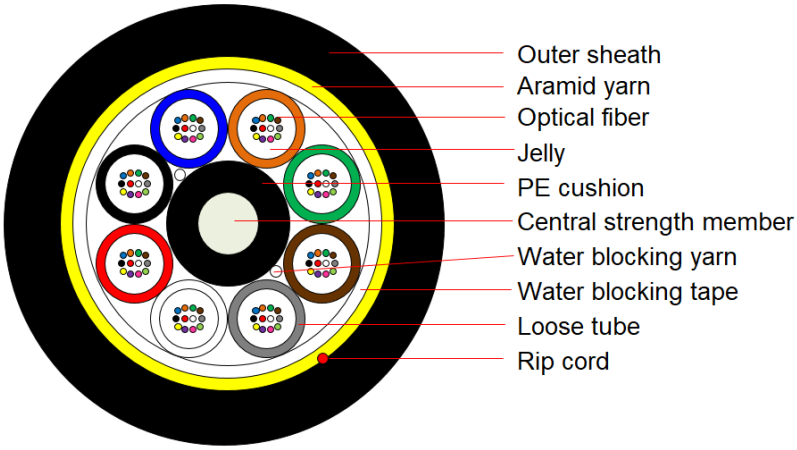
ADSS-Semi dry-100m

1. Cable cross-section (only for reference, not to scale)



2. Cable description

Loose tube construction, tubes with jelly and fibers inside, elements (tubes and fillers when necessary) laid up around non-metallic central strength member, yarns used to bind the cable core, water blocking tape wrapped, aramid yarns reinforced, 1 ripcord and PE sheath.

3. Reference

IEC 60793-1	Optical fiber Part 1: Generic specifications
IEC 60793-2	Optical fiber Part 2: Product specifications
IEC 60794-4-20	Aerial optical cables along electrical power lines-Family specification for ADSS(All Dielectric Self Supported) optical cables

4. Fiber & tube color

Fiber color code

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

Loose tube color code

For 6~144F

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

For 288F

Inner layer loose tubes color code

No.	1	2	3	4	5	6
Color	Blue	Orange	Green	Brown	Gray	White
No.	7	8	9			
Color	Red	Black	Yellow			

Outer layer loose tubes color code

No.	1	2	3	4	5	6
Color	Violet	Pink	Aqua	Blue with black tracer	Orange with black tracer	Green with black tracer
No.	7	8	9	10	11	12
Color	Brown with black tracer	Gray with black tracer	White with black tracer	Red with black tracer	Black with white tracer	Yellow with black tracer
No.	13	14	15			
Color	Violet with black tracer	Pink with black tracer	Aqua with black tracer			

Note: If there are any fillers, the color will be natural.

5. Structure parameter

Item	Contents	Unit	Value				
Fiber count	Number	/	6	12/24/48/72	96	144	288
Cable structure	/	/	1+6	1+6	1+8	1+12	1+9+15
Fiber No. per tube	Number	/	6	12	12	12	12
Loose tube	Material	/	PBT				
	Number	/	1	1/2/4/6	8	12	24
Central strength member	Material	/	FRP with cushion when necessary				
Cable diameter	±0.5	mm	10.0	10.0	11.7	14.6	16.8
Cable weight	±10%	kg/km	65	70/72/75/78	102	162	212
Weather condition	/	/	NESC Light				
Max. span	/	m	100				
Installation sag	/	%	≥1				
Max. tensile load	MAT	N	2200	2200	2500	3000	4100

Note: Sheath thickness not consider ripcord portion, sizes and values without tolerances are nominal values.
It's advised to notch the cable before splitting the sheath for better ripping.

6. Mechanical & Environmental Performance

Item	Contents	Value
Max. crush resistance	Short term	1000 N/100mm

Item	Contents	Value
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℃

7. Main mechanical & environmental performance test

Item	Test Method	Acceptance Condition
Tensile Strength IEC 60794-1-21-E1	- Load: MAT - Length of cable: ≥ 50m - Load time: 1min	- Fiber strain ≤ 0.33% - Loss change ≤ 0.15dB@1550nm after test. - No fiber break and no sheath damage.
Crush Test IEC 60794-1-21-E3	- Load: Short term crush - Load time: 1min	- Loss change ≤ 0.05dB@1550nm after test. - No fiber break and no sheath damage.
Impact Test IEC 60794-1-21-E4	- Points of impact: 3 - Times of per point: 1 - Impact energy: 3J	- Loss change ≤ 0.05dB@1550nm after test. - No fiber break and no sheath damage.
Repeated Bending IEC 60794-1-21-E6	- Bending radius: 20 x OD - No. of cycle: 25	- Loss change ≤ 0.05dB@1550nm after test. - No fiber break and no sheath damage.
Torsion IEC 60794-1-21-E7	- Length: 2m - Twist angle: ±180° - No. of cycle: 10	- Loss change ≤ 0.1dB@1550nm after test. - No fiber break and no sheath damage.
Water Penetration IEC 60794-1-22-F5B	- Height of water: 1m - Sample length: 3m - Time: 24h	- No water leak from the cable core of the opposite end.
Temperature Cycling IEC 60794-1-22-F1	- Temperature: -40℃~+70℃ - Time of each step: 12h - Number of cycles: 2	- Loss change ≤ 0.1dB/km @1550nm. - No fiber break and no sheath damage.

8. OPTICAL FIBER

Item	Contents	Value
G.652D Optical characteristics		
Attenuation	@1310nm	≤0.36dB/km
	@1550nm	≤0.22dB/km
Dispersion	@1288nm～1339nm	≤3.5ps/(nm·km)
	@1550nm	≤18ps/(nm·km)
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

Item	Contents	Value
Macro-bend loss	@1550nm (100turns;Φ60mm)	≤0.05dB
	@1625nm (100turns;Φ60mm)	≤0.10dB
Polarization mode dispersion (PMD) for maximum individual fiber		≤0.2ps/km$^{1/2}$