

Dimensions of French Downhole Temperature Measurement Optical Cables



Article Overview

French downhole temperature measurement optical cables typically use a tube-in-tube design with inner fiber-in-metal tubes (FIMT) and outer protective layers, with diameters ranging from 1/4" to 3/8" for the inner tube and overall cable diameters up to 0.75" depending on the application.

Cable Construction

French downhole optical cables, such as TEF or NovaPT-D systems, are designed for high-temperature, high-pressure, and corrosive environments. The typical design is a tube-in-tube configuration:

- Inner Tube (FIMT): Contains the optical fiber(s), which can be single-mode (SMF) or multi-mode (MMF). The inner tube is usually made of stainless steel or other corrosion-resistant alloys and can have diameters around 1/4" (6.35 mm) for standard installations .
- Outer Tube: Provides mechanical protection and chemical resistance. The inner tube is centralized and supported by an extruded material layer called a "belt", which maintains alignment and absorbs mechanical stress .
- Outer Encapsulation: Additional layers may include polymer coatings or metal sheaths to improve abrasion resistance and handling during installation

Article Content

FIBER OPTIC CABLES

Fiber optics are used for measuring a variety of attributes in an oil or gas well including: distributed temperature, distributed acoustic

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It provides many benefits, such as the ability to perform different measurement types (e.g., temperature, acoustic, strain) using a

Permanent fiber-optic cable

One optical fiber provides temperature measurements every 0.5 m [about 1.6 ft] along its length, producing a profile of temperature

Application of fiber optics in oil and gas field development ...

The application of optical fiber aids data quantification, which facilitates the real-time monitoring of oil reserves, asset

The Essentials of Fiber-Optic

The backscattered light returning to the measurement box is analyzed to produce a temperature measurement every meter down the

NovaPTTM-D Sapphire Fiber Optic Pressure and Temperature

Pressure and temperature are simultaneously output by the accurate demodulation of the optical signal returned from the sensor.

Downhole Fiber Optic Cable | Fibercore

This is a fiber optic cable that has been specifically designed to withstand the harsh environments of an Oil & Gas well. Design

Downhole Cables

TEF cable is the sensor element for modern distributed fiber optic sensing technologies of DTS and DAS, which have become

MWD tools, fiber optic sensors improve downhole monitoring

In addition to "traditional" wired sensors, fiber optic sensors are well suited for downhole applications because of the high resolution

Traditional Downhole Cable | AFL EMEA

AFL's Traditional Downhole Cable is designed to perform in the well and withstand elevated temperatures, high pressure and

Traditional Downhole Cable | AFL EMEA

The cable is customized to the customer's specifications in order to maximize performance at the best possible price. AFL's

Gore® High Density Thermocouple Cable: Petrospec Engineering

This provides a new downhole temperature sensor that combines mature thermocouple sensing technology with innovative material

SPECIALTY AND HARSH ENVIRONMENT FIBER OPTIC CABLE

Specialty Fiber Optic Cable Customers around the world benefit from using AFL fiber optic cable and components for downhole

Downhole Cables

A typical TEF cable is a tube in tube design. The inner tube is a fiber in metal tube (FIMT). The FIMT can contain a range of fibers,

Fiber optics

Fiber optics solutions from Baker Hughes give you detailed, real-time data on the condition and performance of your downhole

A Module of Fiber Optic Communication for High-Temperature Downhole ...

Compared to traditional downhole transmission methods, fiber optic communication enables real-time, high data rate transmission.

Applications of Distributed Fiber Optic Strain Sensing for Real-Time ...

This contribution focuses on the potential of real-time downhole monitoring techniques along fiber optic cables which are

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