



Splice & Seal™

Kit, Pressure Repair

For repair of cable under continuous or static air pressure. Will accommodate up to 3.4" diameter cable (3600 pair).

Part Number: TPIPR-KIT

Kit Contains

1 RL	12" Sleeving	TPI-12010
1 RL	6" Sleeving	TPI-6010
20 FT	Sealant Strips	TPI220-SS
1 RL	Wrap, Clear 4x3	TPICW-30
2 EA	Tube, Vent	TPIVT-1
1 RL	Tape, Pressure	TPIPT-97
1 RL	Tape, Aluminum	TPIAT-2
1 RL	Tape, End 1"	TPIET-10
1 RL	Wrap, Muslin	TPIMW-24
2 RL	Tape, DR 2"	TPIDR-T
1 EA	Wipe, Cleaning	TPI-W
20 EA	Tie, Cable 18"	TPICT-18W
	Instructions	



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TPI **Telepak Industries** *Splice & Seal™*

Sheath Repair Pressurized Cable

The TPI Repair method can be used on PIC, Paper or Pulp Insulated Air Core cables, and Lead or Poly Sheaths (Stalpath, PASP, ASP Alpath). Repairs can be completed on any size cable where the actual sheath damage does not exceed 16 inches in length. Damage in excess of 16 inches will require additional kits.

Materials Required:

-TPICW-30	Clear Wrap	1 Roll
-TPIVT-1	Vent Tube	2 Each
-TPI220-SS	Sealant Strip	20 Each
-TPIPT-97	Pressure Tape	1 Roll
-TPIAT-2	Aluminum Tape	1 Roll
-TPI-12010	Sleeving Material	1 Roll
-TPI-6010	Sleeving Material	1 Roll
-TPICT-18W	Cable Tie	20 Each
-TPIET-10	End Tape	1 Roll
-TPIMW-24	Muslin Wrap	1 Roll
-TPIDR-T	DR Tape	2 Rolls
-TPI-W	Cleaning Wipe	1 Kit

1) Clean sheath 12 inches each side of damage using an approved cleaner or Wipe provided in kit.

a) **DO NOT card or scuff plastic sheath. Lead sheath can be carded or shaved clean.**

NOTE: Should damage include more than 40% of through conductors, Strain Relief must be installed to restore sheath integrity. See kit, Strain Relief.

2) Wrap damaged core with Muslin if the damaged cable is Pulp or Paper. If the damaged cable is PIC, wrap with Clear Wrap. Minimal conductor damage can also be repaired and contained under the Muslin or Clear Wrap.

a) If cable pressure cannot be bled down, a TPIVT-1 Vent Tube must be installed.

b) Center the Vent Tube directly on core of cable and wrap Muslin or Clear Wrap (Clear Wrap if PIC, Muslin if Pulp or Paper Cable) tightly around core with 2 half-lapped layers.

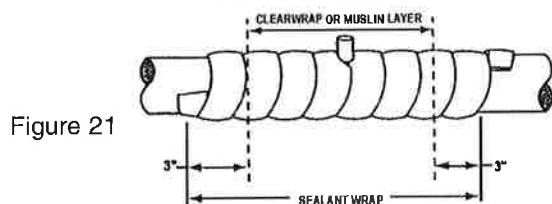


Figure 21

3) Starting and ending three inches beyond sheath opening damage, wrap a single layer of half-lapped TPI220-SS Sealant Strip.

a) When Vent Tube has been reached, pinch sealant up on the tube.

b) **DO NOT stretch the Sealant.**

4) Install two half-lapped layers of DR Tape, under continuous tension.

a) Starting and ending 1 inch left of center extending three inches beyond each end of Sealant, wrap a half-lap layer of 2-inch DR Tape in a Z fashion.

b) When Vent Tube is reached, pinch the DR Tape up around it and complete the DR application.

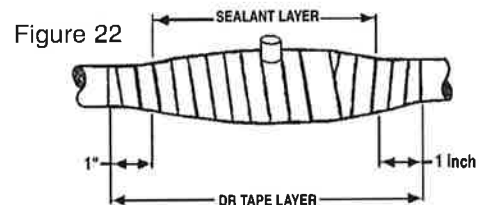


Figure 22

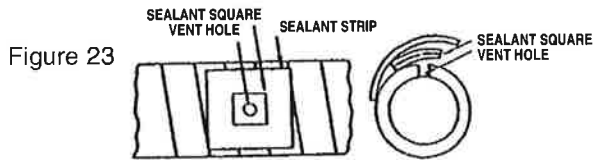
5) Over the DR Tape, place two half-lapped layers of TPIPT-97 Pressure Tape (PT) under continuous tension, starting and finishing just outside the DR Tape.

a) When reaching Vent Tube, pinch Pressure Tape up onto Vent Tube.

