



Telepak Industries

Splice & Seal™

TELEPAK SPLICE KITS—TPIK-1

SIZE 1: 25-100 PAIR, 26-22 AWG FORCED ENCAPSULATED SPLICE

This system has proven itself over many years of success in major Telco's. *Splice & Seal™* was designed to reduce overall cost and incorporate labor saving methods and materials. It can be used on Filled or Air Core Pic Cable, either Direct Buried, Aerial or Underground in various splice configurations.

SPECIFICATIONS KIT 1:

SPLICE OPENING	12"
MODULE BANK	SINGLE
SPLICE CONFIGURATION	INLINE RECOMMENDED
SPLICE BUNDLE DIAMETER	3.0+/-
ENCAPSULANT	750 gm +/-

Contents:

TPI220-SS	Sealant Strips	5 Feet
TPI-12010	Sleeving Material 12" x 26"	1 Roll
TPISEM-12A	Splice Envelope, Adhesive	12" x 24"
TPIPT-97	Pressure Tape	1 Roll
TPICW-30	Clear Wrap 3 Mil	1 Roll
TPISW-10	Spacer Web 10" x 15"	1 Roll
TPICT-14W	Cable Tie, Wide 14"	21 Each
TPICT-9N	Cable Tie, Narrow 9"	6 Each
TPIEC-05	Emery Cloth 10"	2 Rolls
TPISRT-2500	Strain Relief Tape	4 Feet
TPIBS-20	Bond Strap, Braided	20 Inches
TPIET-10	End Tape, Vinyl 1"	1 Roll
TPIBC-2	Bond Clamps	2 Each
TPIF-10	Funnel	1 Each
TPIMB-18	Moisture Barrier	18" x 12"
TPI-W	Wipe	1 Each
	Instruction Sheet	1 Each



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*Splice & Seal*TM Kits 1, 2, 3 only

Additional Materials/Options -Forced Encapsulated Splice Kits

Part #	Description
TPI-6010	Sleeving Material 6"
TPI-9010	Sleeving Material 9"
TPI-12010	Sleeving Material 12"
TPI220-SS	Sealant Strip Material
TPISEM-12	Splice Envelope Material 12"
TPISEM-18	Splice Envelope Material 18"
TPISEM-36	Splice Envelope Material 36"
TPIPT-97	Pressure Tape
TPIET-10	End Tape, Vinyl 1"
TPIET-15	End Tape, Vinyl 1 ½"
TPICW-30	Clear Wrap 3 Mil
TPICW-15	Clear Wrap 1.5 Mil
TPISW-10	Spacer Web
TPICT-14W	Cable Tie Heavy Duty 14"
TPICT-18W	Cable Tie Heavy Duty 18"
TPICT-30W	Cable Tie Heavy Duty 27"
TPICT-9N	Cable Tie Light Duty 9"
TPIF-10	Funnels
TPIEC-05	Emery Cloth
TPISRT-2500	Strain Relief Tape 2500 lbs
TPIMB-18	Moisture Barrier
TPICT-TOOL	Cable Tie Tightening Tool
TPIBB-A	Bond Bar 15" (Kit 1, 2)
TPIBB-B	Bond Bar 23" (Kit 3)
TPI69-SRK	Strain Relief Kit
TPI-W	Cleaning Wipe
TPIBS-60	Bond Strap, Insulated Braid



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Forced Encapsulated Splice Kits (AWG 26-22)

TPIK-1	25-100 pair, Opening 12"
TPIK-2	100-200 pair, Opening 12"
TPIK-3	200-400 pair, Opening 20"

Installation Steps:

1) Complete Splice

- a) Follow local policies/practices for splicing and installation of bond hardware.

NOTE: A flexible insulated bond braid and rigid bond bars are available options and should be used according to local policy. TPI recommends and in-line splice configuration, minimizing bundle diameters and improving concentricity.

