C24: Properties of cabled BendBright®^{XS} Singlemode fibre

Enhanced bend insensitive, low water peak fibre; G.657.A2 and G.657.B2

General and application

This enhanced low macro bending sensitive, low water peak fibre, gives unsurpassed bending performance. The preferred use of the BendBright®^{XS} fibre is in office installations, for patch cords, interconnection cables and for Fibre-to-the-Home networks. The BendBright®^{XS} offers reduced bending radii for many cables types. The fibre fulfils the new ITU G.657 A2 and G.657 B2 specification (edition 2009), as well as G.652.D. The low macro bending sensitivity further guarantees that the 1625 nm window (L-band) will be available for future use in this bandwidth hungry environment

Standards and Norms

IEC 60793-2-50 Category B6_a and B6_b	EN 50 173-1:2007, cat. OS2
EN 60793-2-50: Class B6_a and B6_b	ISO/IEC 11801:2002, cat. OS2
ITU Recommendation G.657.A2 and G.657.B2 (2009)	ISO/IEC 24702:2006 cat. OS2 and OS1
ITU Recommendation G.652 designations A, B, C and D (2009)	IEEE 802.3 – 2002 incl. 802.3ae

Attenuation (cabled fibre) — IEC 60793-1-40

1310 nm	≤ 0.38 dB/km
1383 nm *	≤ 0.38 dB/km
1550 nm	≤ 0.23 dB/km
1625 nm	≤ 0.25 dB/km
Inhomogeneity of OTDR trace for any two 1000 metre fibre lengths	Max. 0.1 dB/km

** Including H2-ageing according to IEC 60793-2-50, type B.1.3, @1383nm*

Group index of refraction — IEC 60793-1-22

Group index of refraction at 1310 nm and 1550 nm	1.467
Group index of refraction at 1625 nm	1.468

Other properties — IEC 60793-1-xx

Cladding diameter	IEC/EN 60793-1-20	µm	125.0 ± 0.7
Cladding non-circularity	IEC/EN 60793-1-20	%	≤ 0.7
Core (MDF) -cladding concentricity error	IEC/EN 60793-1-20	µm	≤ 0.5
Primary coating diameter – ColorLock®^{XS} and natural	IEC/EN 60793-1-21	µm	242 ± 7
Primary coating non-circularity	IEC/EN 60793-1-21	%	≤ 5
Primary coating-cladding concentricity error	IEC/EN 60793-1-21	µm	≤ 12
Proof stress level	IEC/EN 60793-1-30	GPa	≥ 0.7 (≈ 1 %)
Strip force (peak)	IEC/EN 60793-1-32	N	1.2 ≤ $F_{peak.strip}$ ≤ 8.9
Static fatigue, aged n_s		-	>23
Chromatic dispersion coefficient: In the interval 1285 nm – 1330 nm At 1550 nm At 1625 nm	IEC/EN 60793-1-42	 ps/km • nm ps/km • nm	 ≤ |3.7| ≤ 18.5 ≤ 23.0
Zero dispersion wavelength, λ_0		nm	1300 - 1324
Zero dispersion slope		ps/(nm^2 • km)	≤ 0.092
Cut-off wavelength	IEC/EN 60793-1-44	λ_{cc} nm	≤ 1260 *
Mode field diameter at 1310 nm Mode field diameter at 1550 nm	IEC/EN 60793-1-45	µm µm	8.8 ± 0.4 9.8 ± 0.5
Macro bending loss 10 turns on a mandrel R = 15 mm, @1550nm 10 turns on a mandrel R = 15 mm, @1625nm 1 turn on a mandrel R = 10 mm, @1550nm 1 turn on a mandrel R = 10 mm, @1625nm 1 turn on a mandrel R = 7.5 mm, @1550nm 1 turn on a mandrel R = 7.5 mm, @1625nm	IEC/EN 60793-1-47	dB	 ≤ 0.03 ≤ 0.1 ≤ 0.1 ≤ 0.2 ≤ 0.5 ≤ 1.0
Polarisation mode dispersion (PMD) coefficient, cabled	IEC/EN 60793-1-48	ps/√km	≤ 0.1
PMD_Q Link Design Value**	IEC/EN 60794-3	ps/√km	≤ 0.06

** guaranteed value according to the ITU-T (ATM G650) method*

*** according to IEC 60794-3, Ed3 (Q=0.01%)*

All measurements in accordance with ITU-T G650 recommandations.

Note: The Draka Comteq Cable Solutions policy of continuous improvement may cause in changed specifications without prior notice

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