

How to connect fiber optic cold-splitter sub-ribbon cables

Article Overview

Connecting cold-splitter sub-ribbon cables involves mid-span access, careful ribbon separation, and precise fusion or mechanical splicing to the drop fibers.

Step 1: Prepare the Backbone Cable

Identify the location on the main fiber optic cable where the cold-splitter connection is required. Perform mid-span access by carefully removing the outer jacket and strength members without stressing the remaining fibers. Ensure the minimum bend radius of the cable is maintained to prevent damage . Wear safety glasses and gloves to protect against fiber shards and sharp tools .

Step 2: Access and Separate Sub-Ribbons

Once the jacket is removed, locate the ribbon fibers intended for the cold-splitter. Use a fiber ribbon breakout tool or matrix removal kit to separate the required sub-ribbons from the main ribbon bundle. Only the fibers needed for the drop should be accessed, leaving the remaining fibers intact for continued service . Roll up and secure the untouched ribbons to prevent tangling or stress.

Step 3: Prepare Fibers for Splicing

Strip the coating from the individual fibers or sub-ribbons using a precision fiber stripper. Clean the fibers with isopropyl alcohol to remove debris. For mass fusion splicing, arrange the fibers in the correct color sequence and, if necessary, use a ribbonizing kit to form temporary ribbons from loose fibers . Ensure fibers are straight and free of microbends.

Step 4: Splice to Cold-Splitter or Drop Cable

Choose the appropriate splicing method:

- o Fusion Splicing: Align the fiber ends in a fusion splicer and weld them together. This method provides low insertion loss (~0.1 dB) and high reliability .
- o Mechanical Splicing: Use an alignment fixture and index-matching gel to join fibers. This is suitable for temporary or quick connections, with slightly higher loss (~0.3 dB), . Ensure that each sub-ribbon from the backbone is correctly connected to the corresponding fiber in the cold-splitter or drop cable.

Step 5: Protect and Organize



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Place the spliced fibers into a splice tray or closure, securing them to prevent movement. Maintain proper bend radius and avoid crushing. Label each fiber or sub-ribbon for future identification. Close the splice enclosure to protect against environmental factors.

Step 6: Test the Connection

After splicing, perform optical testing using an OTDR or power meter to verify continuity, insertion loss, and signal integrity. Confirm that the cold-splitter is functioning correctly and that the remaining backbone fibers are unaffected.

Best Practices

- o Only access the fibers required for the drop to minimize splicing work and reduce potential signal loss .
- o Follow manufacturer-specific procedures for sheath removal and ribbon handling .
- o Maintain a clean work environment to prevent contamination of fiber ends.
- o Use proper tools for ribbonizing, stripping, and splicing to ensure consistent results . By following these steps, you can safely and efficiently connect fiber optic cold-splitter sub-ribbon cables while preserving the integrity of the main backbone and ensuring low-loss connections.

This document describes the procedure for dividing a 36-fiber ribbon into three 12-fiber ribbons in either mid-span or end entry. After

The ribbon splitting tool is designed to allow separation of 12 -, 24 -, and 36 - fiber

In the world of fiber optics, efficiency and adaptability are key. What makes ribbonizing especially valuable is its ability

Anyone work with corning rocket ribbon cable? How to prevent this? After splitting the ribbon damn near every one had a loose blue

Fiber Optic Cables - Ribbon Fusion Splicing This virtual hands-on page will take you through the steps involved in the process. Look

The FST-12 Fiber Separation Tool is used to quickly, accurately and reliably split ribbons into sub-groups

This video demonstrates how to ribbonize a 12 fiber loose tube 250µm fiber using UCL

A ribbon cable is a type of optical fiber cable design consisting of multiple fibers that are fused together into a

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flat

1.1 This procedure describes how to divide fiber optic ribbons with the Corning Optical Communications Ribbon Splitting Tool (p/n

Fiber optic cables, especially those used for backbone cables, may contain many fibers that connect a number of different links going

Abstract In fiber optic network, it is sometime necessary to splice large fiber count cables to smaller cables at a location other than at

This FOA virtual hands-on (VHO) tutorial on fiber optics covers fiber optic cable splicing using a typical ribbon fusion splicer. It is

Choosing a connector type for any installation should consider if the connector is compatible with the systems planned to utilize the

General: a UV cured polymer material. The ribbon structure is ideal for high fiber count cables, quick fiber identification or emergency

Connect to Splitter: Connect the spliced fibers to the appropriate ports on the fiber optic splitter. Ensure that the fibers

They vary from simple, molded plastic parts you hold in your hand to arrange the fibers while gluing them

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