

Fibre Optic Cable

General Cable Specification

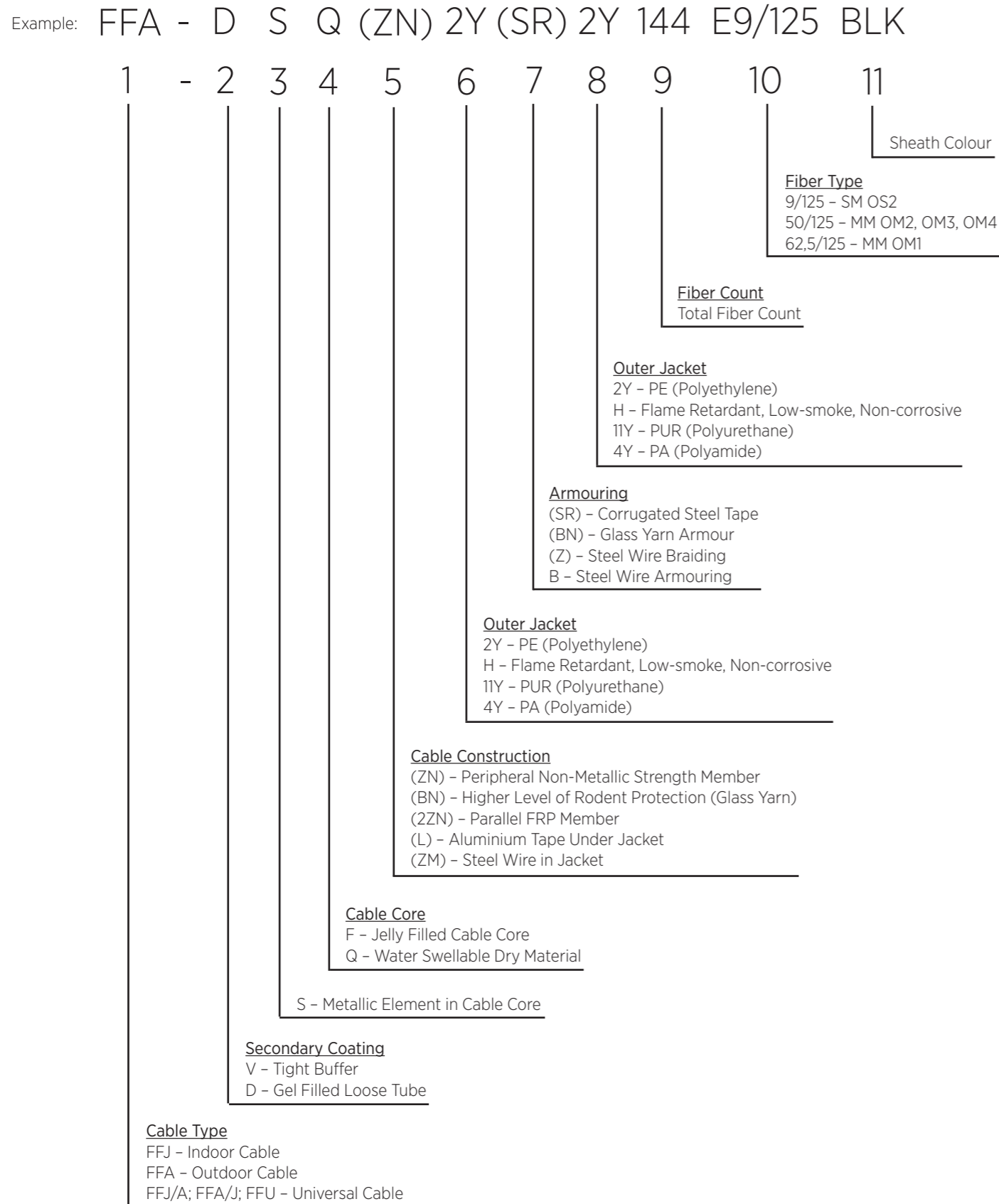


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Coding of Fiber Optic Cables According to The Vde 0888

