Amphenol Spectra-Strip

Fiber Optics

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TapeLite® Termination Instruction Sheet

TapeLite® is a unique, patent pending, non-electrical, flat side emitting lighting cable system designed for spaces where long lengths (up to 100 ft) and wide, broad areas need to be lit with a very thin, .085 inch thick design, with widths up to 3.6 inches.

TapeLite ® is designed to accept a wide range of illuminators including quartz halogen, metal halide and RGB LED. Color wheels can be added to the metal halide illuminators to provide a variety of constant or changeable color options. When color wheels are used, a very interesting effect occurs: As the color wheel turns, color changes actually "move" across the width of the cable. When **TapeLite®** is coupled with RGB LED illuminators, almost endless combinations of colors, dimming, cross fading, and blinking can be simply programmed into the illuminator and controlled via DMX.

TapeLite® standard product (3 inch width) consists of 60 fibers, made up into 30 twisted pairs, each fiber being 1mm diameter PMMA (Polymethyl methacrylate) POF (plastic optical fiber). We then simultaneously laminate all the fibers between a combination of reflective and clear plastic films. The reflective film is intended to reflect any available light that is side emitted back towards the viewer.

These instructions provide information on the recommended method to terminate **TapeLite®**. These guidelines incorporate the use of the *"Compression"* ferrule.

We have provided these guidelines specifically for those who purchase **TapeLite®** in bulk. **TapeLite®** is available on bulk rolls of 50, 100, 150, 200 and 300 feet.

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Major Steps in Termination Process:

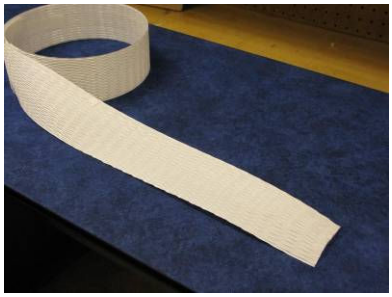
- **Cut TapeLite® to length**
- **Strip the reflective and clear plastic film**
- **Untwisting the fiber pairs**
- **Install the heat shrink tubing**
- **Attach the "Compression" ferrule**
- **Polish**

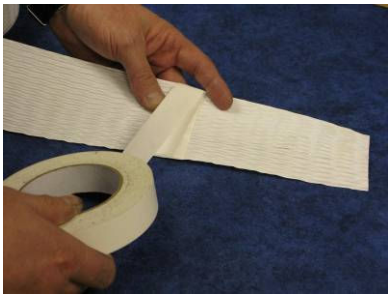
Step by Step Procedures:

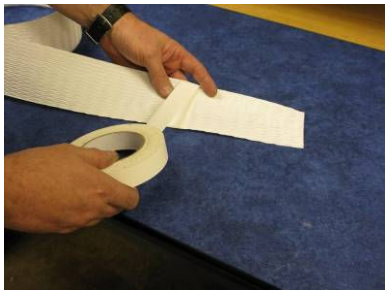
1. Unroll and cut to required length

TapeLite® is ordered, shipped and received in a Roll. Pull from roll and cut to required length using a commercial scissors. Include the necessary length for the *tails* (non illuminated section), the *end terminations* and the *illuminated* section. Remember that the longer your tails, the more care needs to be taken when covering them. Keep this in mind when you are determining the length requirements.

2. Strip the reflective and clear plastic film







Prepare the TapeLite cable for stripping. Place tape at the end of where the tail is to be and the illuminated section begins. This aids in making a straight cut and guides you when you are pulling back the fibers.

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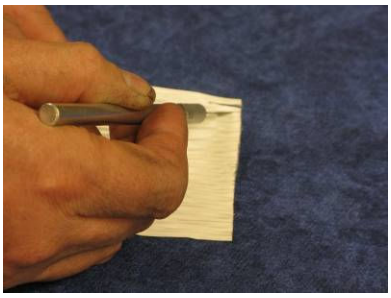
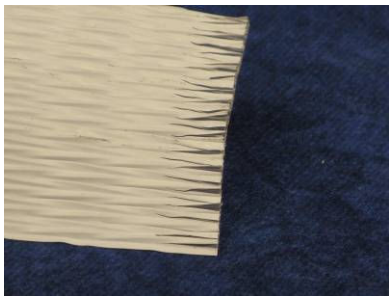
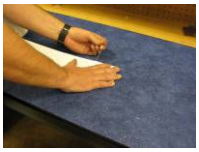
2. Strip the reflective and clear plastic film (continued)

