

SENSING CABLES

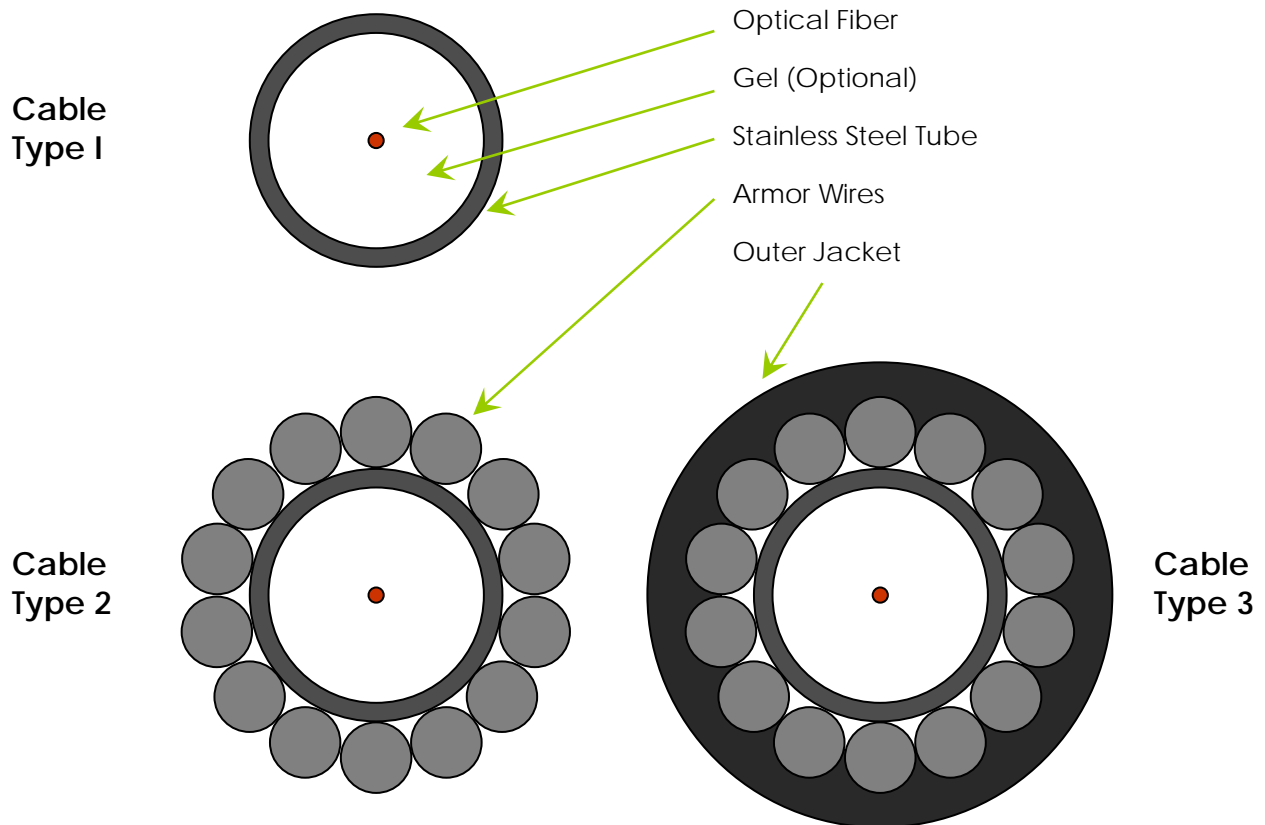
For Harsh Environments



Companion Cables for
SensorTran DTS Systems



The drawings below show the construction of three types of cables typically used in harsh environments:





The cables designed to be used in harsh environments are rodent, rabbit, and termite-proof and can be constructed to hold up to 12 fibers. While the basic cable components (as shown on previous page) are typical, the thickness and material of the outer wall can be varied to yield a more robust or more flexible cable, depending the user requirements. Cables with thinner outer walls will have a smaller diameter and weigh less - meaning that longer lengths will fit on standard reels. The specifications are provided as ranges to encompass a variety of cables appropriate for deployment in harsh environments.

Harsh Environment Optical Sensing Cables			
Optical Fiber	50 µm GI multimode	Tensile Strength	106 kg - 1701 kg
Fiber Coating	Polyimide Acrylate	Yield Strength	91 kg - 450 kg (202 lbs. - 992 lbs.)
Secondary Fiber Coating	None	Strain @ Yield	.429% - .464%
Fiber Quantity	1-12	Thermal Expansion	1.73E-05 m/m °C (9.00E-06 in/in °F)
Gel Compound (Optional)	Thixotropic Hydrogen	Hydrostatic Pressure	17 - 20 kg/mm ² (23,950 - 28,829 psi)
Stainless Steel Tube (Types 1, 2, 3)	1.8 mm - 3.2 mm SS304, SS316,	Burst Pressure	20 - 23 kg/mm ² (27,941 - 33,264 psi)
Armor Wires (Types 2,3)	SS316 / GIPS	Working Pressure	15 - 18 kg/mm ² (21,555 - 25,625 psi)
Outer Jacket (Type 3)	Varied, dependent upon use	Dynamic Bend Radius	150 mm - 320 mm (5.9" - 12.6")
Outer Diameter	1.8 mm (0.071") to 3.6 mm (0.142")	Static Bend Radius	45 mm - 80 mm (1.8" - 3.2")
Operating Temperature	-100°C to +350°C	Cable Weight	Varies, dependent



SENSORTRAN

Optical Conclusions

Contact		
Headquarters	4401 Freidrich Lane, Bldg. 307 Austin, TX 78744 USA	+1-512-583-3520 +1-866-333-2861 (toll-free USA)
Oil, Gas, & Geothermal Sales	262 N. Sam Houston, Suite 410 Houston, TX 77060 USA	+1-281-445-9119
Power, Pipeline, & Process Sales	4401 Freidrich Lane, Bldg. 307 Austin, TX 78744 USA	+1-512-583-3547

www.sensortran.com

sales @ [sensortran.com](mailto:sales@sensortran.com)