Colour Coding Charts



	IEC 60304 (Standard)		TIA/EIA 598	
	Tight Buffer	Loose Tube	Tight Buffer	Loose Tube
1	Red	Red	Blue	Blue
2	Green	Green	Orange	Orange
3	Blue	Blue	Green	Green
4	Yellow	Yellow	Brown	Brown
5	White	White	Grey	Grey
6	Grey	Grey	White	White
7	Brown	Brown	Red	Red
8	Violet	Violet		
9	Aqua	Aqua	Yellow	Yellow
10			Violet	Violet
11	Orange	Orange	Pink	Pink
12	Pink	Pink	Aqua	Aqua
13	Red + Black strip	Red + Black strip	Blue + Black strip	Blue + Black strip
14	Green + Black strip	Green + Black strip	Orange + Black strip	Orange + Black strip
15	Blue + Black strip	Blue + Black strip	Green + Black strip	Green + Black strip
16	Yellow + Black strip	Yellow + Black strip	Brown + Black strip	Brown + Black strip
17	White + Black strip	White + Black strip	Grey + Black strip	Grey + Black strip
18	Grey + Black strip	Grey + Black strip	White + Black strip	White + Black strip
19	Brown + Black strip	Brown + Black strip	Red + Black strip	Red + Black strip
20	Violet + Black strip	Violet + Black strip		Natur + Black strip
21	Aqua + Black strip	Aqua + Black strip	Yellow + Black strip	Yellow + Black strip
22		Natur + Black strip	Violet + Black strip	Violet + Black strip
23	Orange + Black strip	Orange + Black strip	Pink + Black strip	Pink + Black strip
24	Pink + Black strip	Pink + Black strip	Aqua + Black strip	Aqua + Black strip

Multi Loose Tube - Tubes Colour Code	
1	Red
2	Green
Rest	Natur/White

Tight Buffered Cables - Sheath Colour	
SM E9/125	Yellow
G62,5/125 OM1	Blue
G50/125 OM2	Orange
G50/125 OM3	Aqua
G50/125 OM4	Violet

Note: Different colour sequences and sheath colours available on request

Loose Tube Cables - Sheath Colour	
All Cables	Black

Outer Sheath Printing Colour	
Black Sheet	White
All other colours	Black

SMF G.652.D Draka	
Cladding Diameter	125,0 ± 0,7µm
Cladding Non-Circularity	≤ 0,7%
Core/Cladding Concentricity Error (Offset)	≤ 0,5µm
Coating Diameter (Uncoloured)	242 ± 7µm
Coating Diameter Concentricity Error (Offset)	≤ 12µm
Attenuation - Loose Tube Cables:	
@1310nm (typical/max.)	0,31/0,35 dB/km
@1550nm (typical/max.)	0,20/0,24 dB/km
@1625nm (typical/max.)	0,21/0,26 dB/km
Attenuation - Tight Buffer Cables:	
@1310nm (typical/max.)	0,30/0,35 dB/km
@1550nm (typical/max.)	0,25/0,30 dB/km
@1625nm (typical/max.)	0,35/0,40 dB/km
Dispersion:	
@1550nm	≤ 18ps/nm.km
@1625nm	≤ 22ps/nm.km
Chromatic Dispersion:	
Zero Dispersion Wavelength (λ ₀)	1300-1322nm
Zero Dispersion Slope (S ₀)	≤ 0,090ps/nm ² km
Group Refractive Index:	
@1310nm	1,467
@1550nm	1,468
Mode Field Diameter:	
@1310nm	9,0 ± 0,4µm
@1550nm	10,1 ± 0,5µm
Cut-off Wavelength (λ _{cc})	≤ 1260nm
PMD Individual Fibre	< 0,1ps/√km
Tensile Proof Test	≥ 100 kpsi (0,7 GPa)
Coating Strip Force	1,2N ≤ CSF ≤ 8,9N
Macrobending 100 Turns, 30mm, @1625nm	< 0,05 dB
Macrobending 100 Turns, 25mm, @1310nm	< 0,05 dB
Macrobending 100 Turns, 25mm, @1550nm	< 0,05 dB

Values are valid for cabled fibre, local attenuation discontinuity ≤ 0,1 dB

Note: due to OTDR measurement uncertainty KDP cannot guarantee attenuation values at fibres shorter than 1000m.

