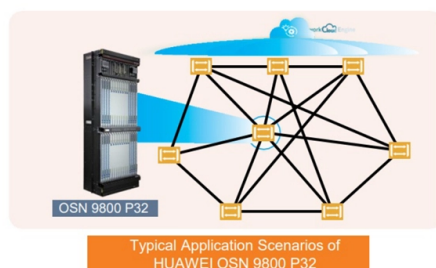


Selection Guide for Anti-Catalytic Residue Protection of Mining-Grade ONT Optical Network Terminals



Overview

Mining Fiber Solutions 2025: Dust, Moisture & Vibration Resistance Mining fiber optic solutions in 2025 offer superior dust, moisture, and vibration resistance.

Key Takeaways

Protecting mining-grade ONTs from catalytic residue requires a combination of chemical-resistant coatings, antiscalants, and abrasion-resistant materials tailored to harsh mining environments.

1. Protective Coatings

Epoxy and polyurethane coatings are widely used in mining to protect equipment from chemical and mechanical degradation. For ONTs exposed to mining residues:

- Two-component epoxy coatings like Devgrip 238 provide abrasion resistance and chemical protection for metal and concrete surfaces, suitable for moderately aggressive environments .
- High-build epoxy intermediates pigmented with micaceous iron oxide (e.g., Intergard 452) offer additional barrier protection against corrosive residues .
- Zinc-rich epoxy primers (e.g., Interzinc 1065) can be used on steel components to prevent corrosion from acidic or catalytic residues .

- Polyaspartic coatings (e.g., Intercure 99NA) allow rapid curing and long-term color and gloss durability while providing chemical resistance .

When selecting coatings, ensure compatibility with ONT materials and consider recoatability for maintenance cycles. Solvent-free or low-VOC formulations are preferred for environmental and safety compliance.

2. Chemical Treatments and Antiscalants

Catalytic residues often form due to mineral scaling or chemical reactions in mining environments. To mitigate this:

- Antiscalants such as Solutrix™ 7, L200, 11, and 100 can prevent scale formation on pipelines, tanks, and equipment surfaces, reducing residue accumulation .
- Purification clays (e.g., F20X) can remove surface-active compounds from process solutions, indirectly protecting ONT surfaces from catalytic fouling .
- Hydrometallurgical extractants (e.g., ketoxime or aldoxime blends) should be selected for high degradation resistance and metal selectivity, minimizing unwanted residue deposition .

3. Abrasion and Impact Resistance

Mining-grade ONTs may be exposed to abrasive dust, tailings, or slurry. Protective strategies include:

- Rubber or polymer linings for internal housings or conduits, ensuring long service life under particle impact .
- High-solids epoxy overlays (e.g., Interbuild 1081) provide seamless protection against wear and chemical attack .
- Material selection should consider sharp-edged particle abrasion, common in ore processing and tailings handling .

4. Handling and Maintenance Best Practices

- Follow catalyst handling guidelines to minimize contamination and residue formation during installation and maintenance .
- Regular inspection and cleaning schedules should be implemented to prevent buildup of catalytic residues.
- Use compatible primers and topcoats to ensure adhesion and long-term protection in mining environments.

5. Selection Criteria Summary

When choosing anti-catalytic residue protection for mining-grade ONTs, consider:

- Chemical resistance: against acids, bases, and metal ions.
- Abrasion resistance: for dust, tailings, and slurry exposure.

- Thermal and UV stability: for outdoor or high-temperature installations.
- Ease of maintenance: recoatable and cleanable surfaces.
- Environmental compliance: low VOC, solvent-free options preferred.

By combining coatings, antiscalants, and abrasion-resistant materials, mining-grade ONTs can achieve long-term operational reliability while minimizing catalytic residue accumulation.

Article Content

Mining Fiber Solutions 2025: Dust, Moisture & Vibration Resistance

Mining fiber optic solutions in 2025 offer superior dust, moisture, and vibration resistance, ensuring safe, reliable

Fiber Termination Box 2025 Guide for IP65 and IP68 Ratings

Selecting the right fiber termination box for IP65 or IP68 environments remains crucial in 2025. Engineers often choose

Mining

OCC's mining cables provide reliability, security, and reusability in mines. Our expert staff can help design a deployment system that

Optical Network Terminal (ONT) Selection Guide | GPON, XGS-PON

Compare GPON, XGS-PON, enterprise and FTTR master ONTs with clear decision rules. ZION's ONT selection

Harsh Environment Connector Material Selection Guide

To ensure robust and reliable system performance, harsh environment fiber optic (HEFO) connectors must meet certain

Optical Line Terminals Selection Guide: Types,

Optical line terminals, also called optical line terminations (OLTs), serve as endpoints for passive optical

6 Best Optical Network Terminals [2026 Bestseller]

Discover the 6 best optical network terminal modems from VSOL, offering high-speed connectivity, reliability, and

FS Community

We would like to show you a description here but the site won't allow us.

Radisys Connect Optical Network Terminals (ONTs) | Radisys

Optical Network Terminals (ONTs) Propel and future-proof your fiber network with scalable ONTs built to open standards and

The Ultimate ONT Guide for Telecom Professionals

Explore the technical aspects of ONT, its configuration, and management in this in-depth guide for telecom professionals.

