

How to test pigtail fiber with a tester

Article Overview

Testing a pigtail fiber involves using a power meter and light source or an OTDR with a launch cable to measure continuity, splice loss, and attenuation accurately.

Equipment Needed

- o Optical Power Meter and Laser Light Source: For measuring end-to-end loss and verifying continuity .
- o Optical Time Domain Reflectometer (OTDR): For analyzing splice loss, connector loss, and fiber uniformity .
- o Launch Cable (1 km recommended): Ensures accurate measurement of connector and splice loss near the distribution panel .
- o Temporary Fusion or Mechanical Splice Tools: For connecting the pigtail to the fiber under test .
- o Cleaning Supplies: To clean fiber ends and pigtail connectors before testing .

Step-by-Step Procedure

Using a Power Meter and Light Source

- o Prepare the Pigtail: Clean the pigtail connector and the fiber end.
- o Connect the Light Source: Attach the pigtail to the light source.
- o Connect the Fiber Under Test: Use a temporary fusion or mechanical splice to connect the pigtail to the bare fiber.
- o Measure Power: Record the output power at the far end using the power meter.
- o Calculate Loss: Compare the measured power to the reference power to determine attenuation or splice loss. Ensure the splice is well-cleaved and, if necessary, renew index-matching gel .

Using an OTDR

- o Clean and Connect: Clean the pigtail and connect it to the OTDR test port. Ensure the convex U-shaped part of the pigtail fits properly into the OTDR socket .
- o Select Wavelength: Choose 1310nm or 1550nm depending on the fiber type .
- o Set Test Distance and Pulse Width: Set the distance to about 1.5 times the fiber length and select a pulse width appropriate for the fiber length (shorter for 10 km), .
- o Use a Launch Cable: Connect a 1 km launch reel between the OTDR and the pigtail to accurately measure connector and splice loss .
- o Take a Trace: Run the OTDR trace and analyze the loss between markers to determine splice and fiber attenuation .
- o Verify Splice Loss: If a splice exceeds 0.30 dB, re-splice until it meets the standard; maximum acceptable loss is 0.35 dB .

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Best Practices

- o Always clean fiber ends before testing to avoid contamination.
- o Use a good cleaver for temporary splices to ensure reliable measurements .
- o Calibrate power meters before testing to ensure accurate readings .
- o Avoid using long patch cords or improper adapters for pigtail tests, as they can introduce measurement errors . By following these steps, you can accurately test pigtail fibers for continuity, splice quality, and attenuation, ensuring reliable fiber optic network performance.

Dive into the world of fiber optic pigtails, their types, applications, and splicing methods. Enhance your network's

Learn about the common contaminants of fiber optics in today's mission critical networks and get a detailed look at fiber testing and

Fiber optic pigtail is a fiber optic cable terminated with fiber optic connectors at only one side of the cable. They come

This test is crucial for identifying broken wires, which are a common cause of pigtail failure. Before conducting this

Physical Contact connectors are just that--the end faces and fibers of two cables actually touch each other when mated. In the PC

Fiber optic pigtails are mainly for fast fusion splicing applications, while patch cords are for

How to Make a Pigtail Wire The National Electric Code requires a pigtail wire to be least six inches long. Electricians

Whether you handle fiber on a regular basis or just occasionally, this reference guide will serve as a useful tool to ensure you never

Want to know how to test a fiber optic cable? We'll look at the most common fiber testing

LC Fiber Optic Pigtail: A non-optical disconnect connector with a 1.25mm pre-radiused zirconia or stainless alloy

IntroductionIn the world of fiber optics, where speed and precision reign supreme, pigtail fibers are the unsung heroes

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Troubleshooting fiber optic issues? This guide covers testing techniques, interpretation of

Understanding how the fiber pigtail was handled before testing helps identify the most likely failure points.
When to

Fiber patch cords can be cut into two pieces to make two pigtails. This is because testing

The Contractor tasked to perform testing or splicing on any fiber optic cable will follow these testing standards to fulfill their

There is some loss and attenuation while building an optic fiber system. Correct fiber optic pigtail splicing will bring

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