



Applications Engineering Notes

Document Title	Operating Instructions for the US Conec Disposable Loose Fiber Ribbonizing Die
Document Number	AEN-1414
Revision Number	1.0
Effective Date	November 15, 2012



THE USE OF SAFETY GLASSES FOR EYE PROTECTION IS RECOMMENDED

1.0 Document Purpose

This document describes the procedure for ribbonizing loose fibers using the US Conec disposable loose fiber ribbonizing die.

2.0 Required Equipment and Materials

- 100 millimeter ruler or other measuring device
- Permanent marker
- Fiber Optic Side Cutters
- 3cc syringe with a #18PPS (0.032 x 0.50") plastic needle tip (EFD P/N 7018143) installed
- US Conec disposable fiber ribbonizing die (US Conec P/N 14316)
- LOCTITE® 4861 Instant Adhesive

3.0 Ribbonizer Operating Instructions

3.1 Equipment Preparation

- 3.1.1 Prepare the cable for ribbonization according to the manufacturer's instructions or for the connector termination type being used.
- 3.1.2 Place LOCTITE® 4861 Instant Adhesive into a 3cc syringe with a #18 (0.032 x 0.50") plastic needle tip installed.

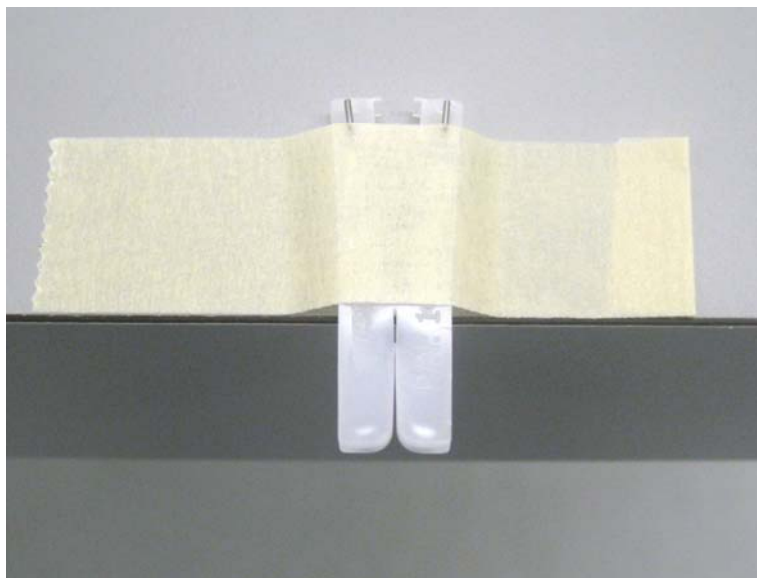


3.1.2

3.2 Fiber Ribbonization

3.2.1 Method #1: Tabletop Mounting

- 3.2.1.1 Tape a disposable fiber ribbonizing die to a table edge or other secure horizontal surface with the adhesive pocket facing downward.



