLEWRAP PIPE REPAIR – CHEMICAL RESISTANCE GUIDE**

KEY	R	- Resistant for continuous immersion
	LR	- Suitable for occasional splashes/short term contact
	NR	- Not recommended for any form of contact

ACETALDEHYDE	LR	HYDROCHLORIC ACID less	R
ACETIC ACID greater than 20 %	NR	HYDROGEN PEROXIDE LESS	R
ACETONE	LR	KEROSENE	R
ANILINE	LR	LACTIC ACID LESS THAN 20%	R
AVIATION FUEL	R	LINSEED OIL	R
BENZENE	R	LUBRICATING OIL	R
BUTYL ALCOHOL	LR	METHYL ALCOHOL	NR
BUTYL ACETATE	LR	METHYL ETHYL KETONE	LR
CALCIUM CARBONATE	R	METHYLENE CHLORIDE	NR
CARBONIC ACID	R	MOLASSES	R
CARBON TETRACHLORIDE	NR	NAPHTHA	R
CASTER OIL	R	NITRIC ACID less than 10 %	R
CHLOROFORM	LR	PARAFFIN WAX	R
CITRIC ACID LESS THAN 10%	R	PENTANE	R
CREOSOTE	LR	PHENOL	LR
CRUDE OIL	R	PHOSPHORIC ACID less than	R
CYCLOHEXANONE	LR	PHOSPHORIC ACID less than	R
DIACETONE ALCOHOL	LR	PHOSPHORIC ACID less than	R
DIBUTYL PHTHALATE	R	POTASSIUM CARBONATE	R
DIESEL OIL	R	POTASSIUM HYDROXIDE 10%	R
DIETHYLENE GLYCOL	R	PYRIDINE	LR
DIETHYLENE TRIAMINE	LR	SODIUM CHLORIDE	R
DISTILLED WATER	R	SODIUM HYDROXIDE	R
ETHYL ALCOHOL	LR	STYRENE	LR
ETHYL ACETATE	LR	SULPHURIC ACID less than 10	R
ETHYLENE GLYCOL	R	TOLUENE	LR
FERRIC CHLORIDE	R	TRICHLOROETHYLENE	LR
FORMALDEHYDE	LR	TURPENTINE	R
FORMIC ACID less than 10 %	R	VEGETABLE OIL	R
GASOLINE	R	WHITE SPIRIT	R
GLYCEROL	R	WHISKY	R
HEPTANE	R	WINE	R
HEXANOL	R	XYLENE	LR
		ZINC CHLORIDE	R

Note 1: This table is for guidance purposes only.

Note 2: All products are resistant to aqueous solutions of most chemical salts of inorganic acids

Confirmation of suitability should be checked with E. Wood Ltd prior to any application.