

10014438 - DROP INT/WHT SM 01F G657a2 Cca 2.0MM LC/APC-LC/APC 50M

Product Overview

The Hexatronic Internal FTTx Drop Cable meets indoor fibre optic distribution requirements and is CPR rated to Cca.

Crush resistant and suitable for installation with a bend radius down to 7.5mm.

Applications

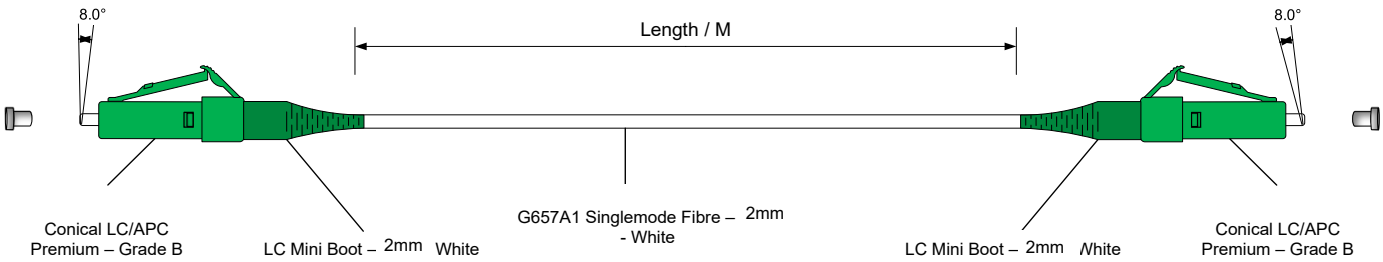
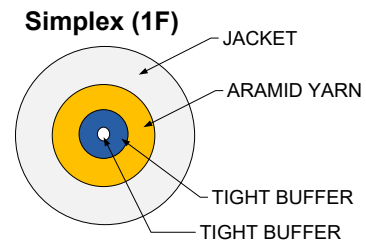
- FTTH Deployments
- Multi-Dwelling Fibre Distribution
- FTTD
- Data Centers

Features

- ITU-T G.657a1 bend insensitive fiber
- Tight buffered
- Discreet, white coloring
- Small cable outer diameter
- High tensile strength Aramid yarn
- LSZH cables compliant to Cca -s1a, d0 -a1
- Compliant to directive 2002/95/EC (RoHS)

Specifications

Characteristics	Conditions	Value Max
Insertion loss	Random mated	0.25 dB max. for >97% of samples
Insertion loss	Against reference cable	≤ 0.12 dB mean
Return loss	APC	>65 dB



Classification of CPR

Fire Behavior	Smoke Production	Flaming Droplets	Acidity	AVCP System
Cca2	S1a	d0	A1	1+

- CPR: Construction products regulation
- AVCP: Assessment and verification of constancy of performance
- Cca: Limited contribution to fire

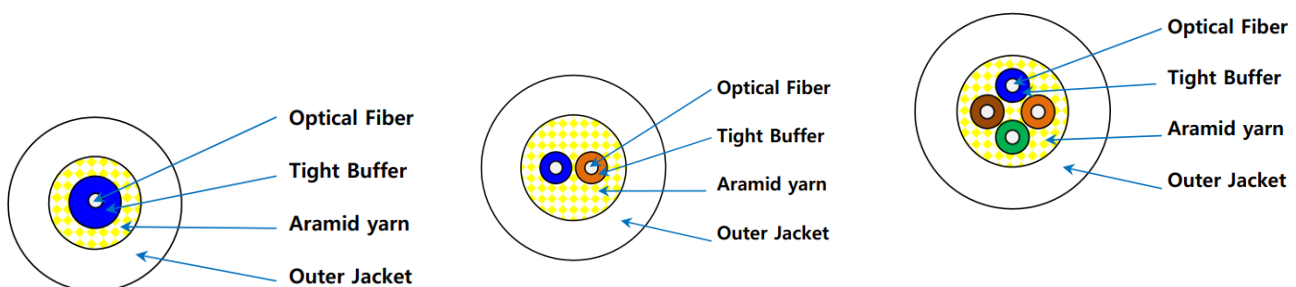
Cable Types

No of Fibers/Product Code	Optical Fiber	Buffer	Strength Member	Jacket Outer	Designation Type
1F : TOL4063011/1C3	Single mode fiber (G657.A2) or (G657.B3)	Tight buffer (LSZH PO)	Aramid yarn	LSZH PO	Round Cord Cca-s1a,d0,a1
2F : TOL4063012/2C3					
4F : TOL4063012/4C3					

Cable Data

No of Fibers	Tight Buffer Diameter (μm)	Overall Diameter (mm)	Approx. Cable Weight (kg/km)	Cable Bending Radius (mm)	Max Tensile Load	
					Installation (N)	Operation (N)
1F	900±50	3.0±0.2	9	30	400	200
			9.5			
2F	600±50	3.5±0.2	12	35	400	200
			12.5			
4F	600±50	3.5±0.2	13	35	400	200
			13.5			

