

# Flexible Fiber Optic Splice Enclosure for Tactical

Part #: AMSC-0020 Splice Enclosure, Tactical Fiber Optic  
NSN 6080-01-511-0275

The flexible splice enclosure for fiber optic tactical field cable is a unique, easy-to-assemble solution for protecting fiber optic splices and restoring full cable strength to the repaired section of a cable. The enclosure is 13.25" long and 0.75" in diameter. One of the unique features is the central enclosure that is made using a special interlocking stainless steel core surrounded by a braided stainless steel mesh to make it flexible. This allows it to be coiled onto a field deployable reel. Even though it is flexible, it is as tough as a tank with high tensile strength and compression strength. The long length provides extra room to work with the fibers and makes splicing an easy task. A skill level 5 maintainer can assemble it in less than 10 minutes (excluding splicing).

A further advantage is our patented Kevlar® gripping design inside the enclosure which gives a tensile strength of over 400 pounds for the repaired cable. No crimping or special tools are required for assembly. The enclosure provides complete protection to splices from shocks, vibration, and environmental conditions. The versatile neoprene cable glands on each end provide a watertight seal for the cable and allow a wide range of diameters to be used with the enclosure.

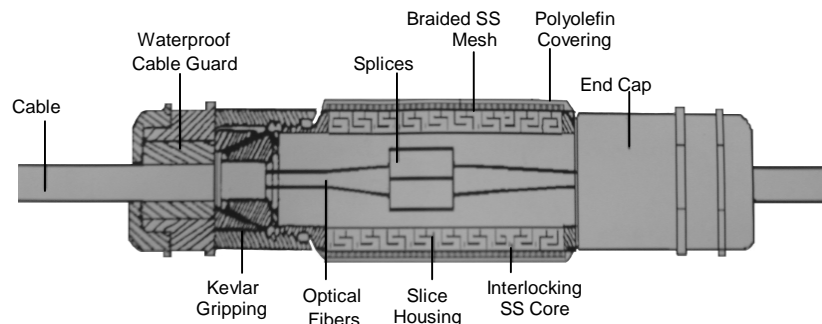
Internal size of the enclosure is ½" nominal and is designed to hold 2 standard size mechanical splices side by side in it. Note: Splices are purchased separately from splice enclosure.

## Specifications:

- Dimensions: 13.25" long X 0.75" OD; 0.05" ID
- Cable Size Range: 0.160" - 0.310" diameter
- Pull Strength: >400 lbs.
- Compression Strength: 600 lbs/linear inch
- Waterproof
- Temperature Range: -50° to +65° C
- Materials of Construction:
- Enclosure: interlocking stainless steel tubing covered with braided stainless steel mesh
- Waterproof Covering: polyolefin
- End Caps – Nickel Plated Brass
- Cable Gland Bushing - Neoprene

## Features & Benefits:

- Suitable for majority of Splice types — Fusion or Mechanical
- Handles 1 to 4 splices
- Allows for a range of cable diameters, in/out
- Flexible: Minimal impact on reel
- Light Weight, Small Diameter
- Compression: 600 lbs/linear inch
- Tensile Strength: >400 pounds
- Waterproof
- Easy to Use — No special tools
- Lower Cost
- Re-usable



**American Fiber Optic  
Technologies**



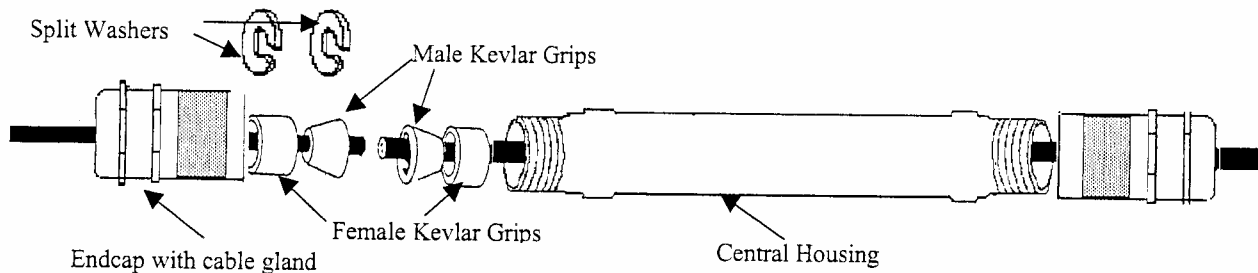
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# Assembly Procedure for Flexible Splice Enclosure