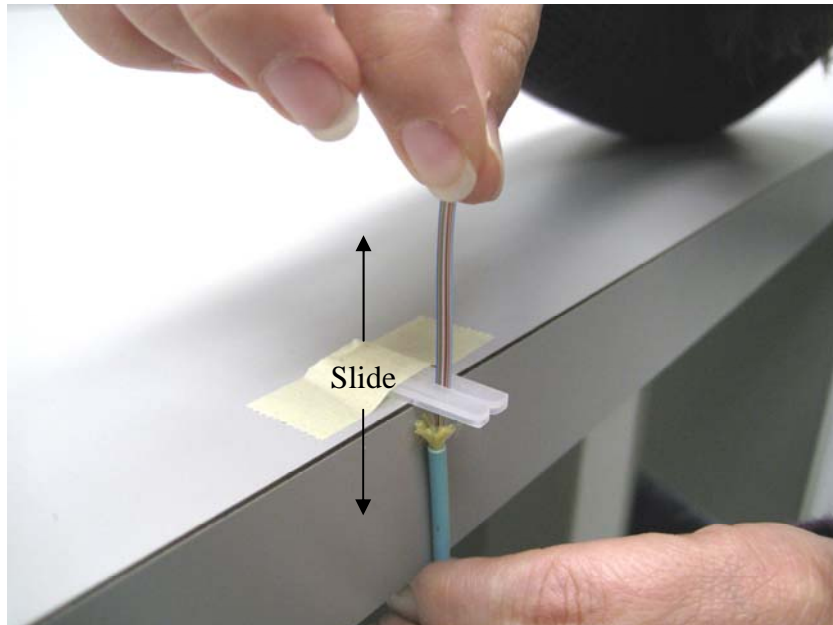
3.2.1.1

3.2.1.2 Place the loose fibers into the slot of the die in the standard color order shown in Table 1.

Fiber No.	Color	Fiber No.	Color	Fiber No.	Color
1	Blue	5	Slate	9	Yellow
2	Orange	6	White	10	Violet
3	Green	7	Red	11	Rose
4	Brown	8	Black	12	Aqua

Table 1: Standard Ribbon Fiber Color Order Chart

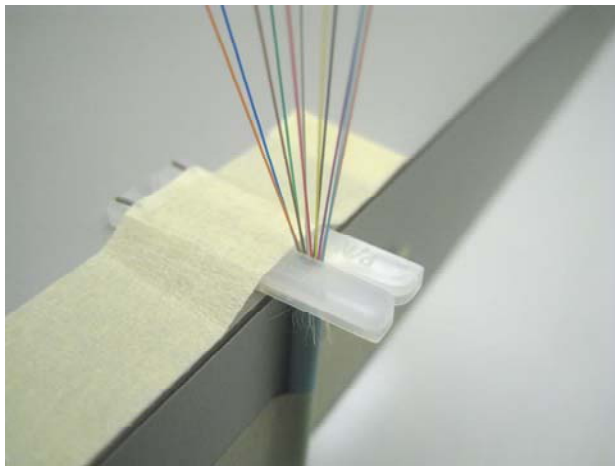
3.2.1.3 Grasp the fibers and cable with the fingers of each hand. Gently slide the fibers up and down in the slot several times to allow the fibers to settle into position as they exit the jacket.



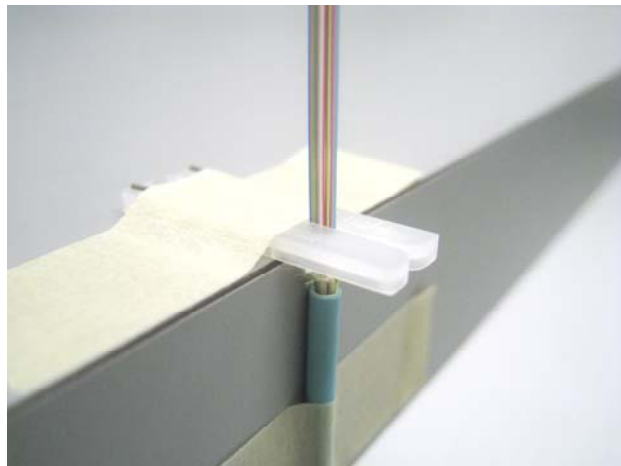
3.2.1.3

Position the cable so that the end of the jacket is in close proximity to the bottom of the die.

NOTE: The distance between the bottom surface of the die and the cable jacket will vary according to cable diameter. Larger diameter cables may be positioned closer to the die while smaller diameter cables must be positioned farther away in order to minimize the amount of spread as the fibers exit the die. Excess fiber spread will adversely affect the fiber positions during ribbonization.