Cable Cross Sections



Construction & Material

Cable Type: Round Cord 1, 2, 4C – No.1. CPR Cca-s1,d0,a1				
Construction	Description	Particulars		
Cable Type		No. 1 -1	No. 1 -2	No. 1 -3
Number of Fibers		1C (Simplex)	2C (Duplex)	4C (Quad)
Optical Fiber	Type	Bend insensitive Single mode fiber (refer table 3); i) SM G65A2 (OS2, B6.a) ii) SM G.657B3 (OS2, B6.b)		
	Specification	(ITU-T G.657, ISO/IEC 11801, IEC 60793-2-50)		
Tight Buffer	Material	LSZH PO		
	Diameter	0.9 ± 0.05 mm	0.6 ± 0.05 mm	0.6 ± 0.05 mm
	Color	BL	BL, OR	BL, OR, GN, BR
		(other color scheme may be applicable)		
Strength member	Material	Aramid yarn		
4.1.4. Outer Jacket	Material (material code)	LSZH PO (CPR)		
	Diameter	3.0 ± 0.2 mm	3.5 ± 0.2 mm	3.5 ± 0.2 mm
	Color	UV Stable White		
Cable Marking				
Methods		Marking legends		
- Method: Ink jet printing - Color: Black - Interval: 1meter (or feet)		- Length marking - Type of cable and optical fiber - Number of fiber - Jacket material - Manufacturer name or trade mark - Trace number - Year of manufacture		

Fibre Specification

Attribute	Detail	Unit	Specification	
			ITU-T G.657 (ISO/IEC11801 OS2)	
			G.657A2	G.657B3
Attenuation Coefficient	at 1310nm	dB/km	≤ 0.4	
	at 1550nm		≤ 0.3	
Chromatic Dispersion	at 1290nm ~ 1330nm	ps/nm.km	≤ 2.8	
	at 1550 nm		≤ 18	
Zero Dispersion Wavelength		nm	1300 ~ 1322	
Zero Dispersion Slope		ps/nm ² .km	≤ 0.095	
PMD Coefficient		ps/ $\sqrt{\text{km}}$	≤ 0.4	
Cut-off Wavelength		nm	≤ 1260	
Mode Field Diameter	at 1310nm	μm	8.6 ± 0.5	
Cladding Diameter		μm	125 ± 1	
Core/Clad concentricity error		μm	≤ 0.8	
Cladding Non-circularity		%	≤ 1	
Coating Diameter		μm	245 ± 15	
Macro bending loss (un-cabled fiber)		Radius (mm)	7.5	5
		at 1550 nm (dB)	≤ 0.5	≤ 0.15

Classification of Reaction to Fire Test

The following test shall be carried out in accordance with EN 13501-6.

The test result may be reported by accredited institution.

Test	Class	Criteria	Specification
Flame retardant (singled vertical)	common	H: ≤ 425 mm	IEC 60332-1-2
Flame retardant (bundled vertical)	Cca	FS: ≤ 2.0 m THR1200sec: ≤ 30 MJ HRRpeak: ≤ 60 kW FIGRA: ≤ 300 W/s	EN 50399
Flaming droplets	d0	No flaming droplets/particles occur within 1200 sec.	
TSP/SPR	(s1)	TSP1200sec: ≤ 50 m ² SPRpeak: 0.25m ² /s	
Smoke density	s1a	Transmittance: $\geq 80\%$	IEC 61034-2
Acidity	a1	pH: > 4.3	IEC 60754-2
Conductivity		Conductivity: < 2.5 $\mu\text{S}/\text{mm}$	IEC 60754-2

Cable Performance

Test	Condition	Criteria	Specification
Tensile strength	Applicable tensile load are followed by table 2.	after: ≤ 0.2 dB	IEC 60794-1-21-E1
Crush	Loadmax=500N/10 cm, 5min., 3point	after: ≤ 0.2 dB	IEC 60794-1-21-E3
Impact	3J, 1impact, 3point	after: ≤ 0.2 dB	IEC 60794-1-21-E4
Repeated Bend	3bend, 3cycles, 15xD.	after: ≤ 0.2 dB	IEC 60794-1-21-E6
Torsion	$\pm 180^\circ$, 2m, 10 cycle	after: ≤ 0.2 dB	IEC 60794-1-21-E7
Bend	$\pm 180^\circ$, 20xD, 10 cycle	after: ≤ 0.2 dB	IEC 60794-1-21-E11
Temperature	- Temperature		
cycling test	: $+20^\circ \rightarrow -20^\circ \rightarrow +75^\circ$ $\rightarrow -20^\circ \rightarrow +75^\circ \rightarrow +20^\circ$ Duration time: 12hr	after: ≤ 0.2 dB/km	IEC 60794-1-22-F1
Water Penetration	1m height, 3m length, 24hr	No leakage of water	IEC 60794-1-22-F5B
UV resistance test	300hrs, xenon-arc, 1 cycle	$\geq 85\%$	UL 1581
Flame retardant	$\geq 85\%$	UL 1581	IEC 60332-1-2

Optical Attenuation (Method C of IEC 60793-1-40)

Properties	Mode	Wavelength	Value
Attenuation	SM	1310 nm	≤ 0.4 dB/km
		1550 nm	≤ 0.3 dB/km
		1625 nm	≤ 0.34 dB/km

Ordering Information

Part number	Description
FTAC-CCA220-ALCALC-M050W	DROP INT/WHT SM 01F G657a2 Cca 2.0MM LC/APC-LC/APC 50M