fiber optic cable series

BSSH V13

Heavy-Duty Armoured Strain-Sensing Fibre Cable



Heavy-duty wire-armoured distributed Brillouin & Rayleigh strain sensing cable

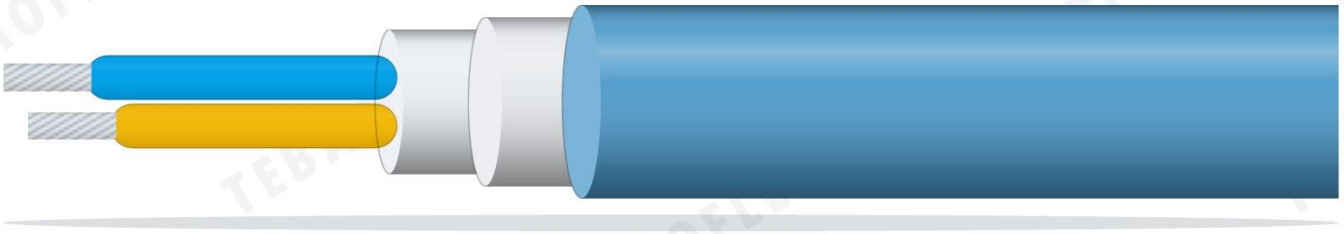
IEC 61757-1-1 DSS | ±10,000 με Strain | FIMT + Wire Armour

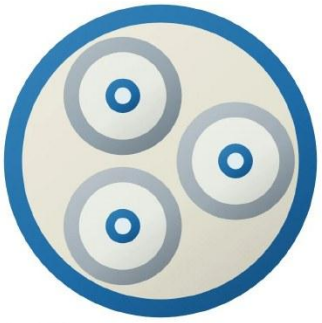
Application

BSSH V13 Heavy-Duty Armoured Strain-Sensing Fibre Cable with hermetically locked central stainless-steel tube, galvanized steel wire armour and structured PA/HDPE sheath for direct soil, concrete and geotechnical strain transfer.

Typical uses: Dam, Levee & Tailings Geotechnical Monitoring, TBM Tunnel & Cavern Convergence, Deep Foundation Piles & Diaphragm Walls, Pipeline Subsidence & Landslide Early Warning, High-Speed Rail Embankment Settlement

Construction





Cross-section, not to scale

1	Strain-coupled sensing fibre	
2	Central stainless-steel FIMT	Zero fibre slippage up to ±10,000 με
3	Interlocking structured outer sheath	

Technical data

Typical values

Sensing principle	Brillouin (BOTDA / BOTDR) & Rayleigh OFDR	**Strain sensitivity**	≈ 0.050 MHz / με @ 1550 nm
Strain resolution	±2 με (OFDR) · ±15 με (BOTDA)	**Operating temperature**	-40 °C to +85 °C (up to +100 °C concrete hydration)
Installation temperature	-20 °C to +60 °C	**Thermal Brillouin coeff.**	≈ 1.07 MHz / K @ 1550 nm
Operating strain range	-10,000 με to +10,000 με (±1.0 %)	**Max. tensile load**	10,000 N (ultimate) · 5,000 N (working)
Crush resistance	8,000 N / 100 mm	**Min. bend radius**	15 × OD (110 mm static) · 20 × OD (dynamic)
Fibre grade	ITU-T G.652.D / G.657.A1 high-proof-test silica	**Attenuation @ 1550 nm**	≤ 0.25 dB/km (strain-locked core)
Fibre proof test	≥ 200 kpsi (1.38 GPa) for 1 % strain reliability	**Hydrostatic pressure**	Up to 15 MPa (150 bar) pore pressure
Alkaline concrete resistance	PA12 / HDPE resists pH 13.5 cement grout	**Impact & abrasion**	30 J impact (Method E4) for gravel & shotcrete
Standards	IEC 61757-1-1 Distributed Strain Measurement		

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 configuration	Outer Ø mm	Weight ≈ kg/km	Max. load N	Crush N/100 mm
BSSH V13 Heavy-Duty Wire-Armoured Strain Cables 4 sizes					
☐ **BSSH V13-02SM**	2 × SM G.657.A1 (strain)	7.2	86	10,000	8,000
☐ **BSSH V13-04SM**	4 × SM G.657.A1 (strain)	7.2	88	10,000	8,000
☐ **BSSH V13-02S02T**	2 × SM (strain) + 2 × SM (temp)	7.8	96	10,000	8,000
☐ **BSSH V13-02S02T02M**	2 × SM (strain) + 2 × SM + 2 × OM3	8.2	105	10,500	8,000

– Strain-locked fibres are calibrated for 0.050 MHz/με Brillouin shift; loose compensation fibres isolate thermal drift.

Standards and approvals

- IEC 61757-1-1 Distributed Strain
- IEC 60794-1-21 & ITU-T G.652.D
- 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-bssh-v13-heavy-duty-armoured-strain-sensing-fibre-cable

Typical values for this cable type, based on IEC 61757-1-1 / IEC 60794-1-21 / ITU-T G.652.D. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.