Excess Fiber Spread

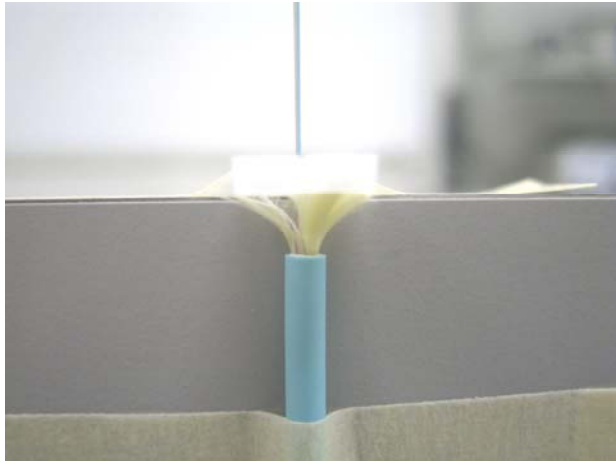


Correct Fiber Spread

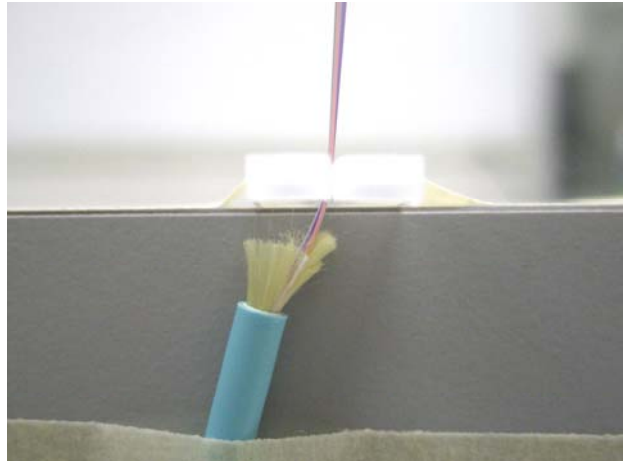
3.2.1.4 Tape the cable into position directly below the fiber slot in the die so that the fibers are straight from the point of exiting the cable through the die.

NOTE: The position of the cable in relation to the die fiber slot will affect the angle and/or curvature of the finished ribbon in relation to the cable. Curved or angled ribbons make termination more difficult and may affect the performance of the completed connector.

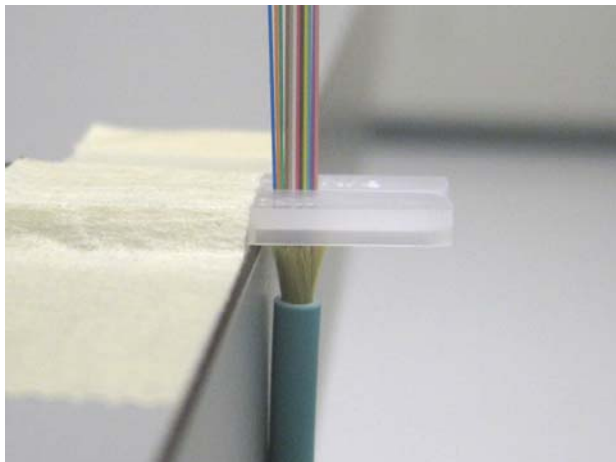
See photographs below for representations of correct and incorrect cable and die fiber slot positions.



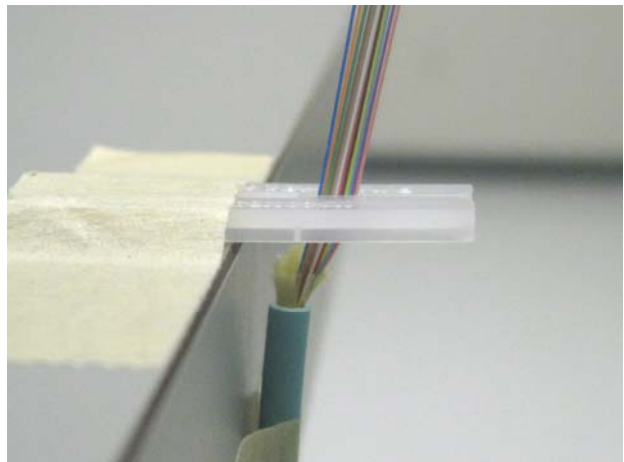
Correct Cable Position
Directly Beneath Fiber Slot