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**WARNING:** Before beginning, put on safety glasses. These must be worn whenever handling optical fibers. Read entire instructions once completely before beginning.

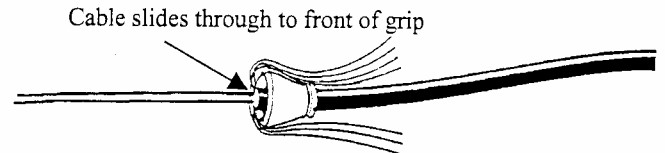
1. Cut out damaged section of cable with utility knife or shears to provide flush ends on the cables. Remove excessive mud and/or dirt from cable jacket at least 12 inches back from each cable end. **DO NOT USE** alcohol pads to clean cable jacket. Use wipes provided in kit or equivalent.
2. Take a splice enclosure from the kit. Grip endcaps by knurled section and unscrew from central housing. Remove split washers and male and female Kevlar® grips.
3. Slide one endcap, one female grip and one male grip down each cable. Slide central enclosure down one of the cables as illustrated below. All components should be slid out of the way, about 2 feet down cables. Set washers aside for later use.



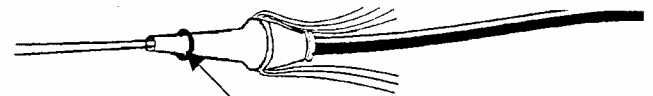
4. Remove 7.5 inches of outer jacket with the cable stripper in 1 inch increments from each cable end. Use the 10 gauge or the 12 gauge holes on the stripper. Separate the optical fibers from the Kevlar®.

5. To prepare for assembling, take one of the small elastic bands and stretch it over the small end of one of the plastic cones supplied. Alternately, stretch the elastic band open over the tips of a pair of tweezers.

6. Take one cable and slide the male Kevlar® grip up to the end of the outer jacket. The front end of the cable jacket should be flush with the front end of the grip.. Fan the Kevlar® out and back around the grip.

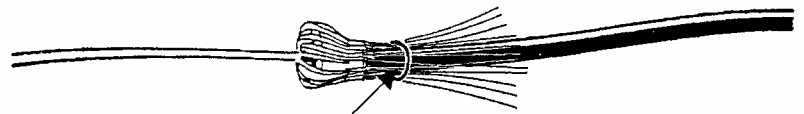


7. Grip Kevlar® at back of sleeve with one hand. With other hand, slide the plastic cone with the elastic band over the fibers and hold the cone against the male grip. Roll the elastic band up and over the Kevlar® and the male grip until it rolls down off the grip onto Kevlar® and cable. Remove cone from fibers. Alternately, use tweezers to stretch elastic band over male grip.



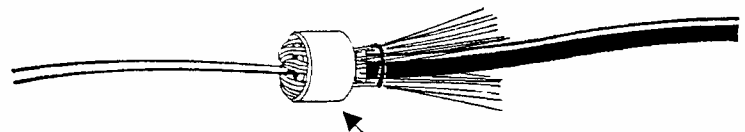
Elastic band stretches over plastic cone.

8. Fan Kevlar® out **EVENLY** on the front of the grip surface. Pull any loose strands of Kevlar® back so they rest flush and tight against the grip surface.



