CBi electric Telecom Cables (Pty) Ltd
3 Marthinus Ras Street, Brits, North West
Tel : 012 381 1400
Fax : 012 250 3412

DUPLEX RUGGEDISED

APPLICATION

- Indoor Distribution
- Tails and Patch Cords
- Risers

DUPLEX CABLES

CONSTRUCTION

BUFFERING	Nylon (Polyamide) 0.9mm up coated
FIBRES	2 coated fibres
PERIPHERAL STRENGTH MEMBER	Aramid
SHEATHING	PVC – Polyvinyl Chloride or LSZH – Low Smoke Zero Halogen

MECHANICAL PROPERTIES

FIBRE COUNT	NUMBER OF ELEMENTS	CABLE DIAMETER NOMINAL (mm)	CABLE WEIGHT (kg/km)	MAXIMUM INSTALLATION LOAD (N)	OPERATION TEMPERATURE RANGE	BENDING RADIUS	
						LONG TERM	SHORT TERM
2	2	4.6 x 7.8 (Flat twin)	38	300 Short term	-10°C to 40°C	20 x OD	10 x OD
2	2	2.8 x 5.8 (Zip cord)	18	300 Short term	-10°C to 40°C		

FIBRE AND BUFFER COLOURS AS TIA/EIA

1	Blue	2	Orange	3	Green	4	Brown	5	Grey	6	White
7	Red	8	Black	9	Yellow	10	Violet	11	Pink	12	Turquoise

Single Mode Sheath Standard Colour	Multimode OM2 Standard Colour	Multimode OM3 & OM4 Standard Colour
Yellow	Orange	Turquoise

ORDERING INFORMATION

FIBRE COUNT	CABLE TYPE	FIBRE TYPE ITU-T	SHEATH TYPE	DRUM QUANTITY (m)
2	Duplex	G657.A1	PVC	2000

CBi electric Telecom Cables (Pty) Ltd
3 Marthinus Ras Street, Brits, North West
Tel : 012 381 1400
Fax : 012 250 3412

DUPLEX RUGGEDISED

OPTICAL PROPERTIES (Bend tolerant Multi-Mode)

CHARACTERISTICS		ITU-T G.651 OM2	ITU-T G.651 OM3	ITU-T G.651 OM4
Fibre Core Diameter (µm)		50.0 ± 2.5	50.0 ± 2.5	50.0 ± 2.5
Cabled Attenuation (dB/km)	850nm	≤ 3	≤ 2.5	≤ 2.5
	1300nm	≤ 1	≤ 0.7	≤ 0.7
Macro-Bend Loss	850nm	Ø15mm, 2turns, ≤ 0.2dB	Ø15mm, 2turns, ≤ 0.2dB	Ø15mm, 2turns, ≤ 0.2dB
		Ø30mm, 2turns, ≤ 0.1dB	Ø30mm, 2turns, ≤ 0.1dB	Ø30mm, 2turns, ≤ 0.1dB
		Ø75mm, 100turns, ≤ 0.05dB	Ø75mm, 100turns, ≤ 0.05dB	Ø75mm, 100turns, ≤ 0.05dB
	1300nm	Ø15mm, 2turns, ≤ 0.5dB	Ø15mm, 2turns, ≤ 0.5dB	Ø15mm, 2turns, ≤ 0.5dB
		Ø30mm, 2turns, ≤ 0.3dB	Ø30mm, 2turns, ≤ 0.3dB	Ø30mm, 2turns, ≤ 0.3dB
		Ø75mm, 100turns, ≤ 0.15dB	Ø75mm, 100turns, ≤ 0.15dB	Ø75mm, 100turns, ≤ 0.15dB
Bandwidth	High Performance EMB* (MHz.km)	950@850nm	2000@850nm	4700@850nm
		-	-	-
	Legacy Performance EMB** (MHz.km)	700@850nm	1500@850nm	3500@850nm
		500@1300nm	500@1300nm	500@1300nm
Optimised Data Rate over Distance		-	40/100 Gb/s over 140m***	40/100 Gb/s over 170m***
		10 Gb/s over 150m	10 Gb/s over 300m	10 Gb/s over 550m
		1 Gb/s over 750m	1 Gb/s over 1000m	1 Gb/s over 1100m
Cladding Diameter (µm)		125 ± 1	125 ± 1	125 ± 1
Cladding Non Circulatory (%)		≤ 1	≤ 1	≤ 1
Core-Clad Concentricity (µm)		≤ 1.5	≤ 1.5	≤ 1.5
Cable Cut-Off Wavelength (nm)			≤ 1260	≤ 1260

* Ensured via minEMBc per TIA 455-22A and IEC 60793-1-49, for high performance laser-based systems (up to 100Gb/s)

** OFLBW, per TIA/EIA 455-2-4 and IEC 60793-1-41, for legacy and LED-based systems (typically up to 100Mb/s)

*** Distances specified in the 40G/100G per IEEE 802.3ba standard are 150m for OM4 and 100m for OM3 (For these distances cabled attenuation ≤ 3.0dB/km and 1.0dB of connector loss is assumed.)

CBi electric Telecom Cables (Pty) Ltd
3 Marthinus Ras Street, Brits, North West
Tel : 012 381 1400
Fax : 012 250 3412

DUPLEX RUGGEDISED

OPTICAL PROPERTIES

CHARACTERISTICS		ITU-T.652D	ITU-T.657A1	ITU-T.651A2
Modefield Diameter (µm)	1310nm	9.2 ± 0.4	9.2 ± 0.4	8.6 ± 0.4
	1550nm	10.4 ± 0.5	10.4 ± 0.5	9.4 ± 0.5
Cabled Attenuation (dB/km)	1310nm	≤ 0.34	± 0.34	± 0.35
	1550nm	≤ 0.20	± 0.20	± 0.22
Polarization Mode Dispersion (ps/√km)	Link (PMDQ)	≤ 0.04	≤ 0.04	≤ 0.06
	Individual (PMDmax)	≤ 0.1	≤ 0.1	≤ 0.2
Chromatic Dispersion (ps/nm.km)	1285-1330nm	| 3 |	| 3 |	| 3 |
	1550nm	≤ 18	≤ 18	≤ 18
	1625nm	≤ 22	≤ 22	≤ 22
Macro-Bend Loss	1550nm	Ø32mm, 1turn, ≤ 0.03dB	Ø10mm, 1turn, ≤ 0.5dB	Ø7.5mm, 1turn, ≤ 0.4dB
		Ø50mm, 100turns, ≤ 0.03dB	Ø15mm, 10turns, ≤ 0.05dB	
			Ø25mm, 100turns, ≤ 0.01dB	
	1625nm		Ø10mm, 1turn, ≤ 1.5dB	Ø75mm, 1turn, ≤ 0.8dB
			Ø15mm, 10turns, ≤ 0.3dB	
		Ø50mm, 100turns, ≤ 0.03dB	Ø25mm, 100turns, ≤ 0.01dB	
Cladding Diameter (µm)		125 ± 0.7	125 ± 0.7	125 ± 0.7
Cladding Non Circulatory (%)		≤ 0.7	≤ 1	≤ 1
Core-Clad Concentricity (µm)		≤ 0.5	≤ 0.6	≤ 0.6
Cable Cut-Off Wavelength (nm)		≤ 1260	≤ 1260	≤ 1260
Local Variations : Cabled (dB)		≤ 0.1@1550nm	≤ 0.1@1550nm	≤ 0.1@1550nm