# Clearfield®

## *Steel Armored High-Temperature Sensing Cable*

## Application

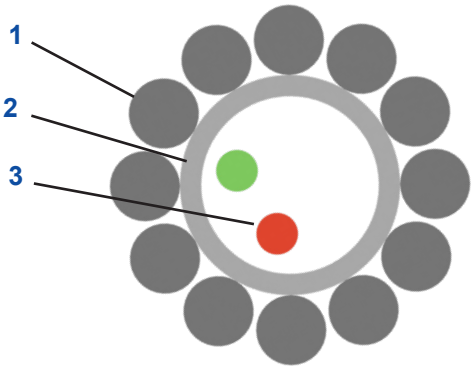
- Raman- and Brillouin-based Distributed Temperature Sensing (DTS)
- Approach cable to sensing cables, including for communication purposes
- Outdoor, indoor and harsh environments
- Suitable for deployment in conduits, embedding into structures or attached to structures

## Description

Distributed Fiber-Optic Sensing (DFOS) cable with Fiber In Metal Tube (FIMT) encapsulated optical fibers, and a steel wire armoring, for High-Temperature (up to 300°C) temperature-sensing applications

### Construction

1. Stainless steel wires, 316L
2. Gel-free stainless steel loose tube, 316L
3. Polyimide-coated optical fibers




- Gel-free loose tube with up to 2 optical fibers and optimized fiber excess length
- High tensile strength and crush resistance
- High chemical resistance and robust cable sheath
- Compact, high flexibility, small bending radius
- Fast temperature response

## Customization Options and Services

- Accessories such as loops, fan-outs, connectors, mounting brackets etc. available
- Custom fiber types

## Technical Specifications

| Steel Armored High-Temperature Sensing Cable | |
|---|---|
| Standard Optical Fiber | A range of cable variants are available, with either multimode or single-mode fibers, or a combination thereof. Up to 2 optical fibers (*). |
| Standards | Cable tests complying with IEC 60794-1-2 |
| Fiber color | Natural |
| Operating temperature | 0 °C … +300 °C |
| Storage temperature | -40 °C … +85 °C |
| Installation temperature | -5 °C … +50 °C |

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## Technical Data at 20°C

| Type | Max. nb. of fibers | Cable ø mm | Weight kg/km | Max. tensile strength - Installation N | Max. tensile strength - Operation N |
|---|---|---|---|---|---|
| 2F | 2 (*) | 2.8 | 32 | 1500 | 1000 |

*(*) Please consult Clearfield for the maximum recommended fiber count, depending on your application.*

## Fiber Optic Sensing Cable

| Type | Min. Bending Radius With Tensile mm | Min. Bending Radius Without Tensile mm | Max. Crush Res. N/cm | Hydrostatic Pressure Resistance x100kPa (Bar) |
|---|---|---|---|---|
| 2F | 20xD | 15xD | 600 | 300 |

## Optical Fiber Data (Cabled) at 20°C

| Fiber Type | Attenuation, dB/km 850 nm | Attenuation, dB/km 1300/1310 nm | Attenuation, dB/km 1550 nm |
|---|---|---|---|
| MMF 50/125 | ≤ 3.5 | ≤ 1.5 | - |
| MMF 62.5/125 | ≤ 4.5 | ≤ 2.0 | - |
| SMF | - | ≤ 1.0 | ≤ 0.9 |