Incorrect Cable Position
Shifted to Left

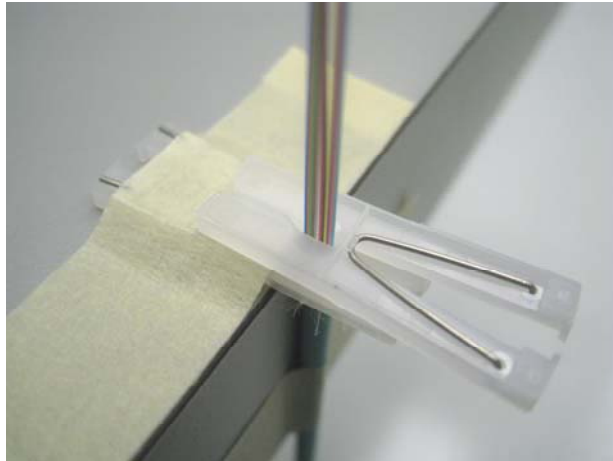


Correct Fiber Slot Position
Directly Above Cable



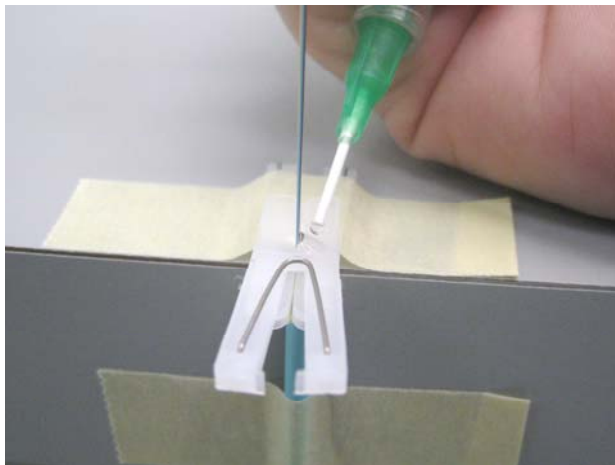
Incorrect Fiber Slot Position
Located Forward of Cable

- 3.2.1.5 Place the fibers into the slot of a second die. The die must be positioned with the adhesive pocket facing upward (away from the cable jacket). Gently push the second die onto the top horizontal surface of the first (stationary) die.

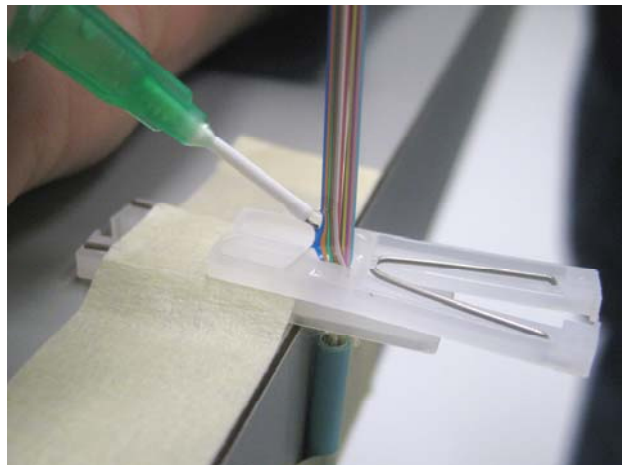


3.2.1.5

- 3.2.1.6 Place LOCTITE[®] 4861 Instant Adhesive into the adhesive pocket, making sure to get adhesive onto BOTH sides of the pocket and fibers.

