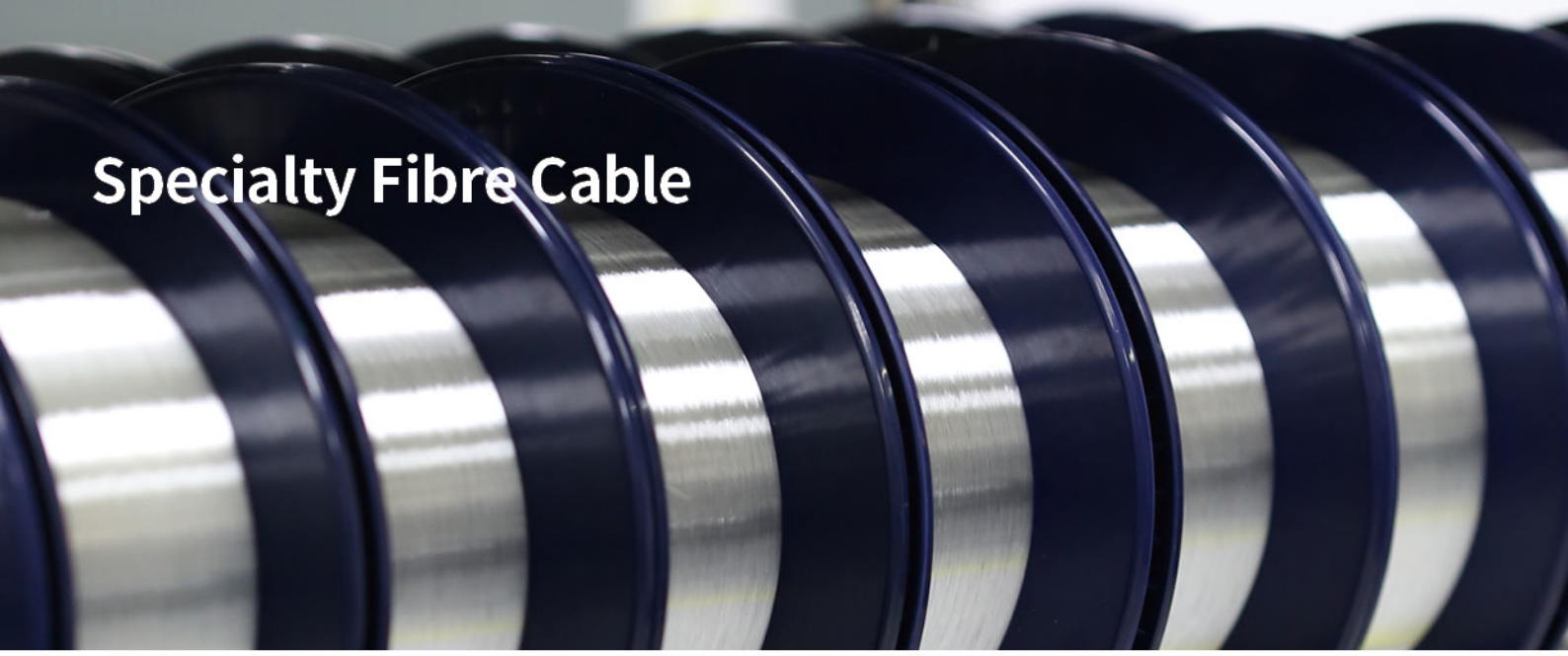


Specialty Fibre Cable

Specialty Cable for Industrial Control

High Voltage Flame Retardant Optical Cable

High voltage cables require transmission control cables to have good electromagnetic radiation resistance, high voltage breakdown resistance, corrosion resistance, moisture resistance and flame retardance. The inner and outer protective layers of YOFC electric high-voltage flame-retardant cable are made of ETFE, TPU, LSZH and other materials, suitable for all optical fibre products, light in weight and good in bending radius, and necessary reinforcing elements are added to improve the tensile and crush resistance of the cable. Several main structural types such as tight buffer optical cable, loose buffer optical cable, stranded optical cable and bundled optical cable can be designed to provide reliable protection for optical fibre according to the application situation, can directly match various system components in the power grid and fully serve the application environment such as power grid control.

According to the requirements of flame retardancy and high voltage breakdown resistance in power environment, YOFC mainly recommends ETFE and TPU sheathing materials.

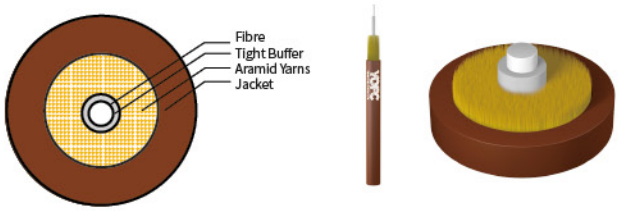
Sheath Material	Flame Retardant Grade	Dielectric Constant (10^6)	Tensile Strength
ETFE	V0 (UL-94 Standard)	2.6 (D150)	45MPa
TPU	V0 (UL-94 Standard)	2.4	25MPa

According to the specific environment of power application, the structure selection is as follows:

- Subunit Cable
- Special twisted optical cable
- Bundle cable - bundled cable with sheath

Subunit Cable

Tight buffer optical cable (without aramid yarns)



Loose buffer optical cable (with aramid yarns)

Specifications

Typical Fibre	GI62.5/125	SI105/125	HPCF200/230
Optical Cable Structure			
Inner Sheath Material	Hytrel	Hytrel	ETFE
Outer Sheath Material	ETFE	ETFE	TPU
Number of Cable Core Units	1	1	1
Inner Diameter ϕ (mm)	0.90 ± 0.05	0.90 ± 0.05	0.50 ± 0.03
Subunit Diamete ϕ (mm)	1.80 ± 0.10	1.80 ± 0.10	2.20 ± 0.10
Reinforcing Element	Aramid	Aramid	-
Mechanical Properties (aramid)			
Allowed Tensile Force (N) Long-term	100	100	20
Allowed Tensile Force (N) Short-term	300	300	100
Crush Resistance (N/100mm) Long-term	60	60	60
Crush Resistance (N/100mm) Short-term	300	300	300
Minimum Bending Radius (mm) Static	15D	15D	15D
Minimum BendingRadius (mm) Dynamic	30D	30D	30D
Temperature Performance			
Working Temperature Range (℃)	-20 to +80	-20 to +80	-20 to +80
Storage Temperature Range (℃)	-45 to +85	-45 to +85	-45 to +85
Attenuation			
850nm (LED)(dB/km)	⩽ 3.5	⩽ 6	＜ 8
1300nm (dB/km)	⩽ 1.5	-	-