Understanding Optical Network Terminal (ONT) Parameters

1. Optical Interface Type The primary function of an ONT is to convert optical signals from the fiber optic network into

Optical Network Terminals (ONTs)

An Optical Network Terminal (ONT) is a device that converts the optical signal (transmitted over optical fibre cable, or fibre) to a

Optical line termination

An optical line termination (OLT), also called an optical line terminal, is a device which serves as the

Optical Network Terminal (ONT) Units

An optical network terminal (ONT) unit is a device that connects fiber optics cables to other wiring such as Ethernet and phone lines

Optimizing Optical Network Terminal Units With Logic

Power Sequencing With RC Circuits and Schmitt-Trigger Logic Optical Network Terminal units (ONTs) have multiple

What Is an Optical Network Terminal (ONT)? Complete Guide

An Optical Network Terminal (ONT) connects fiber-optic internet to your home or business. See how it works, why it's essential, and

A Quick Guide to ONT (Optical Network Terminal)

Understand how an Optical Network Terminal (known as an ONT) functions, how it differs from Optical Line Terminal

Optical Line Terminals Selection Guide: Types,

Optical line terminals, also called optical line terminations (OLTs), serve as endpoints for passive optical

6 Best Optical Network Terminals [2026 Bestseller]

Discover the 6 best optical network terminal modems from VSOL, offering high-speed connectivity, reliability, and

FS Community

We would like to show you a description here but the site won't allow us.

Radisys Connect Optical Network Terminals (ONTs) | Radisys

Optical Network Terminals (ONTs) Propel and future-proof your fiber network with scalable ONTs built to open standards and

The Ultimate ONT Guide for Telecom Professionals

Explore the technical aspects of ONT, its configuration, and management in this in-depth guide for telecom professionals.

Understanding Optical Network Terminal (ONT) Parameters

1. Optical Interface Type The primary function of an ONT is to convert optical signals from the fiber optic network into

ITU-T Rec. G.873.1 (07/2011) Optical Transport Network (OTN):

This Recommendation defines the APS protocol and protection switching operation for the linear protection schemes for the Optical

Full Guide of PON: OLT, ONT, ONU, ODN and other basic components

In this guide, we'll break down the key components of a PON, including Optical Line Terminals (OLT), Optical Network

ONT (Optical Network Terminal): A Detailed Guide

ONT or Optical Network Terminal is a device that can get a fiber-optic internet connection in your home or office by

Optical Network Terminals

180CHP Optical Network Terminal (ONT180CHP) Jul 29, 2025 The Tellabs 180CHP Optical Network Terminal (ONT)

Optical Network Terminals (ONTs)

An Optical Network Terminal (ONT) is a device that converts the optical signal (transmitted over optical fibre cable, or fibre) to a

Optical line termination

An optical line termination (OLT), also called an optical line terminal, is a device which serves as the service provider endpoint of a

Optical Network Terminal (ONT) Units

An optical network terminal (ONT) unit is a device that connects fiber optics cables to other wiring such as Ethernet and phone lines

Optimizing Optical Network Terminal Units With Logic

Power Sequencing With RC Circuits and Schmitt-Trigger Logic Optical Network Terminal units (ONTs) have multiple

Mining Fiber Solutions 2025: Dust, Moisture & Vibration Resistance

Mining fiber optic solutions in 2025 offer superior dust, moisture, and vibration resistance, ensuring safe, reliable

Fiber Termination Box 2025 Guide for IP65 and IP68 Ratings

Selecting the right fiber termination box for IP65 or IP68 environments remains crucial in 2025. Engineers often choose

Mining

OCC's mining cables provide reliability, security, and reusability in mines. Our expert staff can help design a deployment system that

Optical Network Terminal (ONT) Selection Guide | GPON, XGS-PON

Compare GPON, XGS-PON, enterprise and FTTR master ONTs with clear decision rules. ZION's ONT selection

Harsh Environment Connector Material Selection Guide

To ensure robust and reliable system performance, harsh environment fiber optic (HEFO) connectors must meet certain

Industrial Networking for Mining Operations: A Complete Guide

This guide addresses these challenges with practical solutions backed by technical specifications and real-world

DX-Series Distribution

OCC's Indoor/Outdoor tight-buffered MSHA-rated mining cables meet the functional requirements of the following standards: MSHA

SDX 630 Series for standard deployments

Explore Adtran's SDX 630 Series ONTs for standard deployments, featuring multigigabit performance, 10GbE ports, VoIP support

FlexSym Optical Network Terminal 205 (ONT205) TAA Compliant

The Tellabs FlexSym ONT205 provides flexible and symmetrical extended Ethernet connectivity over a 10 gigabit passive optical

Optical network terminals

Our next generation of multigigabit XGS-PON optical network terminals (ONTs) is here and ready to support the most bandwidth

Mining Fiber Solutions 2025: Dust, Moisture & Vibration Resistance

Mining fiber optic solutions in 2025 offer superior dust, moisture, and vibration resistance, ensuring safe, reliable

Fiber Termination Box 2025 Guide for IP65 and IP68 Ratings

Selecting the right fiber termination box for IP65 or IP68 environments remains crucial in 2025. Engineers often choose

Mining

OCC's mining cables provide reliability, security, and reusability in mines. Our expert staff can help design a deployment system that

Optical Network Terminal (ONT) Selection Guide | GPON, XGS-PON

Compare GPON, XGS-PON, enterprise and FTTR master ONTs with clear decision rules. ZION's ONT selection

Harsh Environment Connector Material Selection Guide

To ensure robust and reliable system performance, harsh environment fiber optic (HEFO) connectors must meet certain

Industrial Networking for Mining Operations: A Complete Guide

This guide addresses these challenges with practical solutions backed by technical specifications and real-world

Contact Us

Continue your research online:

Website: <https://jewelbluimages.co.za>

Technical inquiry: <https://jewelbluimages.co.za/contact.html>

This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

