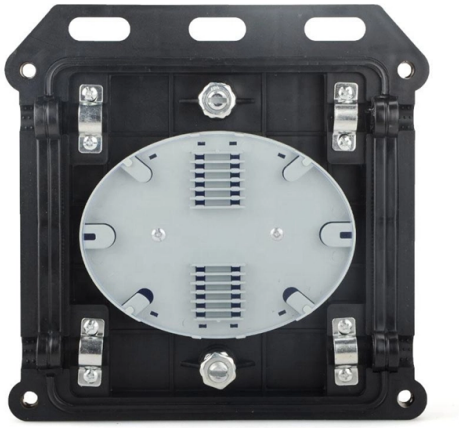
# Senegal Armored Temperature Measurement Fiber Optic Cable Splicing



## Overview

ARMORED CABLE SPLICING Follow steps 5.4.2 through 5.4.7 to remove armored cable jacket. Fiber Optic Sensor Cables for Advanced MonitoringAP Sensing's fiber.

## Key Takeaways

Splicing armored fiber optic cables for temperature sensing involves careful preparation, precise fiber handling, and proper integration with high-temperature sensor systems to ensure reliable measurements in harsh environments.

### Cable Preparation and Splicing Procedure

Cable Selection and Inspection Use metallic armored fiber optic cables suitable for high-temperature applications. Ensure the cable diameter meets minimum requirements (≥2. 8 mm) and verify that all pre-installation tests have passed.

### Stripping and Cleaning

For polyimide-coated fibers, char the coating in the area to be stripped and clean with alcohol and Texwipe. For acrylate-coated fibers, mechanically strip the coating using a fiber stripper and clean with alcohol.

### Cutting and Preparing Cable Ends

Cut the armored cable to the desired length. Slide heat shrink tubing and stainless steel (SS) tubes over the cable for protection. Trim wires and Kevlar close to the jacket, and carefully cut the core tube without overheating to avoid fiber damage.

© 2026 ENSAA OPTICAL NETWORKS - All rights reserved

## Fiber Cleaving and Fusion Splicing

Insert buffer tubes over the fiber if using polyimide fibers. Mark and strip the fiber to the required length, then cleave and load into a fusion splicer. Proper cleaving ensures low-loss splices and reliable temperature signal transmission.

## High-

## Temperature Fiber Optic Sensors

Sensor Types: Fiber Bragg Grating (FBG), interferometric, fluorescence-based, and distributed temperature sensors (DTS) are commonly used. Fiber Materials: Silica and crystal fibers are preferred for high-temperature resistance. Polyimide or metal coatings protect fibers in extreme conditions.

Applications: These sensors are suitable for monitoring industrial boilers, power plants, pipelines, and underground wells, providing real-time temperature data and early warning for hotspots or failures.

## Environmental and Operational Considerations in Senegal

Harsh Conditions: Armored cables protect against mechanical stress, rodents, and environmental hazards such as high temperatures and humidity. Installation: Ensure proper strain relief and avoid sharp bends to maintain signal integrity. Use Distributed Temperature Sensing (DTS) systems for long-range monitoring.

Maintenance: Periodically inspect splices and cable integrity using OTDR or Brillouin-based systems to detect strain, temperature anomalies, or fiber degradation.

## Summary

For Senegal-based installations, armored fiber optic cables combined with high-temperature sensors provide robust, real-time monitoring solutions. Following precise splicing procedures, using appropriate fiber coatings, and integrating with DTS or FBG systems ensures accurate temperature measurement, long-term reliability, and protection against environmental challenges.

*© 2026 ENSAA OPTICAL NETWORKS - All rights reserved*

## Article Content

Fiber Optic Sensor Cables for Advanced Monitoring

AP Sensing''s fiber optic sensor cables enable real-time, precise monitoring of temperature, strain & acoustics in harsh environments with minimal maintenance.

