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How to use the optical cable splicing test platform



Overview

They use an Arc Fusion Splicer-FSM-60S to perform fiber optic cable fusion splicing, which provides the lowest db loss.

Key Takeaways

To use an optical cable splicing test platform, prepare the fiber, perform the splice, and verify quality using an OTDR and power meter while documenting results.Step 1: Prepare the Fiber

Begin by stripping the fiber coating and cleaning the bare fiber with isopropyl alcohol to remove contaminants. Use a precision cleaver to create a smooth, perpendicular end face on each fiber strand. Proper preparation ensures minimal splice loss and prevents damage during fusion splicing .

Step 2: Perform the Splice

Place the prepared fibers into a fusion splicer. Align the fiber cores automatically or manually, depending on the splicer model. Initiate the fusion process, which melts the fiber ends together. After splicing, protect the joint with a heat-shrink splice protector to maintain mechanical strength and prevent environmental damage .

Step 3: Test the Splice with an OTDR

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Use an Optical Time Domain Reflectometer (OTDR) to measure splice quality. Connect the OTDR to the fiber and send a light pulse through the cable. The OTDR trace will display each splice, bend, or break along the fiber. Check for splice loss, back reflection, and any anomalies. If a splice shows loss greater than 0.30 dB, re-splice until it meets the acceptable threshold, with a maximum allowable loss of 0.35 dB after three attempts .

Tips for Accurate OTDR Testing
• Use a launch reel (1 km) for pigtail or short-span tests to measure connector and splice loss accurately .

• Set the correct index of refraction and backscatter coefficient according to fiber type to ensure precise readings .

• Test splices uni-directionally at 1550 nm for initial verification .
Step 4: Measure Power Loss

Use an Optical Power Meter and Laser Light Source to verify continuity and power loss across the fiber span. Calibrate the power meter before testing by connecting it to a laser source and recording the reference level. Measure at both 1310 nm and 1550 nm wavelengths to ensure proper performance .

Step 5: Document Results

Record all test results, including OTDR traces, power measurements, and any visible defects. Using a fiber optic splicing and testing app can streamline this process, allowing you to log cable lengths, photos, and readings for future reference and compliance .

Step 6: Troubleshoot and Re-Splice if Needed

If testing reveals excessive loss, contamination, or poor alignment, break the splice and re-splice the fiber. Repeat testing until the splice meets the required standards .

Step 7: Final Verification

After all splices are tested and documented, perform a final end-to-end OTDR test to certify the entire fiber run. Ensure all splices, connectors, and bends are within acceptable loss limits before signing off the installation . By following these steps, you can effectively use an optical cable splicing test platform to ensure high-quality fiber optic connections, accurate measurements, and reliable network performance.

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This document outlines the work method statement for splicing and testing fiber optic cable. It details the requirements, safety

Fiber Optic Cable Splicing Methods: A Practical Guide

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Fiber Fusion Splicer Troubleshooting with OptiFiber Pro OTDR | Fluke ...

A fusion splice is when two fibers are fused together using an electric arc. Often used with pigtails for connecting 250

How To Fusion Splice Fiber Optic Cable

In this video, we will show you how to fusion splice two fiber optic strands together in an

APPENDIX E FIBER OPTIC CABLE SPLICING, TESTING, AND

Fiber Optic Cable Splicing, Testing and Acceptance Criteria for Contractors This document details MFXs

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Fiber optic cable splicing and testing procedures are described. Key steps for splicing include: 1) preparing the cable by removing

Field Test Procedure for Optical Fibre Link Measurements

For every fiber optic cable plant, you need to test for continuity and polarity, end-to-end insertion loss and then troubleshoot any

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Fiber splicing and fiber testing

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OPGW and ADSS Fiber-Optic Cables

Types of Fiber-Optic Cables In most applications, optical fiber must be protected from the environment using a variety

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FIBER OPTIC CABLES SPLICING PROCEDURES Prior to fiber optic cable (FOC) splicing, check the Cable

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