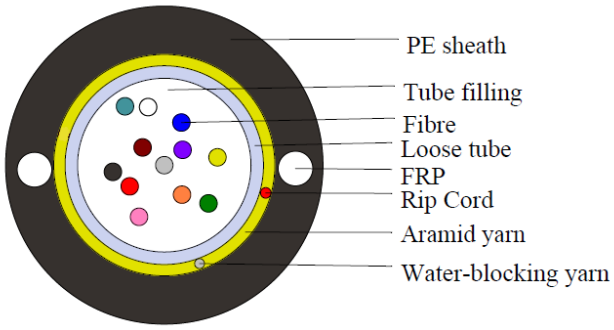
Product Information

AeroDROP75R: Aerial fiber optic drop cable cable, gel-filled central tube ø=2.5 mm, 1250N. 1÷12 optical fibres. Outer sheath: black PE, resistant to UV radiation. Max span length: 75m. Euroclass Fca.

No. Card: PI_AeroDROP75R_03.19



Fca
CPR

Application

AeroDROP75R (ADR75R) aerial fiber optic drop cables are designed for overhead applications by installation on a pole with using clamps suspensions or installed by blowing or laying and mechanical hauling in duct and cable ducts (with permanent control of cable tension). A typical central tube construction with two longitudinal strength FRP elements in jacket and reinforced with aramid yarns in the cable core. The cables typically contain G657A1 single mode fibre, other kind of fiber available on request.

Product overwiev

- For overhead installations using anchoring clamps and cable suspension designed for ADSS cables, as well as for installation in telecommunication ducts and laying in ducts and cable ducts
- Fully dielectric
- Unitube construction with two longitudinal strength elements in outer jacket, SM or MM fibres in one central loose tube
- Single jacket, PE, UV resistant
- Reinforced with aramid yarns

Standards

IEC, PN-EN 60793-1-1
IEC , PN-EN 60794-1-1
IEC , PN-EN 60794-1-2
IEC , PN-EN 60794-1-22
IEC, PN-EN 60794-3-10
IEC, PN-EN 60794-3-20
IEC, PN-EN 62949
ISO 11801 2-ga edycja
PN-EN 50173-1
ZN-OPL-005-2-17
ITUT G.657A1
ITUT G.657A2

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Construction

Strength members	Two 0.8 mm longitudinal Fibre Reinforced Plastic (FRP) to provide tensile strength and anti-buckling properties
Loose tube	PBT, Ø 2.5 mm filled with thixotropic gel
Peripheral strength member	Aramid yarn
Water barier material	Water blocking yarn
Ripcord	Polyester cord for easy sheath stripping
Cable sheath	Nominal thickness - 1.5 mm black PE, UV stabilised
Tensile load reinforcement	Aramid yarn with volume needed to reach expected MAT load of cable

Installation conditions

Property		Value
Temperature range	Transportation & Storage	-30°C + 70°C
	Installation	-5°C + 55°C
	Operation	-30°C + 70°C
Overhead installation calculation parameters	Span for NESC Heavy: (calculation)	75 m
	Maximum Acceptable Tension (MAT)	1250 N
	Initial sag	1.3 %
Minimum bending radius	During Installation	20 x cable Ø
	After Installation	10 x cable Ø

Mechanical fibre cable parameters

Property	Test method	Value scored	Requirements
Maximum Tension (MAT)	IEC 60794–1-2-E1A or E1B Sample length: Not less than 50m. Wheel diameter: 1m Duration time: 10min.	1250 N	0,6% fibre strain, Δα < 0.1 dB, Δα reversible No damage to outer jacket and inner elements
Crush	IEC 60794–1–2-E3 Crush length: 100 mm Crush points: 3 Distance: 500mm Duration time: 5min.	500 N / 100 mm	Δα < 0.1 dB No damage to outer jacket and inner elements
Impact	IEC 60794–1–2-E4 Radius: 10mm or 300 mmm Impact energy: 1J for R=10mm Impact number: 1 Impact points: 3	4.5J, 3 impacts, R= 300 mm	Δα < 0.1 dB No damage to outer jacket and inner elements
Torsion	IEC 60794–1–2-E7 Cycles:5 Length under test: 2m Turns: 180°(+/- 90°), Load: 20N	150N, 360°(+/- 180°), 5 cycles	Δα < 0.1 dB No damage to outer jacket and inner elements
Repeated bending	IEC 60794–1–2-E6 Bending radius: 20*D Cycles: 25 Time=2s Load: 40N	R=20x D, 150N, 25 cycles	Δα < 0.1 dB No damage to outer jacket and inner elements
Temperature cycling	PN-EN 60794-1-22-F1 Sample length: at least 500m Temperature range: -30℃~+70℃ Cycles: 2 Time: 24 hours Temp. change speed: 20°C/h	Pass	Δα < 0.1 dB, , Δα reversible No damage to outer jacket and inner elements

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Mechanical fibre cable parameters con.

