

# How to fuse a straightened optical cable

## Article Overview

Fusion splicing joins two optical fibers by precisely aligning and melting their glass cores, creating a seamless, low-loss connection.

### Step-by-Step Guide to Fusion Splicing

#### 1. Prepare the Fiber

- Strip 3-5 cm of the outer jacket using a cable splitter to expose the buffer tube .
- Remove the buffer coating carefully to expose the bare fiber, avoiding tension or bending below a 30 mm radius .
- Clean the fiber with an isopropyl alcohol (IPA) swab to remove oils and dust . 2.

#### Cleave the Fiber

- Use a precision fiber cleaver to create a flat, 90-degree end on each fiber .
- Inspect under a microscope to ensure a smooth, mirror-like surface; a poor cleave can cause high signal loss . 3. Align the Fibers in the Fusion Splicer

- Open the splicer's windshields and place each fiber in the V-groove clamps, ensuring proper orientation .

- Modern fusion splicers use cameras and motors to align the fiber cores automatically for minimal insertion loss . 4. Perform the Fusion

- Activate the splicer's fusion program. The device generates an electric arc that melts the fiber ends together .

- Some splicers include a pre-fusion cycle to clean and preheat the fiber ends, improving splice quality . 5. Protect the Splice

- Slide a heat-shrink splice protector over the fused area and apply heat to secure it .
- This ensures mechanical strength and protects the splice from environmental da...

## Article Content

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To start fusing your fibers together, you must remove or strip the protective polymer coating around the optical fiber.

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Industrial fusion splicing of fiber optic cable is performed using a splicing apparatus. This apparatus features two sides mounted with

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Fiber optic fusion splicing is a crucial technique for connecting and repairing fiber optic cables, ensuring reliable

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How to Fusion Splice Fiber Optic Cable | Fibertronics, Inc.

Fusion Splicing is simply joining two optical fibers together by making use of heat. The two optical fibers should be

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