Corning® SMF-28e+®Fibre	
Cladding Diameter	125,0 ± 0,7µm
Cladding Non-Circularity	≤ 0,7%
Core/Cladding Concentricity Error (Offset)	≤ 0,5µm
Coating Diameter (Uncoloured)	242 ± 5µm
Coating Diameter Concentricity Error (Offset)	≤ 12µm
Attenuation - Loose Tube Cables:	
@1310nm (typical/max.)	0,31/0,35 dB/km
@1550nm (typical/max.)	0,20/0,24 dB/km
@1625nm (typical/max.)	0,21/0,26 dB/km
Attenuation - Tight Buffer Cables:	
@1310nm (typical/max.)	0,30/0,35 dB/km
@1550nm (typical/max.)	0,25/0,30 dB/km
@1625nm (typical/max.)	0,35/0,40 dB/km
Dispersion:	
@1550nm	≤ 18ps/nm.km
@1625nm	≤ 22ps/nm.km
Chromatic Dispersion:	
Zero Dispersion Wavelength (λ ₀)	1304-1324nm
Zero Dispersion Slope (S ₀)	≤ 0,092ps/nm ² km
Group Refractive Index:	
@1310nm	1,4676
@1550nm	1,4682
Mode Field Diameter:	
@1310nm	9,2 ± 0,4µm
@1550nm	10,4 ± 0,5µm
Cut-off Wavelength (λ _{cc})	≤ 1260nm
PMD Individual Fibre	< 0,1ps/√km
Tensile Proof Test	≥ 100 kpsi (0,7 GPa)
Coating Strip Force:	
Dry	3N
Wet, 14-Day Room Temperature	3N
Macrobending 100 Turns, 60mm, @1625nm	< 0,03 dB
Macrobending 100 Turns, 50mm, @1310nm	< 0,03 dB
Macrobending 100 Turns, 50mm, @1550nm	< 0,03 dB
Macrobending 1 Turns, 32mm, @1550nm	< 0,03 dB

SMF G.657.A1 BendBright Draka	
Cladding Diameter	125,0 ± 0,7µm
Cladding Non-Circularity	≤ 0,7%
Core/Cladding Concentricity Error (Offset)	≤ 0,5µm
Coating Diameter (Uncoloured)	242,0 ± 7,0µm
Coating-Cladding Concentricity Error (Offset)	≤ 12µm
Attenuation - Loose Tube Cables:	
@1310nm (typical/max.)	0,31/0,35 dB/km
@1550nm (typical/max.)	0,20/0,24 dB/km
@1625nm (typical/max.)	0,21/0,26 dB/km
Attenuation - Tight Buffer Cables:	
@1310nm (typical/max.)	0,30/0,35 dB/km
@1550nm (typical/max.)	0,25/0,30 dB/km
@1625nm (typical/max.)	0,35/0,40 dB/km
Chromatic Dispersion:	
Zero Dispersion Wavelength (λ ₀)	1300-1322nm
Zero Dispersion Slope (S ₀)	≤ 0,090ps/nm ² km
Group Refractive Index:	
@1310nm	1,467
@1550nm	1,468
Mode Field Diameter:	
@1310nm	9,0 ± 0,4µm
@1550nm	10,1 ± 0,5µm
Cut-off Wavelength (λ _{cc})	≤ 1260nm
PMD Individual Fibre	< 0,1ps/√km
Tensile Proof Test	100 kpsi (0,7 GPa)
Coating Strip Force	1,2N ≤ CSF ≤ 8,9N
Macrobending 10 Turns, 15mm, @1550nm	≤ 0,25 dB
Macrobending 10 Turns, 15mm, @1625nm	≤ 1,0 dB
Macrobending 1 Turns, 10mm, @1550nm	≤ 0,75 dB
Macrobending 1 Turns, 10mm, @1625nm	≤ 1,5 dB

Values are valid for cabled fibre, local attenuation discontinuity ≤ 0,1 dB

Note: due to OTDR measurement uncertainty KDP cannot guarantee attenuation values at fibres shorter than 1000m.