- b) Remove as much filling compound as possible.
- c) Cut off any protruding bond clamp studs flush with the nut on clamp; file off any sharp edges.
- d) **Remove all dirt and grease from the cable sheath 8 inches each side of opening with an approved cable cleaner or wipe provided with kit. DO NOT card sheath.**

- g) Place 3 tight layers of End Tape over Emery Cloth and 2 Wide Cable Ties over taped Emery Cloth. Using a Cable-Tie tightening tool, install cable ties very tight. Cut and remove tails.
- h) **IMPORTANT: Use only TPICT-14W heavy-duty wide ties provided) Lesser type ties WILL NOT provide adequate tension required to hold Strain Relief Tape from slipping.**

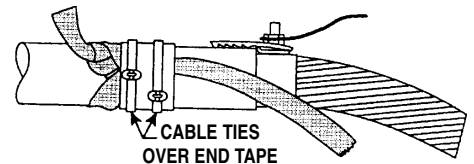


Figure 3

- i) Keep cable tie heads approximately in line with knots, slightly staggered.
- j) Should local practice require the rigid bond bar, it attaches directly to the bond clamp studs.

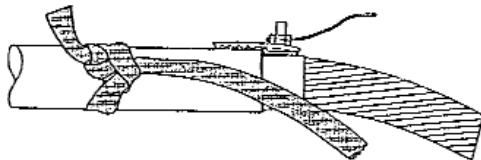
2) Install Strain Relief Tape

Materials Required:

- TPISRT-2500 Strain Relief Tape
- TPIEC-05 Emery Cloth
- TPIET-10 End Tape
- TPICT-14W Wide Cable Tie

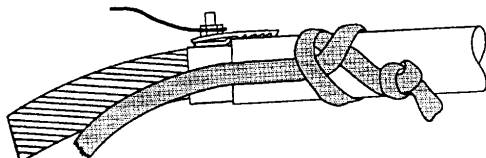
- a) Tie an overhand knot at one end of Strain Relief Tape.
- b) Tie second knot around cable 2 inches behind bond clamp.
- c) Tighten Strain Relief Tape around cable until knots come together.

Figure 1



- d) Stretch Strain Relief Tape across splice and repeat above process on other cable.
- e) **IMPORTANT: Ensure Strain Relief Tape is taut across the splice opening.**

Figure 2



- f) With abrasive side down, tightly wrap 1 1/4 turns of Emery Cloth over the Strain Relief Tape, right in front of the knot. Again, snug Strain Relief Tape across splice.

3) Install Spacer Web

Materials Required:

- TPISW-10 Spacer Web
- TPICT-14N Narrow Cable Tie

- a) Secure splice bundle with several Narrow Cable Ties, depending on bundle size, **HAND TIGHTEN ONLY.**
- b) Wrap a single wrap/layer of Spacer Web over entire splice bundle, hold in place with narrow cable ties.

Application of Spacer Web ensures total encapsulation of splice bundle.

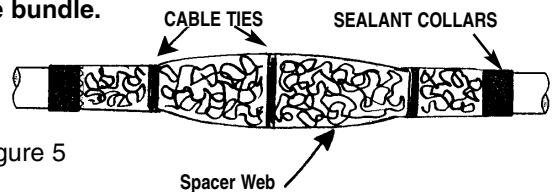


Figure 5

NOTE: DO NOT cut ties; fold over splice and tape down. Sharp edges could puncture encapsulant envelope.

4) Install Splice Envelope Material, Adhesive Back

- a. Install a 2-layer collar of Sealant Strip just outside strain relief or bond bar, if used, on Kits #1 and #2 and 3 layers on Kit #3.
- b. Cut Splice Envelope Material even with outer edges of Sealant Strips with enough envelope extending approximately 4"-6" above splice bundle and adhesive side facing splice

- c. *The Splice Envelope Release Liner is perforated in three equal sections for ease of removal and installation. Peel back the center section first and tack liner to the very bottom of the splice bundle.
- d. *Remove the remaining two pieces of liner and proceed to form the encapsulant pouch.

