

## 松套管绞式非金属加强芯铠装光缆(GYFTA53)

### Stranded Loose Tube Non-metallic Strength Member Armored Cable

#### 产品描述 Description

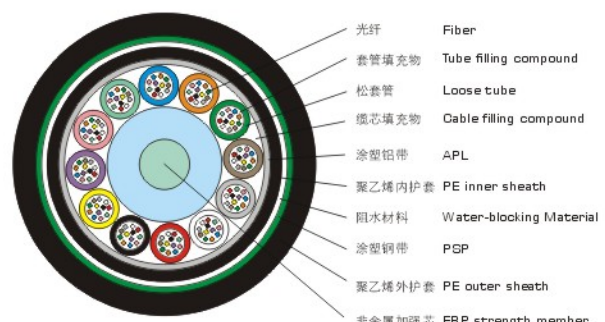
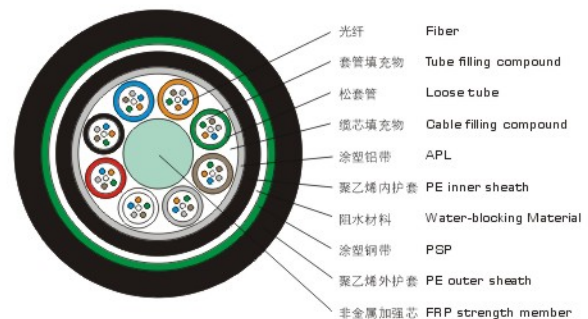
GYFTA53 光缆的结构是将 250 $\mu$ m 光纤套入高模量材料制成的松套管中, 松套管内填充防水化合物。缆芯的中心是一根非金属加强芯 (FRP), 对于某些芯数的光缆来说, 非金属加强芯外还需挤上一层聚乙烯 (PE)。松套管 (和填充绳) 围绕中心加强芯绞合成紧凑和圆形的缆芯, 缆芯内的缝隙充以阻水填充物。涂塑铝带 (APL) 纵包后挤上一层聚乙烯内护套, 双面涂塑钢带 (PSP) 纵包后挤制聚乙烯外护套成缆。

The fibers, 250 $\mu$ m, are positioned in a loose tube made of a high modulus plastic. The tubes are filled with a water-resistant filling compound. A Fiber Reinforced Plastic (FRP) locates in the center of core as a non-metallic strength member. The tubes (and fillers) are stranded around the strength member into a compact and circular core. An aluminum Polyethylene Laminate (APL) is applied around the cable core. Then the cable core is covered with a thin polyethylene (PE) inner sheath, which is filled with jelly to protect it from water ingress. After a corrugated steel tape armor is applied, the cable is completed with a PE outer sheath.



#### 产品特点 Characteristics

- 具有很好的机械性能和温度特性  
Good mechanical and temperature performance
- 松套管材料本身具有良好的耐水解性能和较高的强度  
High strength loose tube that is hydrolysis resistant
- 管内充以特种油膏, 对光纤进行了关键性保护  
Special tube filling compound ensure a critical protection of fiber
- 良好的抗压性和柔软性  
Crush resistance and flexibility
- 采用下列措施来确保光缆的防水性能:  
The following measures are taken to ensure the cable watertight:
  - 单根非金属中心加强芯  
Single Fiber Reinforced Plastic as the central strength member
  - 松套管内填充特种防水化合物  
Loose tube filling compound
  - 完全缆芯填充  
100% cable core filling
  - 涂塑铝带 (APL) 防潮层  
APL moisture barrier
  - 双面涂塑钢带 (PSP) 提高光缆的抗透潮能力  
PSP enhancing moisture-proof
  - 良好的阻水材料防止光缆纵向渗水  
Water-blocking material



光缆结构图  
Cable Structure

#### 产品标准 Standards

长飞上海公司 GYFTA53 光缆符合 YD/T 901-2001 和 IEC 60794-1 标准。

YOFC(SH) GYFTA53 cable complies with Standard YD/T 901-2001 as well as IEC 60794-1.