Roll elastic band back to the cable

9. Slide the female grip up the cable. Thread the Kevlar® fibers through it and slide it up over the male grip.

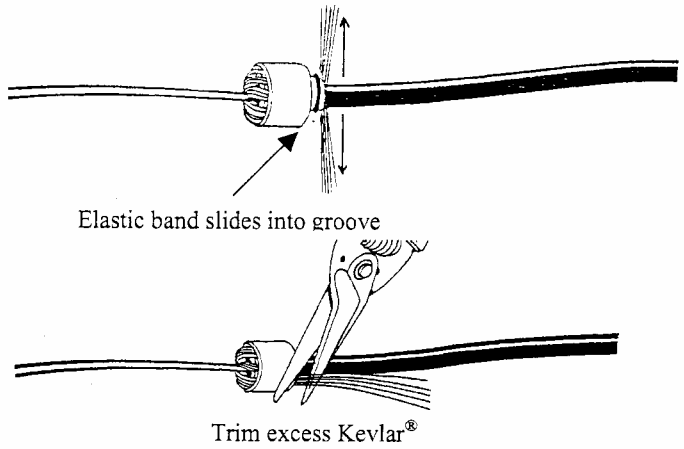


Slide female grip up over male grip.

10. Divide Kevlar® into two bunches and pull at a right angle to the cable to snug up the mating surfaces. The elastic band will slide up into the groove at the back of the male grip to hold the grips together.

11. While holding one bunch of Kevlar®, use shears to trim loose Kevlar® at back of grip assembly.

12. Repeat steps 5 -11 to grip Kevlar® on other cable.

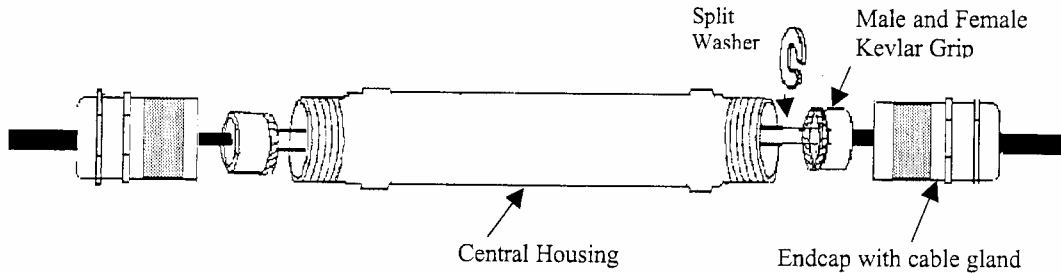


### B. Making Splices

1. Remove 1.25 inches of buffer from all four fibers.
2. Clean fibers with alcohol wipe.
3. Cleave all four fibers to 12.5mm with cleaving tool.
4. NOTE: After cleaving, total length of buffer and bare fiber protruding from Kevlar® grips should be 5.75" to 6.75". This allows for slack which is needed inside the 10" central housing to allow for flexing.
5. Assemble splices according to manufacturers' instructions.
6. Use an OTDR to check the loss of both splices. If good - proceed. If not, go back to step 5 of cable preparation and repeat process until low loss splices are completed.

### C. Housing Assembly

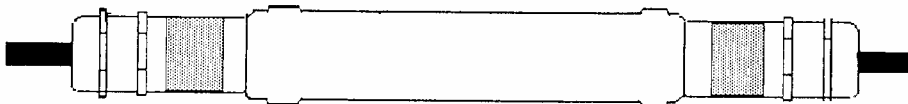
1. Slide central enclosure up over one grip assembly and center it over splice with grips on either side.
2. Bring up one end cap. Insert split washer onto fibers in front of grips. Hold cable and end cap stationary and screw the enclosure onto the end cap. Do not allow the cable to twist.



3. Bring up the other end cap. Insert split washer. Gently move any excess fiber into central enclosure and screw the cap on the body. Hold the cable with little finger in back of hand to prevent twisting. Screw end cap with thumb and forefinger until snug.



4. Tighten hexagonal cable gland caps on each end by hand until internal rubber bushing is snug on cable insulation. For smaller diameter cables, use wrench to tighten until snug on cable.



5. Hold cable at arms length with enclosure centered and pull to spread excess fiber throughout the cable.

Kevlar® is a registered trademark of E.I. DuPont.

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