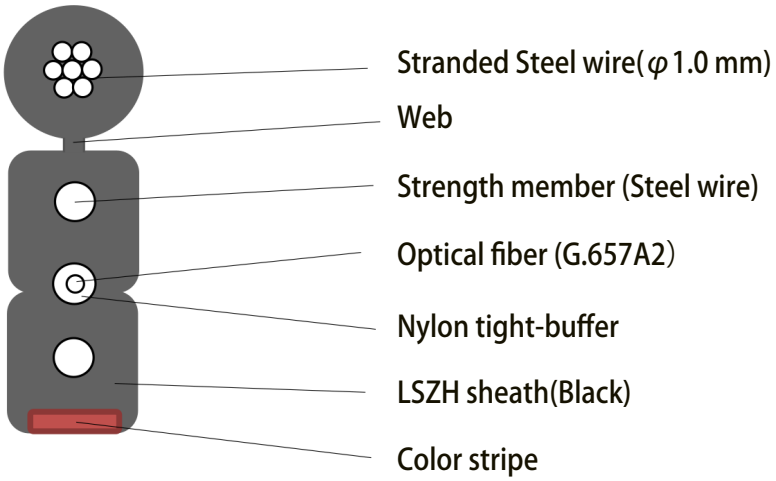
SELF SUPPORT STRANDED STEEL WIRE FLAT DROP CABLE

AR-2FLATDR-ZH-SSW-1F-G657A2- xxM-WM

CABLE DESCRIPTION

The optical fiber unit is positioned in the centre. Two parallel Steel Wires are placed at the two sides. A Stranded Steel wire(φ1.0 mm) as the additional strength member is also applied. Then, the cable is completed with a black or color LSZH sheath.



APPLICATION

Internal FTTH applications horizontal and riser, especially suitable for the last leg in FTTH systems.

CHARACTERISTICS

- Special low-bend-sensitivity fiber provides high bandwidth and excellent communication
transmission property.
- Two parallel steel wire strength members ensure good performance of crush resistance to protect the fiber.
- Simple structure, light weight and high practicability.
- Novel flute design, easily strip and splice, simplify the installation and maintenance.

OPTICAL FIBER IN CABLE (ITU-G.657A2)

Optical properties of the SM fiber are achieved through a germanium doped silica based core with a pure silica cladding which meets ITU-T G657A1/2, UV curable acrylate protective coating is applied over the glass cladding to provide the necessary maximum fiber lifetime.
Geometrical and optical mechanical characteristics of fiber in cable as the following table:

Category	Items	Unit	Description
Optical Characteristics	Attenuation at 1310 nm	dB/km	≤ 0.36
	Attenuation at 1550 nm	dB/km	≤ 0.22
	Dispersion coefficient nm @1285-1339 - @1550 - @1625	ps/(nm.km)	≤3.5 ≤18 ≤22
	Zero dispersion wavelength	nm	1300~1324
	Zero dispersion slope	ps/(nm2•km)	≤ 0.092
	Cable cut-off wavelength λcc	nm	≤ 1260
	Mode field diameter (MFD) at 1310 nm	μm	8.6±0.4
	Polarization Mode Dispersion PMD Maximum Individual Fibre PMD Link Design Value	ps/km$^{1/2}$	 ≤0.2 ≤0.1
Geometrical Characteristics	Cladding diameter	μm	125 ± 0.7
	Cladding non-circularity	%	≤1.0
	Coating diameter	μm	245±10
	Coating/cladding concentricity error	μm	≤ 12.0
	Core/cladding concentricity error	μm	≤0.6
	Coating/cladding concentricity error	μm	≤ 12.0
	Coating non-circularity	%	≤ 6.0
	Curl (radius)	m	≥4
Mechanical Characteristics	Proof test off line	N % kpsi	≥8.6 ≥1.0 ≥100
	Bending Dependence Induced Attenuation nm	dB	10 turns, 30mm diameter @1550: ≤0.03 @1625:≤0.1
			1 turns, 20mm diameter @1550: ≤0.1 @1625: ≤0.2
			1 turns, 15mm diameter @1550: ≤0.5 @1625: ≤1.0
	Temperature Dependence Induced Attenuation -60℃~ +85℃ @ 1310 & 1550nm		≤ 0.05 dB/km