6) Pull out and discard Vent Tube (pliers may be necessary; twist and lift up).

7) Form a Sealant square 1/2" x 1/2" x 1/4" thick. Tuck sealant square on the back edge of vent hole. (See Figure 23.)

- a) Cut a piece of Sealant Strip to a length equal to diameter of repair; place it above the Sealant square and tuck it in.
- b) DO NOT block the vent hole.

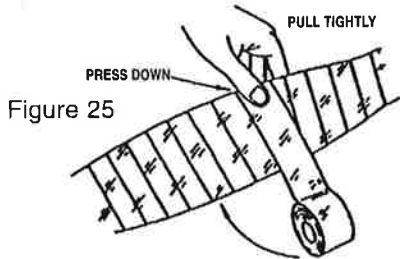


- 8) Wrap the Pressure Tape around the repair so it will be centered at vent hole.



- 9) Hold the roll of Pressure Tape in one hand and pull the tape over the Sealant Strip. With the thumb of the other hand press the sealant square down into the vent hole.

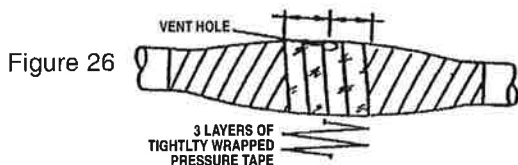
- a) Wrap around the repair, keeping tape under tension.



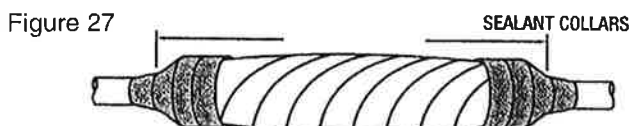
- 10) Continue wrapping Pressure Tape around vent hole area for a minimum of three inches on both sides of vent hole.

- a) Tape side to side forming three layers of tightly wrapped Pressure Tape over vent area.

****** NOTE: If local practices require the use of Aluminum Tape, at this point put one half-lapped layer of Aluminum Tape, covering Pressure Tape.**



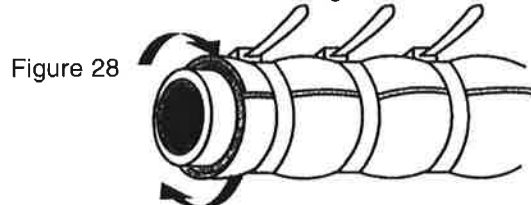
- 11) Just outside wrapped Pressure Tape, place two layers of Sealant Strip forming a collar. Continue up repair 4 inches with a single layer of Sealant Material.



- 12) Select a piece of TPI-12010 Sleeving Material to extend three inches beyond Sealant Collars overlapping itself at least 1-1/2 inches. Use additional piece of TPI-6010 if needed for a larger sized repair.

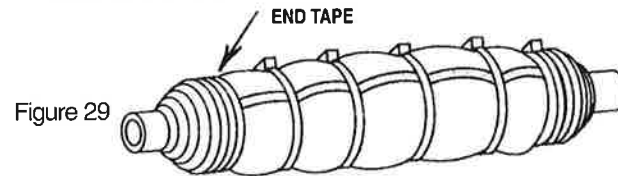
- 13) Keeping under tension, install Sleeving while forming smoothly around repair wrap.

- 14) Over Sleeving, place and hand tighten securely, Wide Cable Tie 18 inches long (included with kit) spaced to match circular marks on Sleeving or approximately 2 inches apart. Wrap ties in the same direction as the Sleeving was installed.



- 15) A cable-tie tightening tool could also be used but take caution not to compress Sleeving over 1/8 inch. Trim off cable tie tails.

- 16) Tape ends of Sleeving tightly with End Tape (ET) out onto cable sheath.

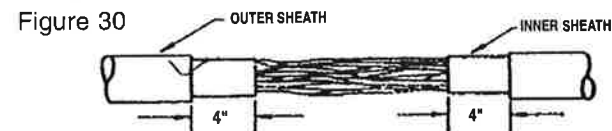


NOTE: The above installation procedures should be followed when installing or repairing auxiliary wraps, insulated joints and sheath dams.

Sheath Repair, Double Sheath Cable (PASP)

Use only if damage includes inner sheath and/or conductor damage. Should just the outer sheath be damaged, use steps outlined in Sheath Repair Pressurized Cable practice, steps 1-16. **All repairs on PASP type cable will require additional sleeving, i.e. 12-inch damage will require 45 inches of sleeving.**

- 1) Remove inner and outer sheath, including tern plate and core wrap to the required length governed by extent of damage. Cut outer sheath and tern plate 4 inches back from the edges of the inner sheath opening.



