CBi electric Telecom Cables (Pty) Ltd
3 Marthinus Ras Street, Brits, North West
Tel : 012 381 1400
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STEEL WIRE ARMOUR FIBRE OPTIC CABLE

APPLICATION

- Direct buried, trench and duct installation
- Heavy Industry
- Double sheath construction
- Rodent resistant
- The low smoke fire retardant zero halogen non-toxic triple sheath design ensures maximum safety for a restricted area cabling system
- PE option also available

SWA CABLES

CONSTRUCTION

GRP/FRP	Glass reinforced plastic central strength, PE over sheathed in certain cases
LOOSE TUBE	PBT (Polybutylene Terephthalate) filled with thixotropic gel
FIBRES	Up to 6 colour coated fibres per tube. (8 fibres per tube for the 48 fibre count cable)
BEDDING SHEATH	Low Smoke Zero Halogen (LSZH) or PE
ARMOURING	Galvanised Steel Wire
SHEATHING	Low Smoke Zero Halogen (LSZH)

MECHANICAL PROPERTIES

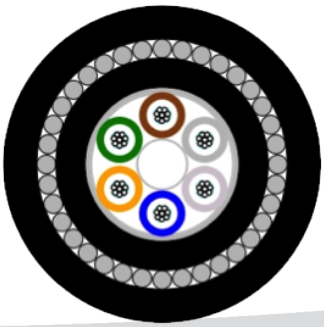
FIBRE COUNT	NUMBER OF ELEMENTS	CABLE DIAMETER NOMINAL (mm)	CABLE WEIGHT (kg/km)	MAXIMUM INSTALLATION LOAD (N)	OPERATION TEMPERATURE RANGE	BENDING RADIUS	
						LONG TERM	SHORT TERM
Up to 48	6	15	390 (LSZH) 320 (PE)	5000	-10°C to 70°C	20 x OD	15 x OD

FIBRE AND BUFFER COLOURS AS TIA/EIA

1	Blue	2	Orange	3	Green	4	Brown	5	Grey	6	White
7	Red	8	Black								

ORDERING INFORMATION

FIBRE COUNT	CABLE TYPE	FIBRE TYPE ITU-T	SHEATH MATERIAL	DRUM QUANTITY (m)
24	Steel Wire Armour (SWA)	G657.A1	LSZH	4000



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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.)

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OPTICAL PROPERTIES

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