Discover Strain and Temperature Risks in Fiber Cables

When an optical telecom cable is deployed, all the steps involved must warrant that the strain along the cable never exceeds the cable''s Maximal Allowable Tension (MAT) or the cable will be damaged and

Wissem Sfar Zaoui

The Distributed Temperature Sensing (DTS) utilizes the Raman effect to measure the temperature. An optical laser pulse sent through the fiber results in some scattered light reflecting back to the

Temperature Measurement Using Optical Fiber

The paper deals with the overview of fiber optic methods suitable for temperature measurement and monitoring. The aim is to evaluate the current

Temperature monitoring techniques of power cable joints in

We placed the proposed FBG on an energized cable joint of the power distribution grid and measured the temperature. Herein, we present the configuration of the sensor module and the

Fiber Optic Testing Standards

The Contractor tasked to perform testing or splicing on any fiber optic cable will follow these testing standards to fulfill their contractual obligations. The Contractor must utilize the correct equipment and

Middle East and Africa Fiber Optic Temperature Measurement

Multiple macroeconomic and technological variables are shaping the long-term development of the MEA fiber optic temperature measurement system market.

Fiber Optic Cable Installation Method

To ensure effective splicing and termination, the procedures include avoiding mechanical splices, using the correct stripping and crimping tools, maintaining fiber cleanliness, applying index-matching gel,

Splicing, Testing, and Troubleshooting OPGW and ADSS Fiber-Optic Cables

*© 2026 ENSAA OPTICAL NETWORKS - All rights reserved*

This paper will provide a brief overview of the history of fiber-optic communications and types of fibers, and discuss handling, splicing, testing and troubleshooting of fiber-optic cables. In addition, it will

Temperature Measurement Using Optical Fiber Methods: Overview

The paper deals with the overview of fiber optic methods suitable for temperature measurement and monitoring. The aim is to evaluate the current research of temperature

Fibre Optic Cable Splicing Guidelines | PDF | Optical Fiber | Wire

The document provides guidelines for splicing fibre optic cable. It outlines the necessary tools, materials and steps for preparing the cable ends, splicing the optical fibers using fusion splicing, reinforcing the

Fiber-Optic Hybrid-Structured Fabry–Perot Interferometer Based On

Abstract: We report a novel fiber-optic hybrid-structured Fabry-Perot interferometer (HSFPI) based on large lateral offset splicing for simultaneous measurement of strain and

Fiber-optic temperature sensing System with extended measurement

This work introduces a fiber-optic temperature sensing system that synergistically combines a Sagnac interferometer (SI) and a Fiber Bragg Grating (FBG) within a fiber ring laser

Fiber Optic Sensor Cables for Advanced Monitoring | AP Sensing

Fiber optic sensor cables are the key enabler for real-time monitoring of temperature, strain, and acoustic signals across diverse and challenging environments. Depending on the application and the

The Ultimate Guide to Splicing of Fiber: Techniques and Tips

Looking to understand fiber splicing? It''s the process of joining two fiber optic cables using techniques such as fusion splicing and mechanical splicing, crucial for maintaining

Femtosecond laser-inscribed fiber-optic sensor for seawater salinity ...

In this letter, a FPI and MZI cascaded fiber-optic sensor is proposed for seawater salinity and temperature measurements. The FPI is fabricated by splicing a section of HCF between SMFs,

What Is Fiber Optic Cable Splicing? A Beginner''s Guide

Explore fiber optic cable splicing and its advantages over connectorization. Learn how to join and extend fiber optic cables effectively.

© 2026 ENSAA OPTICAL NETWORKS - All rights reserved

Temperature Measurement Using Optical Fiber Methods: Overview

Since the measuring chain is a functional combination of optical methods, optical fiber properties, and other photonic elements together with control electronic circuits, it is necessary to nd a suitable

## Contact Us

Continue your research online:

Website: https://ensaa.es
Technical inquiry: https://ensaa.es/contact.html

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

© 2026 ENSAA OPTICAL NETWORKS - All rights reserved