(GYFTA53)

适用: 管道、架空、直埋  
Application: Duct / Aerial / Direct buried

■ 光学特性 Optical Characteristics

	G.652	G.655	50 / 125 μm	62.5 / 125 μm
衰减 Attenuation (+20℃)	@ 850 nm		≤ 3.0 dB / km	≤ 3.0 dB / km
	@1300 nm		≤ 1.0 dB / km	≤ 1.0 dB / km
	@1310 nm	≤ 0.36 dB / km	≤ 0.40 dB / km	
	@1550 nm	≤ 0.22 dB / km	≤ 0.23 dB / km	
带宽 (A级) Bandwidth (Class A)	@ 850 nm		≥ 600 MHz·km	≥ 200 MHz·km
	@1300 nm		≥ 1200 MHz·km	≥ 600 MHz·km
数值孔径 Numerical Aperture			0.200 ± 0.015 NA	0.275 ± 0.015 NA
光缆截止波长 Cable Cut-off Wavelength λ <sub>cc</sub>	≤ 1260 nm	≤ 1450 nm		

■ 结构参数 Technical Parameters

光缆型号 Cable Type (以2纤递增) (Increased by 2 fibers)	光纤数 Fiber Count	套管数 Tubes	填充绳数 Fillers	光缆直径 Cable Diameter mm	光缆重量 Cable Weight kg / km	允许拉伸力 Tensile Strength 长期 / 短期 Long / Short Term N	允许压扁力 Crush Resistance 长期 / 短期 Long / Short Term N / 100mm	弯曲半径 Bending Radius 静态 / 动态 Static / Dynamic mm
GYFTA53-2~6Xn	2~6	1	7	16.8	255	1000 / 3000	1000 / 3000	100 / 200
GYFTA53-8~12Xn	8~12	2	6	16.8	255	1000 / 3000	1000 / 3000	100 / 200
GYFTA53-14~18Xn	14~18	3	5	16.8	255	1000 / 3000	1000 / 3000	100 / 200
GYFTA53-20~24Xn	20~24	4	4	16.8	255	1000 / 3000	1000 / 3000	100 / 200
GYFTA53-26~30Xn	26~30	5	3	16.8	255	1000 / 3000	1000 / 3000	100 / 200
GYFTA53-32~36Xn	32~36	6	2	16.8	255	1000 / 3000	1000 / 3000	100 / 200
GYFTA53-38~42Xn	38~42	7	1	16.8	255	1000 / 3000	1000 / 3000	100 / 200
GYFTA53-44~48Xn	44~48	8	0	16.8	255	1000 / 3000	1000 / 3000	100 / 200
GYFTA53-50~60Xn	50~60	5	3	19.2	320	1000 / 3000	1000 / 3000	100 / 200
GYFTA53-62~72Xn	62~72	6	2	19.2	320	1000 / 3000	1000 / 3000	100 / 200
GYFTA53-74~84Xn	74~84	7	1	19.2	320	1000 / 3000	1000 / 3000	100 / 200
GYFTA53-86~96Xn	86~96	8	0	19.2	320	1000 / 3000	1000 / 3000	100 / 200
GYFTA53-98~108Xn	98~108	9	1	21.2	380	1000 / 3000	1000 / 3000	100 / 200
GYFTA53-110~120Xn	110~120	10	0	21.2	380	1000 / 3000	1000 / 3000	100 / 200
GYFTA53-122~132Xn	122~132	11	1	22.3	415	1000 / 3000	1000 / 3000	100 / 200
GYFTA53-134~144Xn	134~144	12	0	22.3	415	1000 / 3000	1000 / 3000	100 / 200

储存、使用温度: -40℃至+70℃  
Storage / Operating Temperature: -40℃ to +70℃

注 Note:

- 型号的后缀 Xn 表示选用的光纤类型, 详见长飞上海光纤型号说明;  
Suffix Xn denotes fiber type and see details in YDFC(SH)'s optical fiber illustration.
- 套管和光纤的颜色排列见色谱表;  
The colour arrangements of fiber and tube are specified in the colour identification table.
- 聚乙烯外护套厚度标称值 2.0mm, 聚乙烯内护套厚度标称值 1.0mm。  
The nominal value of the PE outer sheath thickness is 2.0mm while the nominal value of the PE inner sheath thickness is 1.0mm.