CABLE DIMENSIONS AND CONSTRUCTIONS

Items			Descriptions	
Optical Fiber	Fiber count		1	2
	Color		Blue	Blue / Orange
Strength Member	Material	Steel Wires		Steel Wires
	Diameter	0.5 mm		0.5 mm
Messenger wire	Material	Stranded Steel wire		Steel wire
	Diameter	1.0 mm		1.0 mm
Outer Sheath	Material	LSZH		LSZH
	Thickness	≥0.4 mm		≥0.4 mm
	Color	Black		Black
Cable Diameter		2.0(±0.2)*3.0(±0.2) mm		2.0(±0.2)*5.0(±0.2) mm
Cable Weight	Net Weight	Approx. 22kg/km		Approx. 22kg/km

MECHANICAL AND ENVIRONMENTAL CHARACTERISTICS

Items	Test Method	Descriptions	Acceptance criteria
Amount of hydrogen halogen gases	IEC 60754-1, IEC 61034-2		<0,5 % y Ph ≥4.3
Oxygen index	ASTM D-2863-74		26%
Smoke opacity	IEC 61034-2		Optical density ≥60%
Flame retardant	IEC 60332-1	Maximum carbonization under the fixing clamp	50mm
Tensile performance Short-Term	EIA-RS-455-33A, IEC 60794-1-21-E1	Short-Term	660 N
Tensile performance Long-Term	EIA-RS-455-33A, IEC 60794-1-21-E1	Long-Term	440 N
Crush Resistance	IEC 60794-1-21 metodo E3	Duration of load: 15 min Load:1000 N / 10 cm	Additional attenuation: ≤ 0.01dB. No damage to outer jacket and inner elements.
Impact Resistance	IEC 60794-1-21 método E4	Impact: 25 , Load: 5 J	Additional attenuation: ≤ 0.01dB. No damage to outer jacket and inner elements.
Torsion	IEC 60794-1-21-E7	Cycles: 10 Load: 25 N	Additional attenuation: ≤ 0.01dB. No damage to outer jacket and inner elements.
Repeat Bending	IEC 60794-1-2 Method E6	Turns: 100 Load: 25 N Angle: 90	Additional attenuation: ≤ 0.05dB. No damage to outer jacket and inner elements.

Items	Test Method	Descriptions	Acceptance criteria
Cable Bend	IEC 60794-1-21 E11A		3cm
Strength and elongation of the Sheat	ASTM D-638-84	75 daN/cm2 - 100 daN/cm2	Additional attenuation: ≤ 0.05dB. No damage to outer jacket and inner elements.
Shrinkage of the Sheat	EIA-RS-455-86		< 5%
Carbon Black	ASTM D1765	Short-Term	2,6 +/- 0,25 %
Persistencia del color	Visual after deterioration		120 hs @ 85ºC +/- 2ºC
Sheat marking resistance	IEC 60794-1-21 E2B método 2	100 ciclos de 5 N	No change after test
Insertion loss	IEC 61300-3-4- método B		Tipica ≤ 0.20 dB Máxima ≤ 0.40 Db
Return Loss (ORL)	IEC 61300-3-6 método 1		ORL ≥ 60 dB
Repetitiveness	IEC 61300-2-2	Turns:500	0,20db

PACKING

Cables are coiled on wooden or plastic drum. During transportation, right tools should be used to avoid damaging the package and to handle with ease.
Cables should be protected from moisture; kept away from high temperature and fire sparks; protected from over bending and crushing; protected from mechanical stress and damage.

MARKING

Unless otherwise specified, the cable sheath marking shall be as follows:
• Color: White or Black
• Contents: Telecom, Cable manufacturer or owner, purchase order, the type of cable, product code, manufacturing date, length marking.
• Interval: 1m.

DELIVERY LENGTH

Delivery Length : 0.5 Km/drum and 1 Km/drum