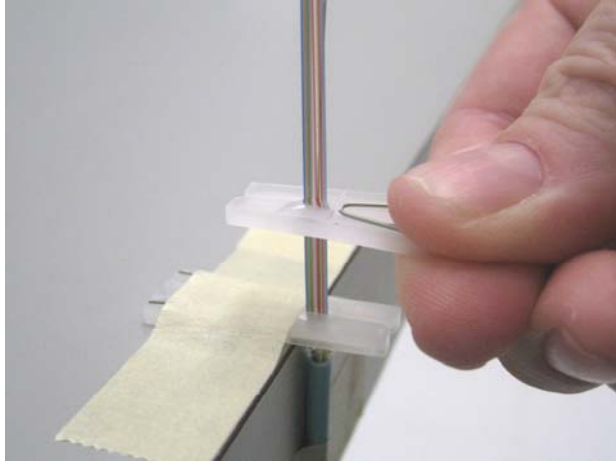


3.2.1.6a

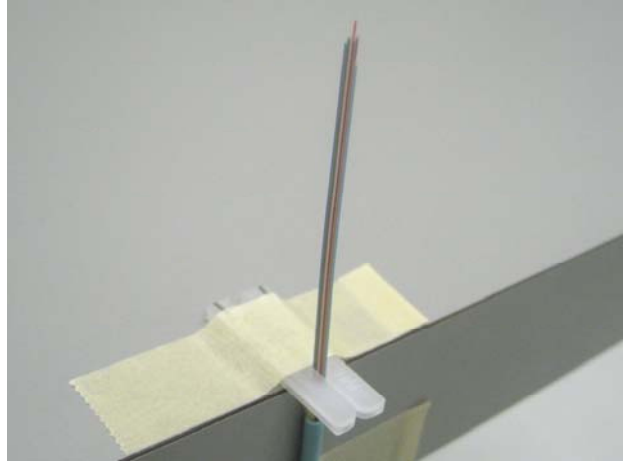


3.2.1.6b

- 3.2.1.7 Pull the second (top) die straight up the fibers and away from the jacket in a smooth, uniform, steady motion until it is free of the fibers.



3.2.1.7a



3.2.1.7b

Leave the ribbon in the first (bottom) die until the adhesive dries (approximately one minute).

- 3.2.1.8 Remove the ribbon from the bottom die. For multiple-leg cables, immediately number the leg (1, 2, 3, 4 or A, B, C, D, etc.) with a permanent marker.



3.2.1.8



3.2.1.9

- 3.2.1.9 Using fiber optic side-cutters ONLY, measure and trim the ribbon to the required length according to the connector termination procedure.

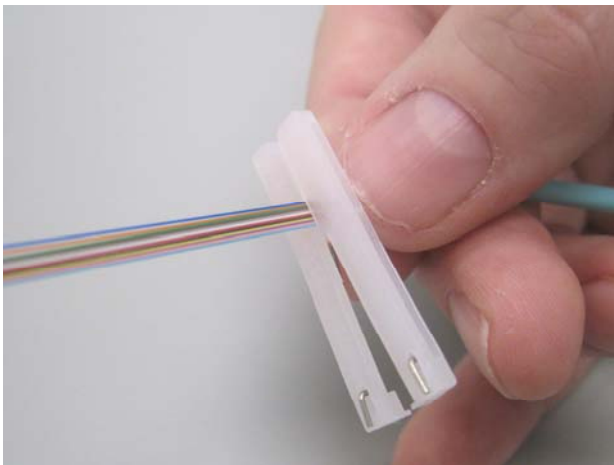
- 3.2.1.10 Follow the connector manufacturer's recommended termination procedure for complete connector installation.

NOTE: One die may be used for several ribbonizing operations in sequence when multiple cables are being prepared at once. Prepare the cables to be ribbonized according to steps 3.2.1.1 to 3.2.1.4. Place the second (top) die onto the first cable to be ribbonized (step 3.2.1.5) and follow steps 3.2.1.6 and 3.2.1.7. Upon completion of step 3.2.1.7, move immediately to the next cable to be ribbonized and, using the same top die, repeat steps 3.2.1.6 and 3.2.1.7. The operation may be repeated up to ten (10) times using the same die.

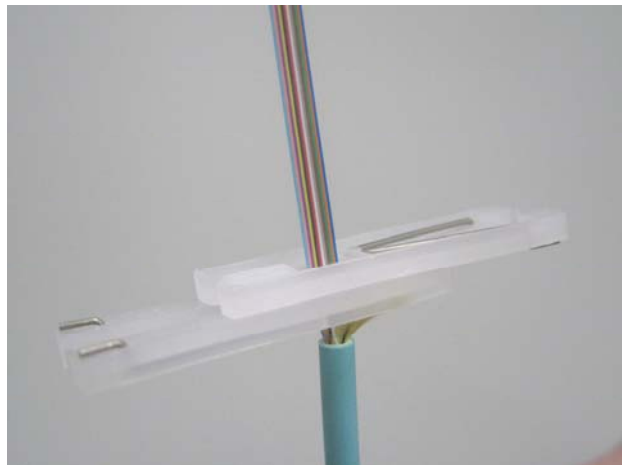
Once ribbonization of all cables is completed, proceed to step 3.2.1.8 and continue the process.

