Prysmian Group

PRYSMIAN Draka

How to Ribbonize Fiber in Loose Tube Cable

Applications Procedure

Overview

Mass fusion splicing is a procedure that saves time and lowers labor costs by simultaneously splicing 12 fibers at a time. The savings is most significant with higher fiber count cables.

The need to ribbonize loose-tube fibers and to perform multifiber splices is growing with the increased availability of mass fusion splice machines and higher fiber count cables. Since mass fusion splicing is designed to be used with ribbon or ribbonized fiber cable, it is first necessary to construct ribbons out of loose tube fibers. You can construct ribbonized fiber in a few simple steps by using commercially available ribbonizing kits.

Ribbonized fiber provides all the benefits of ribbon cable

[+] Ribbons are ideal for mass fusion splicing.

[+] Assembled ribbon can be heat stripped, cleaved, and spliced similar to manufactured ribbon.

[+] Tools can make ribbons between 4 to 12 inches.

[+] A major benefit of mass fusion splicing is that it offers low cost and reduced labor time.

[+] Loose tube fiber can be transformed into ribbon for mass fusion splicing. Simply stack the fibers in color sequence and add an adhesive to create the ribbon matrix.

[+] Ribbon units can be completed in less than 3 minutes, including adhesive drying time.

[+] Large fiber count cables can be spliced in one day.

For ribbonizing loose tube fibers, Prysmian recommends the use of either the AFL, Sumitomo, or USCONEC fiber arrangement tools. The kits are compatible with major commercially available mass fusion splicers.

Contact Numbers: **AFL: 800-235-3423**
Sumitomo: 800-358-7378
USCONEC: 800-769-0944

Always follow the tool kit manufacture procedures and practices when ribbonizing fiber.

REFERENCE:

AFL Fiber Arrangement Tool:
www.aflglobal.com/products/fusion-splicing/field-fusion-splicing-equipment/ribbon-fiber-tools/fiber_arrangement_tools.aspx

Sumitomo Fiber Arrangement Tool:
www.sumitomoelectric.com/product/fiber-arrangement-tool/

USCONEC Ribbionizing Tool:
www.usconec.com/equipment/disposable-ribbonizer_12f

USCONEC Procedure AEN-1414: www.usconec.com /resources/AEN/AEN-1414.pdf

AFL Fiber Arrangement Tool

The FAT-02 Fiber Arrangement Tool is an industry standard tool for forming individual 250 µm coated fibers into ribbons. The fiber arrangement method uses an arrangement spring. The fibers are placed into the proper position within the spring, eliminating the need to pre-sort the fibers and place them into the tool in numerical sequence.

The FAT-04 features an easy-to-use fiber arrangement method utilizing linear travel. The FAT-04 includes a spare paste applicator to allow ribbon making to continue even if one of the paste applicators needs cleaning.

www.aflglobal.com
(see reference section for the complete URL link for this product)

Sumitomo Fiber Arrangement Tool

This organizes individual fibers into 4 inch ribbons for mass splicing.

www.sumitomoelectric.com
(see reference section for the complete URL link for this product)

USCONEC Ribbonizing Tool

www.usconec.com
(see reference section for the complete URL link for this product)
see USCONEC procedure AEN-1414

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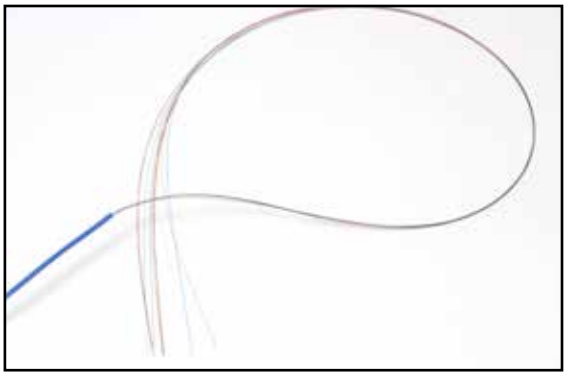
1.0 Ribbonizing Quick Reference

The Sumitomo tool is pictured in quick reference step summarized below.

For complete step by step directions refer to tool manufacture for specifications.

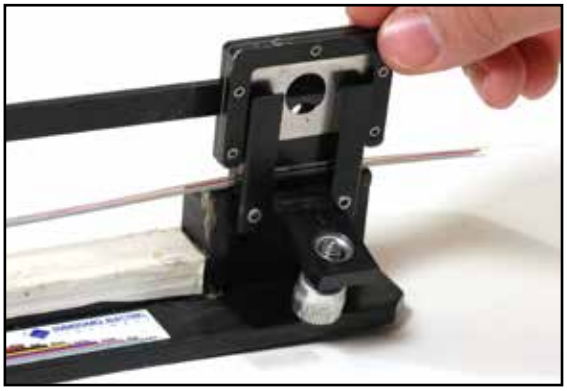


1.1 Remove the cable sheath and buffer tubes from the fiber and carefully clean any gel from the fiber strands.

1.2 Prior to inserting the fibers into the tool, ensure all fiber exiting the tube are routed together and are the same length. This assists in routing and storing the fibers after they are mass fusion spliced.

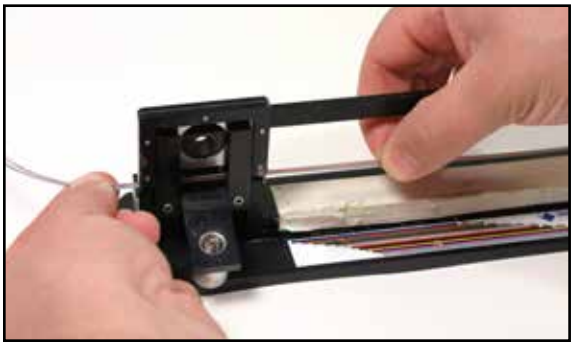
1.3 Place the fibers in color-coded order in the fiber arrangement tool.

1.4 Place the fiber ends so they extend 2 to 3 inches beyond the tool. Insert the holding clips into position to hold the fibers in place.



1.5 Grasp the fibers and pull them back, aligning the fiber ends within a 1/2-inch of the tool's edge.

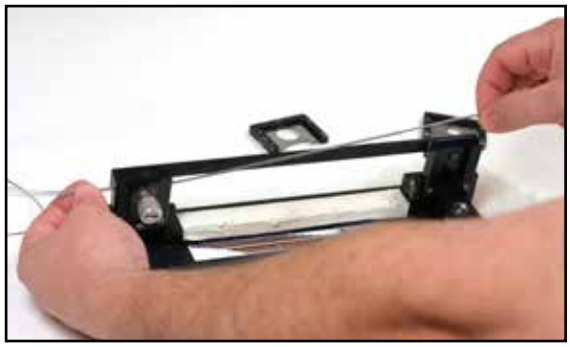
1.6 While maintaining gentle pressure on the fiber ends tighten the fiber clamps.



Note: Check fibers to make sure they are in correct color coated order.

1.7 Add the adhesive glue to the applicator and slide over the fibers.

1.8 Allow glue to dry and remove fiber from holder. While holding the ribbon, unhook the bracket(s) and slowly lift up the ribbon.



1.9 Snip the excess fiber ends that are not ribbonized in preparation for splicing.

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The practices contained herein are designed as a guide. Since there are numerous practices which may be utilized, Prysmian has tested and determined that the practices described herein are effective and efficient. The recommended practices are based on average conditions.

In addition, the materials and hardware referenced herein appear as examples, but in no way reflect the only tools and materials available to perform these evaluations.

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