fiber optic cable series

DTS BSTE HT

High-Temperature Distributed Temperature Sensing Cable

High-temperature (-196 °C to +300 °C) polyimide-fibre 316L FIMT DTS sensing cable



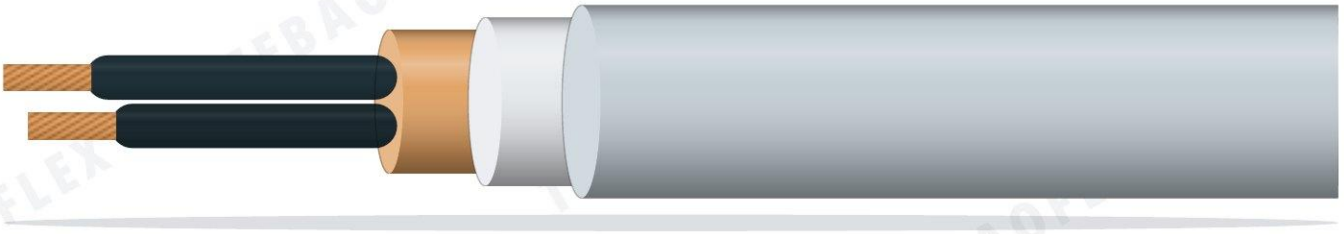
-196 to +300 °C | Polyimide Coated Fibre | 316L FIMT + PFA

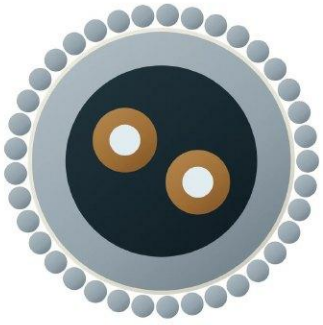
Application

DTS BSTE HT High-Temperature Distributed Temperature Sensing Cable with polyimide- or gold-coated high-temperature optical fibres hermetically sealed in a dry laser-welded 316L/Inconel FIMT with stainless-steel wire armour.

Typical uses: Geothermal & SAGD Downhole Well Monitoring, Refinery, Petrochemical & Steam Pipelines, Cement Kiln, Steel Furnace & Refractory SHM, Nuclear Reactor & Molten Salt Loop Piping, LNG Cryogenic (-196 °C) Transfer Lines

Construction





Cross-section, not to scale

1	High-temperature polyimide / carbon-coated fibres	
2	Dry laser-welded 316L / Inconel FIMT	No gel coking at +300 °C or freezing at -196 °C
3	PFA / FEP fluoropolymer or bare 316L finish	

Technical data

Typical values

Sensing principle	Raman OTDR (50/125 MM) & Brillouin/OFDR (9/125 SM)	**Temperature accuracy**	±0.2 °C to ±1.0 °C across -196 to +300 °C
Hydrogen darkening block	Hermetic carbon-coated fibre + welded 316L FIMT	**Continuous operating temp.**	-196 °C to +260 °C (PFA) · -196 °C to +300 °C (Bare 316L)
Ultra-high-temp option	Up to +650 °C with gold-coated fibre in Inconel tube	**Thermal response (τ_{63})**	≤ 1.2 s (Bare 316L) · ≤ 2.2 s (PFA jacketed)
Outer diameter	3.8 mm (Bare 316L) · 4.8 mm to 6.35 mm (1/4" PFA)	**Max. tensile load**	4,500 N to 8,000 N
Crush resistance	6,000 N / 100 mm	**Min. bend radius**	15 × OD static · 20 × OD dynamic
High-temp MM fibre	50/125 µm graded-index Carbon/Polyimide (≤ 3.0 dB/km @ 850 nm)	**High-temp SM fibre**	9/125 µm Carbon/Polyimide (≤ 0.50 dB/km @ 1550 nm)
Excess fibre length	0.30 % to 0.50 % inside dry FIMT for thermal expansion	**Hydrostatic pressure**	Up to 50 MPa (500 bar) downhole rating
Chemical & sour gas	PFA + 316L/Inconel resists H_2S, CO_2, HCl & steam	**Flame & non-combustibility**	IEC 60332-1-2 (PFA) · Non-combustible Class A1 (Bare)
Standards	IEC 61757-2-2 Distributed Temperature Sensing		

Sizes

4 standard constructions

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

Order designation	Fibre & armour construction	Outer Ø mm	Weight ≈ kg/km	Max. load N	Max. temp °C
High-Temperature Polyimide & Metal-Coated DTS Cables 4 sizes					
☐ DTS BSTE HT-PFA-04	2×MM + 2×SM Polyimide · 316L + PFA	4.80	56	4,500	260
☐ DTS BSTE HT-1/4-PFA	2×MM + 2×SM C/Polyimide · 1/4" Downhole	6.35	115	8,000	260
☐ DTS BSTE HT-BARE-04	2×MM + 2×SM Polyimide · Bare 316L Armour	3.80	48	5,000	300
☐ DTS BSTE HT-AU-INC	2×MM Gold-Coated · Inconel 625 FIMT	3.20	38	4,000	650

– All BSTE HT tubes are gel-free (dry nitrogen buffered) to prevent gel decomposition above +100 °C or solidification at -196 °C.

Standards and approvals

- IEC 61757-2-2 High-Temp DTS
- ASTM A240 (316L) & NACE MR0175
- RoHS 2 & REACH Compliant

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.

WhatsApp / phone
+86 185 9591 3361

Email
info@tebaoflex.com

Web
tebaoflex.com/cables/brusens-dts-bste-ht-high-temperature-distributed-temperature-sensing-cable

Typical values for this cable type, based on IEC 61757-2-2 / IEC 60793-2 / ASTM A240 (316L). Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.