

# Under Water Type (Submarine) Steel Wire Armored Fiber Optic Cables

## General Information

These type optical cables are installed for underwater / submarine, Lake and River Crossing type installation with highly reliable and industrial applications. These types of cables are designed for outside application and also it's designed to protect optical fiber for the unexpected extra high mechanical and environmental conditions. Qualification and acceptance testing are performed to assure the optical cable's performance and durability in several environments.

## Features and Benefits

- Fiber counts up to 144
- Fibers per loose tube 1-12
- Gel filled cable core for the water resistance
- Its design for water resistance in customer request
- Colored fiber for the quick identification
- UV resistance for the outer sheath
- High fiber count to diameter ratio,
- Suitable for underwater installation,
- Fully complies with international standards, TIA/EIA
- Customer designs are available on request
- Ripcord for easy strip outer sheath

## Applications

- Telecommunication applications
- Video applications
- Data applications
- CATV Transmission
- Local Area Networks applications

## Cable Weight & Diameter

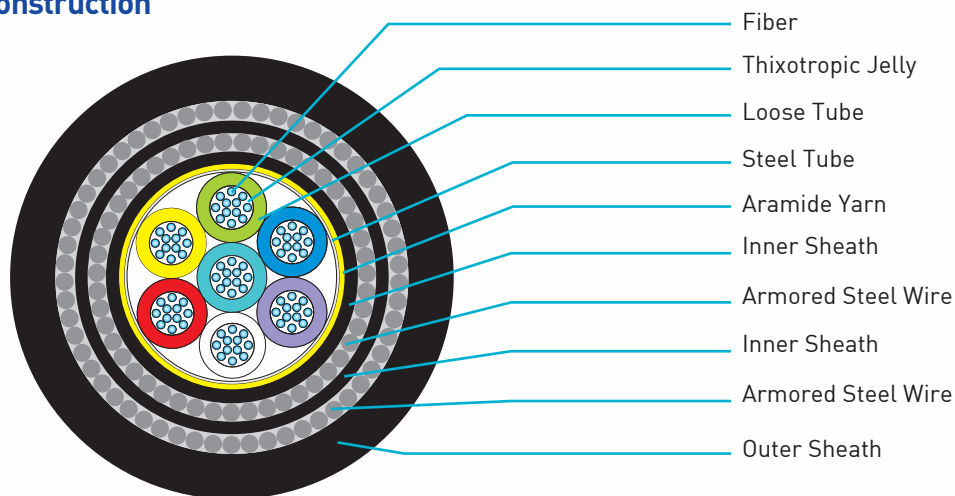
Item	Number of Fiber	Fiber Per Tube	Number of Tube	Number of Dummy Tube	Nom Outer Diameter mm	Nom Cable Weight Kg/km	Reel Length Km*
Double Steel Wire Armored Underwater Type Optical Cables	4	2	2	4	29	1.800	12
	6	2	3	3	29	1.800	12
	12	2	6	0	29	1.800	12
	24	4	6	0	29	1.800	12
	36	6	6	0	29	1.800	12
	48	8	6	0	29	1.800	12
	60	12	5	1	29	1.800	12
	72	12	6	0	29	1.800	12
	96	12	8	0	33	2.750	6
	144	12	12	0	36	3.150	6

Note: Central Strength member is FRP (Fiber Reinforced Plastic) , but steel wire also available on customer request.

(\*) Other delivery length is available



## Cable Construction



## Identification of Optical Fiber and Loose Tube

No	1	2	3	4	5	6	7	8	9	10	11	12
<b>Fiber</b>	Blue	Orange	Green	Red	Yellow	Violet	Brown	Black	White	Grey	Turquoise	Pink
<b>Tubes</b>	Blue	Orange	Green	Red	Yellow	Violet	Brown	Black	White	Grey	Turquoise	Pink

## Mechanical & Environmental Characteristics

### Parameters

Tensile Strength IEC 60794-1-2-E1	Max Opr.	80 KN 160 KN
Bending Radius(mm) IEC 60794-1-2-E11	Dynamic Static	15xD 10xD
Crush Resistance IEC 60794-1-2-E3	----- -----	10. KN ----
Impact Resistance IEC-60794-1-2-E4	----- -----	300 N ----
Operation Temperature IEC 60794-1-2-F1	Installing Operating	-30 +60 (°C) -40 +80 (°C)
Water Penetration IEC 60794-1-2 F5	24 hour, 1 meter	No leakage

Note: Special design for higher than given tensile load are also available  
D: Outer Diameter of Cable

### Type Code of Optical Cable

A-DF(ZN) 2Y SWA 2Y SWA 2Y mxn .....N LG  
Refer to the type code of the optical cables for the description of the cable code.

### Optical Characteristics

Refer to the fiber data sheet

### Length Marking On The Cable

The outer sheath will be marked in one meter intervals as follows;  
TURKUAZ CABLE < Year of manufacturing >  
< number and type of fiber >  
< length marking in meter >

### Color of Sheath and Material

Inner/ Outer sheath materials are MDPE-HDPE-LDPE and outer sheath color is black. Other color can be applied in customer request. Thickness of sheath is nominal 1,5 mm (±0,1) for inner and 2,5 (± 0,1) mm for outer sheaths respectively.

### Packing

Shipment will be done with non-returnable wooden-steel drums with protection.

### TURKUAZ Cable Design Information

Fiber Type SM 9/125 (G.652 d), SM 9/125(G.655 - NZDSF), MM 62,5/125 – 50/125 Loose tube design  
UV resistance Outer Sheath (MDPE,HDPE)  
LSZH or HFFR Sheathing also possible in indoor applications Jelly Filled for Water resistance  
Dry core design is also available on customer request  
Dielectric Strength member (FRP) Peripheral Strength Member is glass yarn or Aramide yarn (If necessary)