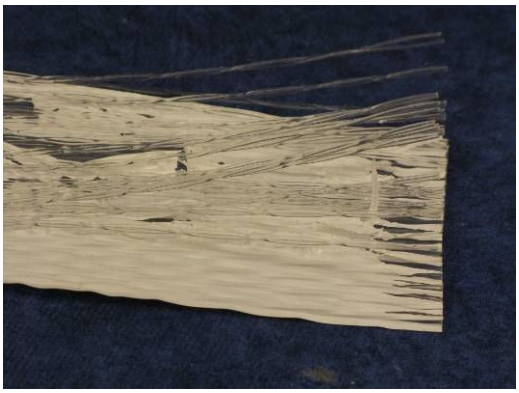


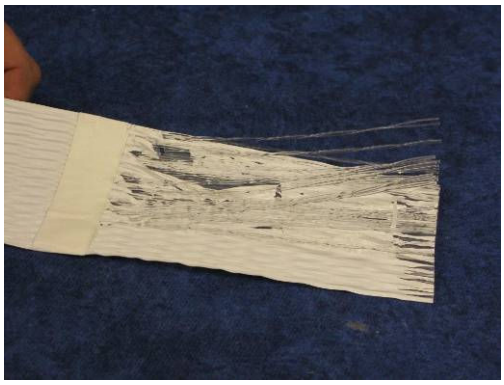


Use a razor type scalpel / craft knife to carefully cut in between the “sections” that hold the twisted pairs of fibers. Be careful not to cut into the side cladding on the fibers.

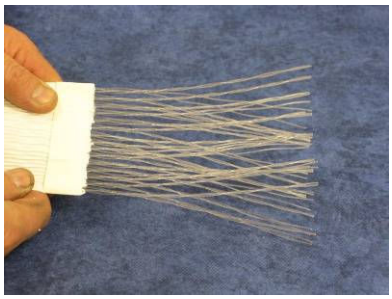
Slice in between all 30 pair before stripping.

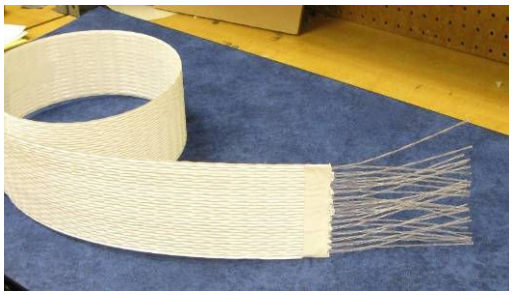






Pull each pair back to the tape guide completely separating the twisted pairs from the plastic films.





Using your tape guide, cut off the reflective & clear plastic film with a straight even cut.

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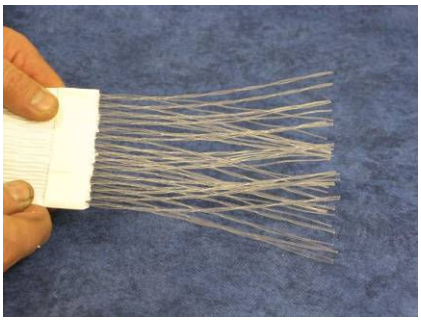
3. Untwisting the fiber pairs.

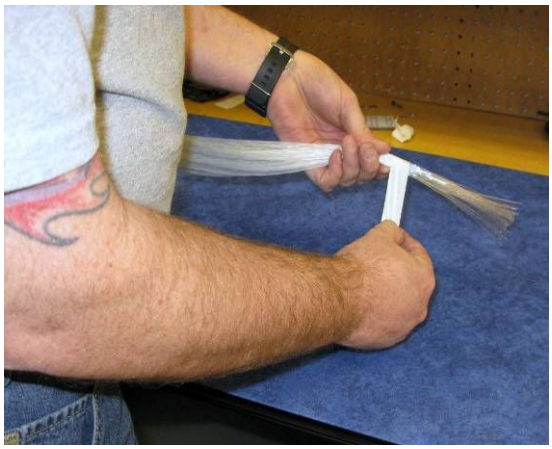


Untwist the pairs of fiber using a slow, smooth motion with your fingers. Straighten out and prepare for inserting into the shrink wrap and the compression ferrule.