3.2.2 Method #2: Handheld

- 3.2.2.1 Place the loose fibers into the slot of a disposable fiber ribbonizing die in the standard color order shown in Table 1. Be sure the adhesive pocket of the die is facing downward, towards the cable jacket.

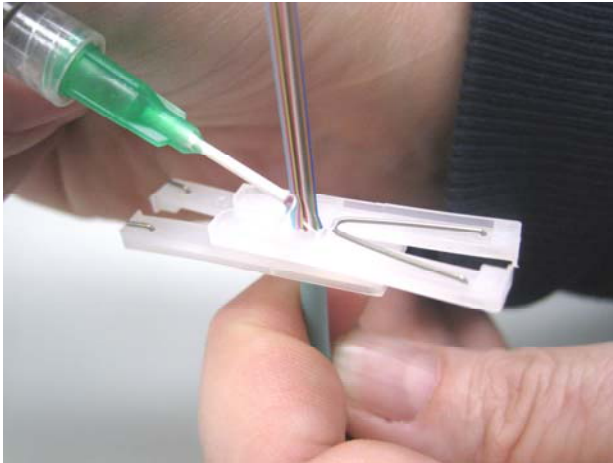


3.2.2.1

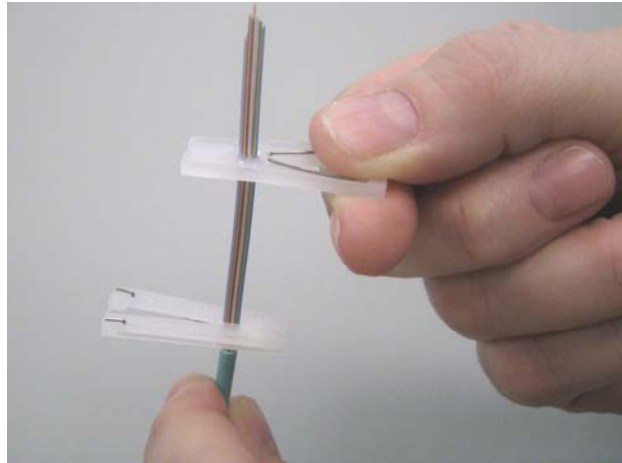


3.2.2.2

- 3.2.2.2 Place the fibers into the slot of a second die. The die must be positioned with the adhesive pocket facing upward (away from the cable jacket). Gently push the second die onto the top horizontal surface of the first die.
- 3.2.2.3 Place LOCTITE® 4861 Instant Adhesive into the adhesive pocket, making sure to get adhesive onto BOTH sides of the pocket and fibers.



3.2.2.3



3.2.2.4

- 3.2.2.4 Hold the cable jacket and pull the second (top) die straight up the fibers and away from the jacket in a smooth, uniform, steady motion until it is free of the fibers.

Leave the ribbon in the first (bottom) die until the adhesive dries (approximately one minute).

- 3.2.2.5 Remove the ribbon from the bottom die. For multiple-leg cables, immediately number the leg (1, 2, 3, 4 or A, B, C, D, etc.) with a permanent marker.



3.2.2.5



3.2.2.6

- 3.2.2.6 Using fiber optic side-cutters ONLY, measure and trim the ribbon to the required length according to the connector termination procedure.
- 3.2.2.7 Follow the connector manufacturer's recommended termination procedure for complete connector installation.

NOTE: One die may be used for several ribbonizing operations in sequence when multiple cables are being prepared at once. Prepare the cables to be ribbonized according to steps 3.2.2.1. Place the second (top) die onto the first cable to be ribbonized (step 3.2.2.2) and follow steps 3.2.2.3 and 3.2.2.4. Upon completion of step 3.2.2.4, move immediately to the next cable to be ribbonized and, using the same top die, repeat steps 3.2.2.3 and 3.2.2.4. The operation may be repeated up to ten (10) times using the same die.

Once ribbonization of all cables is completed, proceed to step 3.2.2.5 and continue the process.