

Fiber in Metal Tubes for Subsea

Steel Tube with or without sheathing

General Datasheet

 Distributed Temperature Sensing

 Distributed Acoustic Sensing

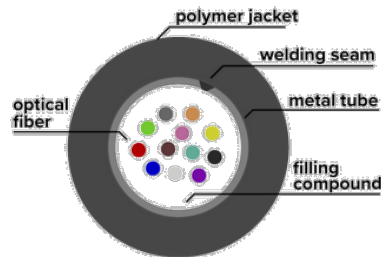
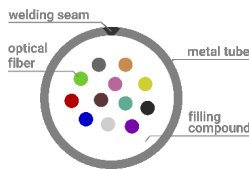
Fiber in Metal Tubes (FIMT) are designed as loose tube construction and protect the integrated optical fibers against mechanical stress, hydrogen and other environmental influence in order to provide maximum optical lifetime for their application. The high density, tubular design creates excellent crush resistance. Continuous lengths up to 50km are feasible for outer diameter between 3.4 and 4mm (without polymer), otherwise up to 25km can be produced. The tube is filled with an thixotropic gel, with or without hydrogen absorbing additives, and fully complies with EN60794-2-22 method F5. Common fiber types used for this construction include ITU-T G.652.D, ITU-T G.657.A1 / A2 and ITU-T G.655.

Available Steel Material

- EN 1.4301 (304)
- EN 1.4306 (304L)
- EN 1.4303 (305)
- EN 1.4404 (316L)

Available Polymer Material

- PA
- PE (LD, HD, XL)
- PVC
- FRNC
- TPE



Stainless Steel Tube Dimensions and Fiber Count

Table shows the minimum diameter for certain number of fibers. Outer diameter in steps of 0.05/0.10mm available. Other dimensions available on request!

OD FIMT mm (inch)	max. amount of fibers 250µm (200µm)	Single Tube Wall Thickness in mm (inch)				
		0.125 (.0049)	0.15 (0.0059)	0.20 (.0079)	0.25 (.0098)	0.30 (.0118)
1.10 (0.043)	2 (2)	●	●			
1.25 (0.049)	4 (4)	●	●	○		
1.70 (0.067)	6 (8)		●	●		
1.80 (0.071)	8 (12)		●	●		
2.20 (0.087)	16 (24)		●	●	○	
2.40 (0.094)	24 (36)		●	●	●	
2.90 (0.114)	36 (48)		●	●	●	○
3.30 (0.130)	48 (64)		●	●	●	●
3.60 (0.142)	56 (72)		●	●	●	●
4.00 (0.157)	64 (80)		○	●	●	●
4.50 (0.177)	80 (96)					●
5.30 (0.209)	144 (192)					●

Coloring and bundling options

Fiber coloring done based on EIA/TIA-598-C, DIN VDE V 0888, DIN IEC 60304 or on customer request. Bundling with colored yarns, ring marking on fiber and outer tube marking (meter marking, ring code) can be chosen for identification.

Packaging and produced length

Standard packaging with wooden reels in standing position fixed on pallet. Optionally, machine spools from customer can be used. Produced single lengths are based on customer request and can go up to 50km for certain dimensions.