

# How to use a fusion splice junction box



## AI Overview

Using a fusion splice junction box involves preparing the fibers, securing them in the box, performing the fusion splice, and protecting the splice with heat-shrink sleeves.

**Step 1: Safety and Workspace Preparation** Before handling fibers, ensure you wear safety goggles and cut-resistant gloves to protect against glass shards and burns from the fusion arc, which can exceed 5,000°C. Use an anti-static mat or wrist strap to prevent static damage to the splicer electronics, and keep a sealed fiber waste container for debris ( ).

**Step 2: Mounting the Junction Box** Position the junction box at the desired location using the provided fixing points or use the enclosure as a template to mark holes. Use expansion bolts for concrete or appropriately sized bolts with anti-vibration washers for steel surfaces. Ensure the box is secure and level to prevent stress on the fibers ( ).

**Step 3: Fiber Preparation** Strip the outer coating of the fiber using a precision fiber stripper, typically 30–40mm. Clean the exposed fiber with 99% isopropyl alcohol and a lint-free wipe. Cleave the fiber with a high-precision cleaver to create a smooth, perpendicular end, which is critical for low-loss splicing ( ).

**Step 4: Securing Fibers in the Splice Box** Insert the stripped fibers into the splice box clamps or grommets, ensuring the stainless steel strength members are tightly fixed to prevent movement. Pass each fiber through PVC heat-shrink sleeves to protect the splice later. Separate fibers by bundle and color to avoid confusion during splicing ( ).

**Step 5: Fusion Splicing** Turn on the fusion splicer and allow it to complete its self-test and calibration. Place the prepared fibers into the V-grooves of the splicer, aligning them carefully. Close the splicer cover and initiate the automatic fusion process. After splicing, inspect the splice quality using the splicer's microscope or display ( ).

**Step 6: Protecting the Splice** Slide the heat-shrink sleeve over the splice and use a heat oven or heater to shrink it, providing mechanical protection and environmental sealing. Ensure the fibers are neatly arranged in the splice tray inside the junction b...

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