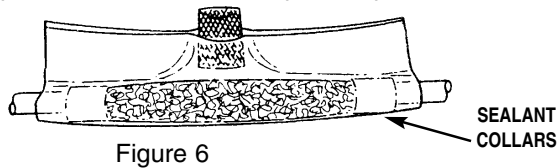


Figure 6

- e. Press adhesive sides together around collars leaving opening at the top for the funnel. (Figure 6)
- f. Install 2 Wide Cable Ties over each collar. Tighten to slightly compress Sealant ensuring a leak proof envelope.
- g. *Place Funnel for pouring encapsulant (encapsulant not included in kit) into the splice on the top of the envelope. After filling envelope with encapsulant at least 3/4 of the way up on splice bundle, remove Funnel and make a seal across top and fold envelope over itself down onto splice bundle.

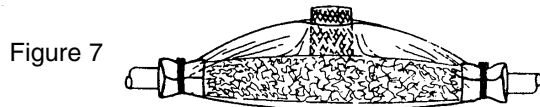


Figure 7

5) Install TPICW-30 Clear Wrap

Materials Required:

-TPICW-30	Clear Wrap
-TPIPT-97	Pressure Tape
-TPIAT-4	Aluminum Tape

- a) Wrap 4 half-lapped layers of Clear Wrap over encapsulated splice bundle, increasing tension on each layer to keep encapsulant under continual pressure. CAUTION: Watch for any leak or seepage of encapsulant. If this happens, add additional Clear Wrap to stem any flow of compound from bundle. Also look for any air bubbles. Puncture through Splice Envelope to release any trapped air. Seal with additional wrap.
- b) If local practice requires, place a layer of aluminum moisture barrier over splice bundle, hold in place with Vinyl End Tape while pressing the barrier smooth to conform to the splice bundle (a hammer handle works well for this.) Add one tight half-lapped layer a Pressure Tape over moisture barrier.

6) Install TPIS Sleeving Material

- a. Just outside wrapped splice collars, place 2 layers of Sealant Strip, Kits #1 and #2 and 3 layers with Kit #3. After installing collars, wrap a single half-lapped layer of Sealant, starting at the collar and up onto wrapped bundle, 2" on Kits #1 and #2 and 3" on Kit #3.



Figure 8

- b) Select or cut a piece of Sleeving Material to the end of each Sealant Collar and a sufficient amount to overlap—at least 1-1/2 inches. Two pieces of Sleeving Material can be used still maintaining 1-1/2 inch overlap. (See Multiple Sleeving installation)
- c) Install Sleeving, keeping under tension while forming smoothly around splice bundle.
- d) Over Sleeving place and hand tighten Wide Cable Tie 30 inches long (included) spaced to match circular marks on Sleeving, or approximately 2 inches apart. Wrap ties in the same direction as the Sleeving was installed.
- e) Using a cable-tie tightening tool, cinch up ties, compressing the Sleeving approximately 1/8 to 1/4 inches. Trim all edges.

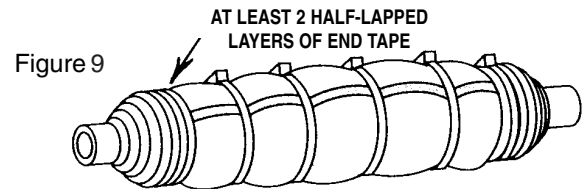


Figure 9

- f) End Tape can be applied to ends of Sleeving Material out onto cable sheath.
- g) Completed splice can be immediately direct buried and backfilled. Splice should be supported according to local practices.

NOTE: Increased size of Sealant Strip Collars proportional to the size of the overall splice bundle. This will aid in placing sleeving and reduce "buckling" of the sleeving material.

1) Re-Entry

- a) Remove all cable ties.
- b. Remove Sleeving by cutting and or unwrapping. Insure cut does not cause conductor damage or create gouges in the cable sheath.
- c. Discard Sleeving Material, DO NOT reuse.
- d. Remove all Sealant and tapes.

2) Re-install new kit following initial procedures starting at Step 1, cleaning sheath.

NOTE: Additional material may be required in situations where there may be multiple branch cables, excessive cable diameters (PASP or armored cable) inexperienced technicians or various causes. See attachment page 4 for list of accessory materials and Mat Codes.

Remember!

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

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