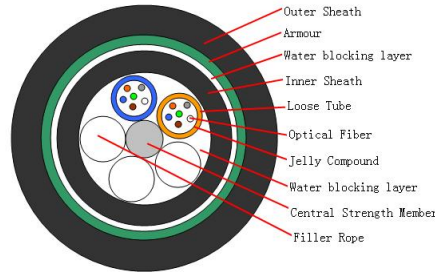




# Outdoor Fiber Optical Cable Duct GYFTY53 Stranded Loose Tube Armored SM G652 96 144 288 Core PE

## Cable Design









## Technical data

No. of cable		12	18	96
Fiber Model		G.652D		
Central Strength Member	Material	FRP		
	Diameter ( $\pm 0.05$ ) mm	1.5		2.0/3.3
Loose Tube	Material	PBT		
	Diameter ( $\pm 0.06$ ) mm	1.7		1.9
	Thickness ( $\pm 0.03$ ) mm	0.32		0.35
	The Max.Core NO./Tube	6	6	12
Water Blocking layer (Material)		Flooding Compound		
Filler Rope	Material	LDPE		
	Diameter ( $\pm 0.05$ ) mm	1.7		
Inner Sheath	Material	MDPE		
	Thickness ( $\pm 0.2$ ) mm	0.9		
Armoring	Material	Steel Strip		
	Thickness ( $\pm 0.03$ ) mm	0.25		
Outer Sheath	Material	MDPE		
	Thickness ( $\pm 0.2$ ) mm	1.8		
Cable Diameter ( $\pm 0.2$ ) mm		10.9		13.2
Cable Weight ( $\pm 5$ ) kg/km		120		175
Min. bending radius	Without Tension	$12.5 \times \text{Cable-} \phi$		
	Under Maximum Tension	$25 \times \text{Cable-} \phi$		
Temperature range ( $^{\circ}\text{C}$ )	Installation	-20~+60		
	Transport&Storage	-40~+70		
	Operation	-40~+70		

**Fibre Colours**

<b>NO.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
<b>Colour</b>	Blue	orange	green	brown	gray	white
						
	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>
	red	black	Yellow	Violet	Pink	Aqua
						

**Loose Tube Colours**

<b>NO.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
<b>Colour</b>	Blue	orange	green	brown	gray	white
						
	<b>7</b>	<b>8</b>				
	red	black				
						

**The properties of single mode optical fiber (ITU-T Rec. G.652.D)**

Item	Specification
Fiber type	Single mode
Fiber material	Doped silica
Attenuation coefficient @ 1310 nm @ 1550 nm	≤ 0.36 dB/km ≤ 0.22 dB/k
Point discontinuity	≤ 0.05 dB
Cable cut-off wavelength	≤ 1260 nm
Zero-dispersion wavelength	1300 ~ 1324 nm
Zero-dispersion slope	≤ 0.092 ps/(nm <sup>2</sup> .km)
Chromatic dispersion @ 1288 ~ 1339 nm @ 1271 ~ 1360 nm @ 1550 nm @ 1625 nm	≤3.5 ps/(nm. km) ≤5.3 ps/(nm. km) ≤18 ps/(nm. km) ≤22 ps/(nm. km)
PMD <sub>Q</sub> (Quadrature average*)	≤0.2 ps/km <sup>1/2</sup>
Mode field diameter @ 1310 nm	9.2±0.4 um
Core / Clad concentricity error	≤ 0.5 um
Cladding diameter	125.0 ± 0.7 um
Cladding non-circularity	≤1.0%
Primary coating diameter	245 ± 10 um
Proof test level	100 kpsi (=0.69 Gpa), 1%
Temperature dependence 0oC~ +70oC @ 1310 & 1550nm	≤ 0.1 dB/km

**Application:**

NO.	Item	Requirement	
1	Allowable Tensile Strength	Short Term	3000N
		Long Term	1000N
2	Allowable Crush Resistance	Short Term	3000 (/100mm)
		Long Term	1000 (/100mm)

**Main mechanical & environmental performance test**

Item	Test Method	Acceptance Condition
Tensile Strength IEC 794-1-2-E1	- Load: Short term tension - Length of cable: about 50m	- No fiber break and no sheath damage.
Crush Test IEC 60794-1-2-E3	- Load: Short term crush - Load time: 1min	- Loss change $\leq 0.05\text{dB}@1550\text{nm}$ - No fiber break and no sheath damage.
Impact Test IEC 60794-1-2-E4	- Points of impact: 3 - Times of per point: 1 - Impact energy: 5J	- Loss change $\leq 0.1\text{dB}@1550\text{nm}$ - No fiber break and no sheath damage.
Temperature Cycling Test YD/T901-2001-4.4.4.1	- Temperature step: +20°C→-40°C→+70°C →+20°C - Time per each step: 12 hrs - Number of cycle: 2	- Loss change $\leq 0.05 \text{ dB/km}@1550 \text{ nm}$ - No fiber break and no sheath damage.

**Sheath marking**

The color of marking is white, but if the remarking is necessary, the **white color** marking shall be printed newly on a different position.

An occasional unclear of length marking is permitted if both of the neighboring markings are clear.

The both cable ends are sealed with heat shrinkable end caps to prevent water ingress.