ATEX M2 stainless-tube SWA DTS fire-sensing cable

DTS STEEL FRNC (N45)

ATEX M2 DTS Optical Sensing Cable

IEC 60331-25 / ATEX Group I M2 · 2–4×G50/125 · SWA fire-sensing optical cable



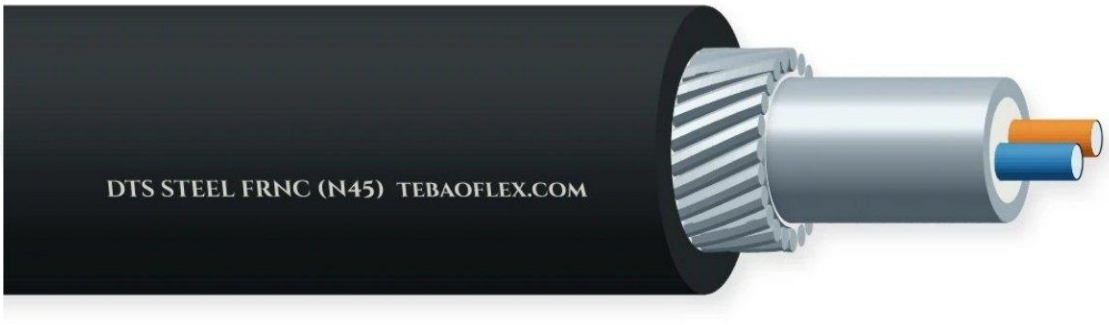
IEC 60331-25 / ATEX M2 | Laser-Welded SS FIMT | 960 N/cm Crush SWA

Application

DTS STEEL FRNC (N45) 3.8 mm distributed temperature sensing (DTS) optical fire-detection cable for ATEX Group I M2 mining conveyors and tunnels, combining multimode fibres in a laser-welded stainless-steel tube, steel wire armour and FRNC jacket.

Typical uses: Underground Coal & Hard-Rock Mining, Open-Cast Excavators, Draglines & Shovels, Vertical Mine Shafts, Hoists & Boreholes, Tunneling, Mineral Processing & Slurry Plants

Construction





Cross-section, not to scale

1. DTS Sensing Fibres (2×G50/125 µm)
2. Laser-Welded Stainless-Steel Tube
3. Direct Steel Wire Armour (960 N/cm)
4. ATEX I M2 FRNC Outer Sheath (Ø 3.8 mm)

Technical data

Typical values

Rated voltage / transmission duty	Optical (IEC 60331-25 / IEC 60332-3-22 / ATEX M2)	**Core / conductor construction**	DTS Sensing Fibres (2×G50/125 µm) — Two graded-index multimode high-temperature DTS optical sensing fibres
Primary dielectric / buffering	Laser-Welded Stainless-Steel Tube — Hermetically sealed stainless-steel loose tube protecting the 2 sensing fibres	**Continuous operating temperature**	-40 to +85 °C (mining & industrial service)
Short-circuit / peak thermal rating	Verified thermal stability per IEC 60331-25 / IEC 60332-3-22 / ATEX M2	**Storage & transport temperature**	−40…+80 °C on export wooden/steel drum
Outer protection / armouring	ATEX I M2 FRNC Outer Sheath (Ø 3.8 mm) — Black flame-retardant zero-halogen jacket (IEC 60331-25 fire integrity rated)	**Minimum bending radius**	15 × OD
Crush, impact & abrasion duty	Heavy-duty mining rock-cut, impact and tensile protection per IEC 60331-25 / IEC 60332-3-22 / ATEX M2	**Flame retardancy & mine fire safety**	Self-extinguishing / flame-retardant mining jacket per IEC 60331-25 / IEC 60332-3-22 / ATEX M2
Mine water, oil & chemical resistance	Resistant to acidic mine water, hydraulic oils and abrasion per IEC 60331-25 / IEC 60332-3-22 / ATEX M2	**RoHS & REACH compliance**	RoHS 2 (2011/65/EU + 2015/863) & REACH SVHC compliant
Standards	IEC 60331-25 / IEC 60332-3-22 / ATEX M2		

Sizes

3 standard constructions

Tick the sizes you need and send this page to info@tebaoflex.com or WhatsApp +86 185 9591 3361.

Order designation	Configuration	Core / stranding	Outer Ø ≈ mm	Net weight ≈ kg/km	Tensile rating kN ≈	Min. bend R mm
DTS STEEL FRNC (N45) Construction Schedule (-40 to +85 °C) 3 sizes						
☐ **DTS STEEL FRNC (N45) 2×G50/125 µm**	**2 × G50/125 µm Multimode**	**Laser-welded SS FIMT + SWA**	**3.8**	**32**	**2.0**	**57**
☐ **DTS STEEL FRNC (N45) 4×G50/125 µm**	**4 × G50/125 µm Multimode**	**Laser-welded SS FIMT + SWA**	**3.8**	**33**	**2.0**	**57**
☐ **DTS STEEL FRNC (N45) 2×MM + 2×SM Hybrid**	**2×G50/125 + 2×SM G.652.D**	**Laser-welded SS FIMT + SWA**	**4.0**	**36**	**2.2**	**60**

– Custom core cross-sections, pair/fibre counts, armour grades and factory drum lengths available per IEC 60331-25 / IEC 60332-3-22 / ATEX M2.

Electrical, optical & thermal parameters

3 sizes

Configuration	Max. DC R_{20} / Atten. Ω/km or dB/km	Rating / Impedance	Operating temp.
2 × G50/125 µm Multimode	**2.50**	**≤2.5 / 0.7 dB/km @ 850/1300 nm**	**-40 to +85 °C**
4 × G50/125 µm Multimode	**2.50**	**≤2.5 / 0.7 dB/km @ 850/1300 nm**	**-40 to +85 °C**
2×G50/125 + 2×SM G.652.D	**0.36**	**IEC 60331-25 750 °C (90 min)**	**-40 to +85 °C**

– Every production length undergoes routine conductor DC resistance, high-voltage Spark/AC dielectric or OTDR continuity and dimensional verification.

Standards and approvals

- IEC 60331-25 Compliant
- EN 10204 3.1 Factory Test Certificate
- CE, RoHS 2 (2011/65/EU) & REACH

Certifications

Management systems: ISO 9001, ISO 14001, ISO 45001

Request a quotation

Send the size, length and destination. An application engineer replies within 2 business hours.

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Web
tebaoflex.com/cables/dts-steel-frnc-n45-atex-m2-stainless-steel-tube-swa-fire-sensing-optical-cable

Typical values for this cable type, based on IEC 60331-25 / IEC 60332-3-22 / ATEX M2. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.