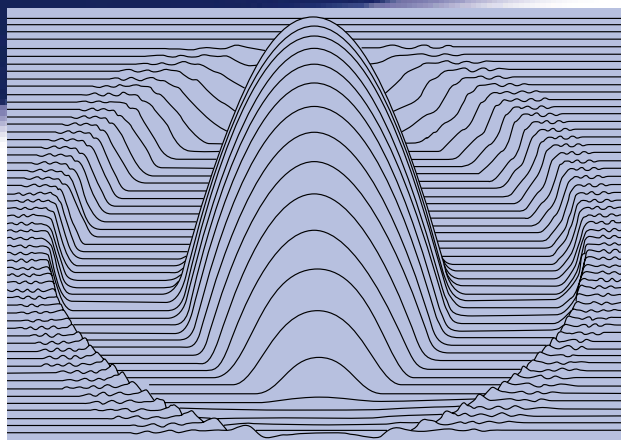
Graded-Index Multimode Optical Fibre.
Type: 62.5 / 125 µm

Draka Comteq

Product code: 457
Dual Layer Primary Coating (DLPC7)
Issue date: 11/ 01
Supersedes: 06/ 00



Fibre.

This graded-index 62.5/125 µm multimode fibre, product code 457, has a 62.5 µm core diameter and a 125 µm cladding diameter. The fibre is designed for use at 850 nm and/or 1300 nm.

This 62.5/125 µm fibre is suitable for use in premises wiring applications, like Local Area Networks (including backbone, riser and horizontal) with video, data and/or voice services using LED, VCSEL and Fabry-Perot laser sources at 850 nm or 1300 nm. This multimode fibre assures full compatibility with legacy systems, like Ethernet, FDDI, ATM and Fibre Channel. Because of the nature of the Plasma-activated Chemical Vapour Deposition (PCVD) manufacturing process, this fibre offers the highest bandwidth available in the market.

The fibre complies with or exceeds the ITU Recommendation G.651 or the IEC 60793-2-10 type A1b Optical Fibre Specification.

Coating.

The multimode fibre is coated with a dual layer UV curable acrylate, type DLPC7. Designed for more stringent tight-buffer cable applications, the fibre also performs perfectly in loose tube buffer constructions and demonstrates a high resistance to microbending.

The coating offers an excellent stable coating strip force over a wide range of environmental conditions and coating stripping leaves no residues on the bare glass fibre. In tight buffer applications the entire coating construction (tight buffer and primary coating) can in general very easily be stripped off.

The DLPC7 coated fibres show unique high and stable values for the dynamic stress corrosion susceptibility parameter (n_d), which offers a greatly improved mechanical protection to the optical fibre when used in harsh environments.

Process.

This multimode fibre is manufactured using the PCVD process. Because of the inherent high quality of the graded refractive index profile, multimode fibres, manufactured with the PCVD process, show excellent modal bandwidth performance.

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Specifications
Graded-Index Multimode Optical Fibre.
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Characteristics	Conditions	Specified Values			Units
Optical Characteristics					
Attenuation Coefficient	850 nm	≤ 2.7	≤ 2.8	≤ 3.0	[dB/km]
	1300 nm	≤ 0.5	≤ 0.6	≤ 0.7	[dB/km]
Minumum Modal Bandwidth [1,2]	850 nm			160 to > 300	[MHz.km]
	1300 nm			500 to > 1000	[MHz.km]
Numerical Aperture				0.275 ± 0.015	
Chromatic Dispersion				FDDI Spec	
Backscatter Characteristics [3]	1300 nm				
Step [4]				≤ 0.1	[dB]
Irregularities over fibre length				≤ 0.1	[dB]
Reflections				Not allowed	
Group Index of Refraction (Typical)	850 nm			1.496	
	1300 nm			1.491	
Geometrical Characteristics					
Core Diameter				62.5 ± 2.5	[µm]
Core Non-Circularity				≤ 6.0	[%]
Core / Cladding Concentricity Error				≤ 1.5	[µm]
Cladding Diameter				125.0 ± 2.0	[µm]
Cladding Non-Circularity				≤ 1.0	[%]
Coating Diameter				245 ± 10	[µm]
Coating Non-Circularity				≤ 6	[%]
Coating Concentricity Error				≤ 12.5	[µm]
Length		Standard lengths up to		8.8	[km]
Environmental Characteristics					
Temperature Dependence	850 nm, 1300 nm				
Induced Attenuation	-60°C to +85°C			≤ 0.1	[dB/km]
Temperature and Humidity Cycling	850 nm, 1300 nm				
Induced Attenuation	-10°C to +85°C, 90% R.H.			≤ 0.2	[dB/km]
Watersoak Dependence	850 nm, 1300 nm				
Induced Attenuation	20°C for 30 days			≤ 0.2	[dB/km]
Damp Heat Dependence	850 nm, 1300 nm				
Induced Attenuation	85°C, 85% R.H., 30 days			≤ 0.2	[dB/km]
Mechanical Characteristics					
Proof Test	off line			≥ 8.8	[N]
				≥ 1.0	[%]
				≥ 100	[KPSI]
				≥ 0.7	[GPa]
Bending Dependence	850 nm, 1300 nm				
Induced Attenuation	100 turns, 75 mm diameter			≤ 0.5	[dB]
Dynamic Stress Corrosion					
Susceptibility Parameter (Typical)				≥ 27	
Coating Strip Force	Typical average force			1.4	[N]
	Peak force		≥ 1.3	≤ 8.9	[N]

1. The modal bandwidth is linearly normalised to 1 km, according to IEC 60793-2-10.
2. Dual window bandwidth specifications are selectable; possibilities are:

850 nm	1300 nm
160	500 MHz.km
200	600 MHz.km
250	800 MHz.km

3. OTDR measurement with 0.5 µs pulse width.
4. Mean of bi-directional measurement.