Property	Test method	Value scored	Requirements
Aging	PN-EN 60794-1-22-F9 Sample length: at least 1000m Temp.: +85℃ Cycles: 1 Time: 168 hours	Pass	Δα < 0.1 dB, , Δα reversible No damage to outer jacket and inner elements
UV resistance	PN-EN 60794-1-22-F14 Material of jacket approval Samples amount: 6 Time: 4000 hours	Pass	After the test, the average stress and elongation of the sample not less than 80% of the initial values
Water Penetration	PN-EN 60794-1–22-F5B Time : 24 hours Sample length : 1m Water height : 1m	Pass	No water leakage at far end
Jacket abrassion	IEC 60794–1–2-E2A Cycles : 500 Sample length : 1m Load 4N	Pass	No damage for integrity of outer jacket
Printing abrassion	IEC 60794–1–2-E2B/2 Cycles : 100 Sample length : 1m Load 4N	Pass	Printing fully visible after test

Transmission parameters

Parameter		Specification	
		G657A1	G657A2
Fibre type: SM (OS2) ; Mode field diameter [nm]		@ 1310: 9.2 ± 0.4 @ 1550: 10.4 ± 0.5	@ 1310: 8.8 ± 0.4 @ 1550: 9.8 ± 0.5
Attenuation	@ 1310 nm	Before cable ≤ 0.34 dB/km; after cable ≤ 0.35 dB/km	
	@ 1550 nm	Before cable ≤ 0.20 dB/km; after cable ≤ 0.22 dB/km	
Dispersion coefficient	1285 – 1340 nm	≥-3.4 ≤ 3.4 ps/(nm·km)	
	1550 nm	≤ 18 ps/(nm·km)	
	1625 nm	≤ 22 ps/(nm·km)	
Zero dispersion wavelength		1312 ± 12 nm	
Zero dispersion slope		≤ 0.092 ps/(nm^2·km)	≤ 0.092 ps/(nm^2·km)
Cable cut-off wavelength		≤ 1260 nm	
Polarization mode dispersion	individual fibre	≤ 0.15 ps√km	≤ 0.10 ps√km
	design link value (M=20, Q=0.01%)	≤ 0.10 ps√km	≤ 0.06 ps√km
Cladding diameter		125.0 ± 1 µm	
Cladding non-circularity		≤ 1.0 %	≤ 0.70 %
Core concentricity error		≤ 0.6µm	
Coating diameter		245± 7 µm (Uncolored) 250 ± 15 µm (Colored)	
Coating/cladding concentricity error		≤12µm	
Proof stress level		≥100kpsi (0.69 GPa)	
Coating strip force(peak value)		1.3~8.9N	

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Colour Details

Fiber color code (accor. IEC 60304 Table 3 & ZN-OPL-005-02/17)	red blue white green violet orange grey yellow brown pink black aqua
Tube color code (accor. IEC 60304 Table 3 & ZN-OPL-005-02/17)	1 pc, Neutral
Cable Sheath Marking	Printing embossed (hot-foil) white colour, Interval: 1±0.2% m. Printing losses and failure according to Bellcore GR 20 standard. Outer sheath marking legend can be changed according to user's requests.
Marking contents	BKTe~<the year of manufacture>Y~< cable type, fiber number & type>, (tube x no.fibers),<color & fiber
Marking example	BKTe~2019Y~ AERODROP75R 12J7A(1x12)BC~ OPTICAL CABLE 12 SMF G657A1~ID:1906VVA001 ~<length>M~

Packing

The cables are packed in fumigated wooden drums and protected by batten wood bar seals around drum. Both ends of the cable will be sealed with suitable plastic caps to prevent the entry of moisture during shipping, handling and storage. The inner end is available for testing. The arrow indicating the direction of rotation is applied to the drum. The drums are permanently marked with a BKT plate or identification tag including information about cable type and batch of production.

Reel length

Standard reel length: 4km, 6km,8 km per reel with +/- 5% drum length tolerance

Cable dimension and weight

Cable outer diameter [-/+0.3mm]	6.4mm
Cable weight (nominal) [-/+5 kg]	30 kg/km

Performance/Variants

Index	Number of fibres	Product description
ADP75N-001C11XBFB	1J (1x1)	FO BKT AeroDROP75R 01J (1x6) SM G657A1 250µm 1250N /500N Euroclass Fca
ADP75N-002C12XBFB	2J (1x2)	FO BKT AeroDROP75R 02J (1x2) SM G657A1 250µm 1250N /500N Euroclass Fca
ADP75N-004C14XBFB	4J (1x4)	FO BKT AeroDROP75R 04J (1x4) SM G657A1 250µm 1250N /500N Euroclass Fca
ADP75N-006C16XBFB	6J (1x6)	FO BKT AeroDROP75R 06J (1x6) SM G657A1 250µm 1250N /500N Euroclass Fca
ADP75N-008C18XBFB	8J (1x8)	FO BKT AeroDROP75R 08J (1x8) SM G657A1 250µm 1250N /500N Euroclass Fca
ADP75N-012C1BXBFB	12J (1x12)	FO BKT AeroDROP75R 12J (1x12) SM G657A1 250µm 1250N /500N Euroclass Fca
ADP75N-001D11XBFB	1J (1x1)	FO BKT AeroDROP75R 01J (1x6) SM G657A1 250µm 1250N /500N Euroclass Fca
ADP75N-002D12XBFB	2J (1x2)	FO BKT AeroDROP75R 02J (1x2) SM G657A1 250µm 1250N /500N Euroclass Fca
ADP75N-004D14XBFB	4J (1x4)	FO BKT AeroDROP75R 04J (1x4) SM G657A1 250µm 1250N /500N Euroclass Fca
ADP75N-006D16XBFB	6J (1x6)	FO BKT AeroDROP75R 06J (1x6) SM G657A1 250µm 1250N /500N Euroclass Fca
ADP75N-008D18XBFB	8J (1x8)	FO BKT AeroDROP75R 08J (1x8) SM G657A1 250µm 1250N /500N Euroclass Fca
ADP75N-012D1BXBFB	12J (1x12)	FO BKT AeroDROP75R 12J (1x12) SM G657A1 250µm 1250N /500N Euroclass Fca

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