4. Install the heat shrink tubing.

Bundle together the untwisted fibers.

Tape to hold together for easier insertion into the heat shrink tubing.



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4. Install the heat shrink tubing (continued)

We use 3M™ ½ inch Heat Shrink Tubing, FP 301, for the length of the “tail”. This comes in black, white, red, blue, and green colors.

Insert the taped and stripped fibers into the shrink wrap tubing.

Use the correct length of tubing for the “tail”. Fibers are stripped and organized into straight / parallel order.

Maximum recommended tail length for hand built tails is 15 feet. Need to take care not to let fibers become tangled.

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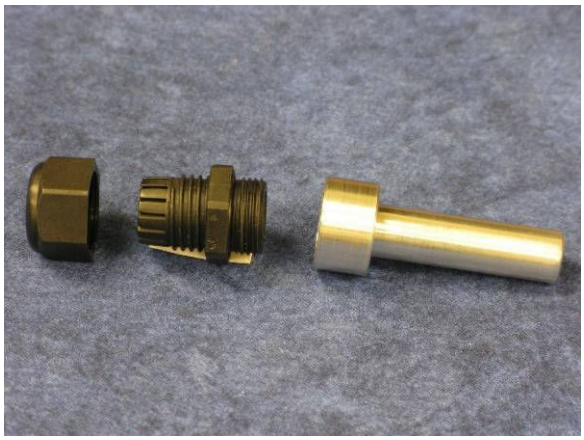
5. Attach the "Compression" ferrule



Select the "field termination" ***Compression Ferrule***. This can be used with either *DiCon* LED type illuminator or the *Fiberstars* metal halide illuminator (use the metal halide adapter).

P/N # 580-2302-003. Standard Compression Fit Ferrule for **standard TapeLite** (30 pair) for use with standard DiCon illuminators.

P/N # 580-2302-004. Over sized Compression Fit Ferrule for fitting 2 **standard TapeLite** (60 pair) for use with standard DiCon illuminators with the larger chuck provided from DiCon.

Carefully bundle the fibers.

Push the fibers through.

Tighten the compression nut around the fibers. The shrink wrap tubing will be brought up to nut and heated.

Zeta-9 Thermocutter (hot knife)

Cut the fibers with the hot knife. Apply even downward pressure of the knife across the face of the ferrule. Practice a few times first before working on the real assembly. Do not saw back and forth, as this will cause serrations which will affect the light output.

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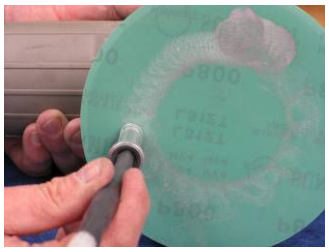
6. Polish



Shown is Buffing Compound McMaster Carr P/N A801A2 (2 lb. bar)

Polish for maximum light launch into the fibers. Use 1,200 Grit paper.
Dual action Sander (vibrates & rotates).

Finish polish using polishing compound.

Apply heat to the heat shrink tubing. Steinel Electric Heat Gun HG 2310 LCD. Type 3483.

Finished Ferrule attached to TapeLite

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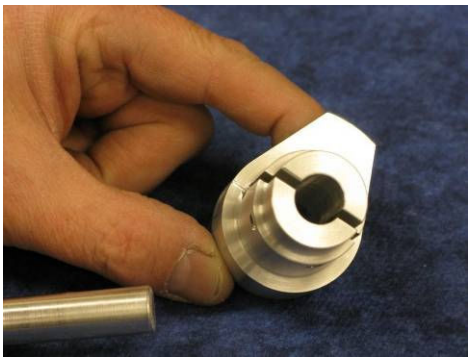
Ferrule with DiCon LED illuminator



Fiberstars 404 / 405 series metal halide Illuminator Adapter

Ferrule with adapter mounted into Fiberstars 404 / 405 series metal halide illuminator

We can provide custom ferrule for any type of illuminator.

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