- 2) Thoroughly remove all dirt and grease from 12 inches of outer sheath and all exposed inner sheath. DO NOT scuff or card. Use only greaseless approved wipe.

- 3) Install approved bond clamps in the outer sheath.

- Place a single half-lapped layer of TPI220-SS Sealant Strip around inner sheath, leaving 1 inch exposed sheath near opening.

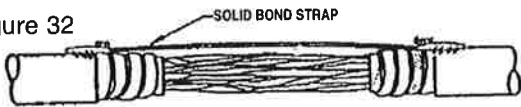
Figure 31



- Install a solid flat bond strap (i.e. bond ribbon) across opening. Clean strap with approved cleaner or Wipe provided with kit.

- Press bond strap firmly into the Sealant Layer.

Figure 32



- Cut bond clamp studs off flush and file smooth.

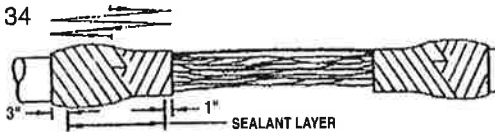
- Start 3 inches beyond the bond clamp and ending 1 inch from the sheath opening. Wrap a single layer of half-lapped TPI220-SS Sealant Strip over the outer sheath inner sheath junction on both sides. DO NOT stretch Sealant.

Figure 33

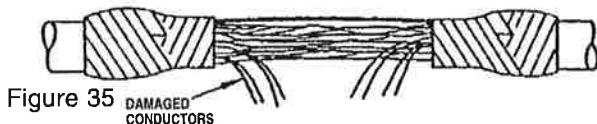


- Starting at the center of each sealant layer, half lap 2-inch DR Tape in a Z fashion on both sides as shown in figure 34. Wrap the tape under continuous tension overlapping the sealant 3 inches onto the outer sheath and 1 inch on the inner sheath.

Figure 34



- Make any necessary conductor repairs and lift the ends up and out of the opening. (See Figure 35.)



- If the cable is bled down and no pressure valve is required, wrap the entire length of the opening with a layer of half-lapped Clear Wrap, Muslin if cable is pulp. DO NOT cover damage pairs.

- If cable is not bled down, install a Vent Tube and follow procedures as outlined in steps 2-10 of the Pressurized Sheath Repair practice.



Figure 36

- Fold damaged conductors and stagger them uniformly around cable core.

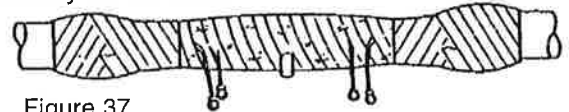


Figure 37

- Wrap a single half-lapped layer of Sealant Strip across the sheath opening to build up the core area with isolations on each end. Cover connectors, if any.

- Starting and ending 3 inches beyond the sheath opening, wrap a second layer of half-lapped Sealant, building up sheath opening to match diameter of outer wrap. DO NOT stretch Sealant.

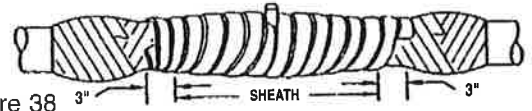
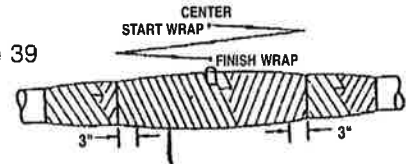


Figure 38

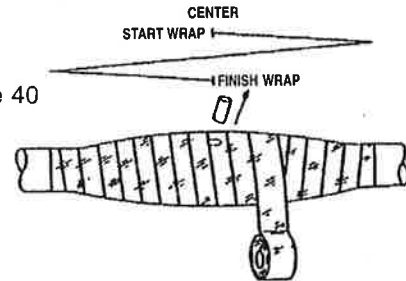
- Starting and ending at 3 inches beyond the Sealant Layer, half-lap 2-inch DR Tape in a Z fashion as shown in Figure 39. Apply tape under continuous tension.

Figure 39



- Starting and ending at the center of the DR Tape layer, half-lap 2 layers of TPIPT-97 Pressure Tape in a Z fashion over entire length of repair. (See Figure 40.)

Figure 40



NOTE 1: Figures 36-40 show non-bled cables using vent tubes. Most installations will not require the use of a vent tube.

NOTE 2: If local practices require aluminum tape as a moisture barrier, install it now over TPIPT-97 Pressure Tape.

- Install Sleeving Material Following steps 11-16 in Pressurized Sheath Repair practice.

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NOTES:

Remember!

There is no job so important
that we cannot take the time
to perform our work

SAFELY!

TI **Telepak Industries**

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