

RIVO MULTITRADE OPTICAL SYSTEMS

How to bind rigid optical cables



Overview

All fiber optic cables have specifications that must not be exceeded during installation to prevent irreparable damage to the cable.

Key Takeaways

Rigid optical cables should be bound carefully using proper routing, figure-eight coiling, and fiber binding tapes to prevent bending, twisting, or damage. Key Principles for Binding Rigid Optical Cables

1. Maintain Minimum Bend Radius: Rigid optical cables are sensitive to bending. Always respect the minimum bend radius specified by the manufacturer, typically 10 times the cable diameter for static conditions and 20 times during installation under tension. Exceeding this radius can cause fiber deformation or signal attenuation increases . 2. Avoid Sharp Turns and Twists: When routing cables, avoid sharp changes in direction, turn-backs, or pulling over edges. Use smooth curves and, if coiling is necessary, employ a figure-eight pattern to prevent twisting. For rigid cables, figure-eight loops of 2-4 meters are common, while shorter lengths (around 1.5-2.5 meters) may be used for stiffer cables . 3. Use Fiber Binding Tapes: Fiber binding tapes are designed to bundle optical fibers without damaging them. The tape typically has a hook side and a mat side. To bind:

- Arrange fibers neatly into a bundle.
- Cut a piece of tape appropriate for the bundle size.

- Press one end of the tape on the bundle and wrap it around, ensuring the mat side contacts the fibers and the hook side faces outward.
 - Stretch the tape slightly to secure the bundle snugly without compressing the fibers
- . 4. Proper Routing in Cabinets or Trays: When binding cables in cabinets or trays, divide the cables evenly and route them along the sides of the cabinet. Avoid crossing cables and ensure they are supported by trays or ladders if the distance exceeds 0.8 meters. This prevents sagging and mechanical stress . 5. Protect During Installation: Rigid cables should be protected from mechanical stress, crush, or sharp objects. Use protective sheaths, avoid excessive pulling tension (typically not exceeding 600 lbf for loose tube or ribbon cables), and employ swivels to prevent twist accumulation during pulling . 6. Coiling and Storage: If unreeled on the surface, use figure-eight coiling to prevent kinks. For rigid cables, loops should be larger to accommodate stiffness, and traffic cones or barricades can guide safe handling . By following these steps—respecting bend radius, using figure-eight coiling, applying fiber binding tape correctly, and routing cables properly—you can safely bind rigid optical cables while maintaining their performance and longevity.

Article Content

The FOA Reference For Fiber Optics-Installing Fiber Optic Cable

All fiber optic cables have specifications that must not be exceeded during installation to prevent irreparable damage to the cable.

General Optical Fiber Cable Installation Considerations

Some key considerations for installing optical fiber cable are highlighted below. Failure to follow these guidelines may result in

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General Optical Fiber Cable Installation Considerations

General Optical Fiber Cable Installation Considerations Some key considerations for installing optical fiber cable are highlighted

Optical Fiber/Optical Cables/AOC Routing and Bundling

This section uses the optical fiber as an example to describe how to lay out and bundle cables. The optical cable and AOC differ from

Optical Fiber Cable Optical Fiber Cable In

All Fiber Optic Cable reels should be stored upright Laying the reel on its side may cause damage to the reel flange and/or cause the

2090-QR001D-EN-P, Fiber Optic Cable Installation Quick Guide

Fiber Optic Cable Installation and Handling Instructions For more detailed information on the proper care, handling, and installation of

Fiber Optic Cable Installation: How To Properly Install It

Learn how to install fiber optic cable with step-by-step practices, installation tips, and common mistakes to avoid for reliable

Fibre Optic Cables

How are fiber optic cables joined? – Fusion Splicing Method Fusion splicing is the stable bond of two or more optical

How to Install Fiber Optic Cables: A Step-by-Step Guide

In the ever-evolving landscape of telecommunications and data transmission, the installation of fiber optic cables has become a

Fiber Optic Cable Installation and Handling Instructions

Introduction Fiber optic cables can be easily damaged if they are improperly handled or installed. It is imperative that certain

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The FOA Reference For Fiber Optics

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