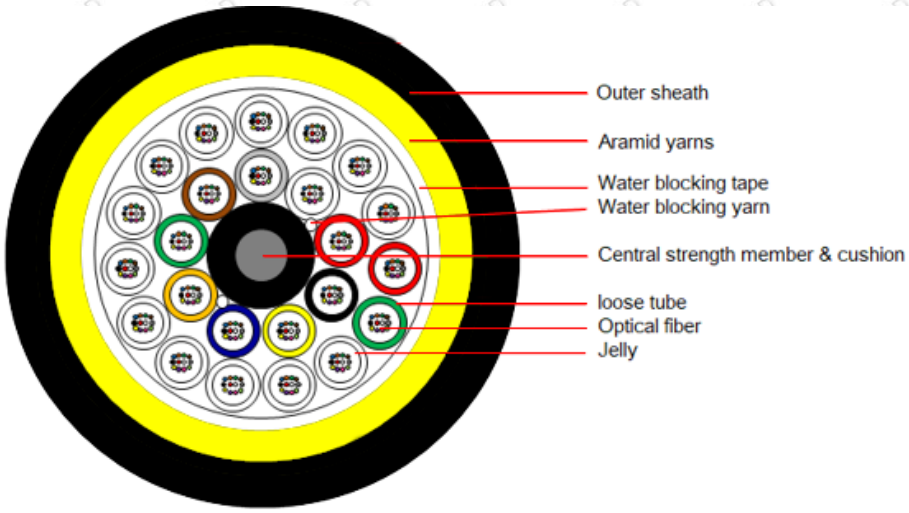
ADSS-Single Sheath-100M

1. Cable cross-section



2. Cable Specification

Loose tube construction, tubes jelly filled, elements (tubes and filler rods when necessary) laid up around non-metallic central strength member, polyester yarns used to bind the cable core, water blocking tape wrapped around the cable core, aramid yarns reinforced, two ripcords, then PE outer jacket.

3. Fiber & tube color

Fiber color

No.	1	2	3	4	5	6
Color	Blue	Orange	Green	Brown	Gray	White
No.	7	8	9	10	11	12
Color	Red	Black	Yellow	Violet	Pink	Aqua

Tube color for single layer

No.	1	2	3	4	5	6
Color	Blue	Orange	Green	Brown	Gray	White
No.	7	8	9	10	11	12
Color	Red	Black	Yellow	Violet	Pink	Aqua

Inner layer

No.	1	2	3	4	5	6
Color	Brown#	Gray#	White#	Red#	Black*	Yellow#
No.	7	8	9			
Color	Violet#	Pink#	Aqua#			

Outer layer

No.	10	11	12	13	14	15
Color	Blue	Orange	Green	Brown	Gray	White
No.	16	17	18	19	20	21
Color	Red	Black	Yellow	Violet	Pink	Aqua
No.	22	23	24			
Color	Blue#	Orange#	Green#			

Note: “#” means a black stripe, “*” means a white stripe.

4. Structure parameter

Item	Contents	Unit	Value
Fiber count	Number	/	288
Cable structure	/	/	1+9+15
Fiber per tube	Number	/	12
Loose tube	Number	/	9+15
Outer jacket	Thickness	mm	Nominal 1.7
Cable diameter	±5%	mm	19.2
Cable weight	±10%	kg/km	275
Span	Max.	m	100
Weather condition	/	/	No ice and max. wind velocity: 25m/s
Installation Sag	/	%	≥1.0

Note: Sheath thickness not consider ripcord portion, sizes and values without tolerances are nominal values.

5. Mechanical & Environmental Performance

Item	Contents	Value
Max. tensile load	MAT	2900 N
Max. crush resistance	Short term	1000 N/100mm
Min. bending radius	Installation	20 x cable diameter
	Operation	10 x cable diameter
Temperature range	Operation	-40℃ ~ +70℃
	Installation	-10℃ ~ +60℃
	Storage/transportation	-40℃ ~ +70℃

6. Main mechanical & environmental performance test

Item	Test Method	Acceptance Condition
Tensile Strength IEC 60794-1-2-E1	- Load: MAT - Length of cable: ≥ 50m - Load time: 1min	- Fiber strain ≤ 0.33%. - Loss change ≤ 0.1dB@1550nm after test. - No fiber break and no sheath damage.
Crush Test IEC 60794-1-2-E3	- Load: Short term crush - Load time: 1min	- Loss change ≤ 0.1dB@1550nm after test. - No fiber break and no sheath damage.
Impact Test IEC 60794-1-2-E4	- Radius: 300 mm - Points of impact: 3 - Times of per point: 1 - Impact energy: 10J	- Loss change ≤ 0.1dB@1550nm after test. - No fiber break and no sheath damage.
Repeated Bending IEC 60794-1-2-E6	- Bending radius: 20 x OD - No. of cycle: 25	- Loss change ≤ 0.1dB@1550nm after test. - No fiber break and no sheath damage.
Torsion IEC 60794-1-2-E7	- Length: 1m - Twist angle: ±90° - No. of cycle: 10	- Loss change ≤ 0.1dB@1550nm after test. - No fiber break and no sheath damage.
Cable bend IEC 60794-1-2-E11	- Diameter of mandrel:20 x OD - Number of turns:4 - Number of cycles:3	- Loss change ≤ 0.1dB@1550nm after test. - No fiber break and no sheath damage.
Water Penetration IEC 60794-1-2-F5B	- Height of water: 1m - Sample length: 3m - Time: 24h	- No water leak from the cable core of the opposite end.
Temperature Cycling IEC 60794-1-2-F1	- Temperature: -40℃~+70℃ - Time of each step: 12h - Number of cycle: 2	- Loss change ≤ 0.1dB/km @1550nm. - No fiber break and no sheath damage.

7. Characteristic of Optical Fiber

G.652D Optical characteristics

Item	Contents	Value
Attenuation	@1310nm	≤0.35dB/km
	@1550nm	≤0.21dB/km
	@1625nm	≤0.25dB/km
Dispersion	@1288nm～1339nm	≤3.5ps/(nm·km)
	@1550nm	≤18ps/(nm·km)
	@1625nm	≤22ps/(nm·km)

G.652D Optical characteristics

Item	Contents	Value
Zero-Dispersion wavelength		1300nm～1324nm
Zero-Dispersion slope		≤0.092ps/(nm^2·km)
Mode field diameter (MFD)	@1310nm	9.2±0.4μm
	@1550nm	10.4±0.5μm
Cable cutoff wavelength λcc(nm)		≤1260nm
Micro bending Attenuation	@1550nm (1turns;Φ32mm)	≤0.05dB
	@1550nm (100turns;Φ60mm)	≤0.05dB
PMD		≤0.2ps/km$^{1/2}$
Link polarization dispersion (PMD_Q)		≤0.1ps/km$^{1/2}$
Geometrical characteristics		
Cladding diameter		125±1.0μm
Cladding non-circularity		≤1%
Core/cladding concentricity error		≤0.6μm
Fiber diameter with coating (uncolored)		245±7μm
Cladding/coating concentricity error		≤12.0μm
Mechanical characteristics		
Proof stress		≥0.69GPa
Fiber curl		≥4m
Coating strip force		1.0~8.9N