Corning® SMF-28® Ultra Optical Fibre	
Cladding Diameter	125,0 ± 0,7µm
Cladding Non-Circularity	≤ 0,7%
Core/Cladding Concentricity	≤ 0,5µm
Coating Diameter (Uncoloured)	242 ± 5µm
Coating-Cladding Concentricity	≤ 12µm
Attenuation - Loose Tube Cables:	
@1310nm (typical/max.)	0,31/0,35 dB/km
@1550nm (typical/max.)	0,20/0,24 dB/km
@1625nm (typical/max.)	0,21/0,26 dB/km
Attenuation - Tight Buffer Cables:	
@1310nm (typical/max.)	0,30/0,35 dB/km
@1550nm (typical/max.)	0,25/0,30 dB/km
@1625nm (typical/max.)	0,35/0,40 dB/km
Dispersion:	
@1550nm	≤ 18ps/nm.km
@1625nm	≤ 22ps/nm.km
Chromatic Dispersion:	
Zero Dispersion Wavelength (λ ₀)	1304-1324nm
Zero Dispersion Slope (S ₀)	≤ 0,092ps/nm ² km
Group Refractive Index:	
@1310nm	1,4676
@1550nm	1,4682
Mode Field Diameter:	
@1310nm	9,2 ± 0,4µm
@1550nm	10,4 ± 0,5µm
Cut-off Wavelength (λ _{cc})	≤ 1260nm
PMD Individual Fibre	< 0,1ps/√km
Tensile Proof Test	100 kpsi (0,69 GPa)
Fibre Curl	≥ 4,0m radius
Coating Strip Force:	
Dry	3N
Wet, 14-Day Room Temperature	3N
Macrobending 100 Turns, 25mm, @1310nm	≤ 0,01 dB
Macrobending 100 Turns, 25mm, @1625nm	≤ 0,01 dB
Macrobending 100 Turns, 25mm, @1625nm	≤ 0,01 dB
Macrobending 10 Turns, 15mm, @1550nm	≤ 0,05 dB
Macrobending 10 Turns, 15mm, @1625nm	≤ 0,30 dB
Macrobending 1 Turns, 10mm, @1550nm	≤ 0,5 dB
Macrobending 1 Turns, 10mm, @1625nm	≤ 1,5 dB

Bend Insensitive Single-Mode Fiber ITU-T G.652.D & G.657.A2

Bend Insensitive Single-Mode Fiber ITU-T G.652.D & G.657.B3



SMF G.657.A2 BendBright-XS Draka	
Cladding Diameter	125,0 ± 0,7µm
Cladding Non-Circularity	≤ 0,7%
Core/Cladding Concentricity Error (Offset)	≤ 0,5µm
Coating Diameter (Uncoloured)	242,0 ± 7,0µm
Coating-Cladding Concentricity Error (Offset)	≤ 12µm
Attenuation - Loose Tube Cables:	
@1310nm (typical/max.)	0,31/0,35 dB/km
@1550nm (typical/max.)	0,20/0,24 dB/km
@1625nm (typical/max.)	0,21/0,26 dB/km
Attenuation - Tight Buffer Cables:	
@1310nm (typical/max.)	0,30/0,35 dB/km
@1550nm (typical/max.)	0,25/0,30 dB/km
@1625nm (typical/max.)	0,35/0,40 dB/km
Chromatic Dispersion:	
Zero Dispersion Wavelength (λ_0)	1300-1324nm
Zero Dispersion Slope (S_0)	≤ 0,092ps/nm ² km
Group Refractive Index:	
@1310nm	1,467
@1550nm	1,467
Mode Field Diameter:	
@1310nm	8,8 ± 0,4µm
@1550nm	9,8 ± 0,5µm
Cut-off Wavelength (λ_{cc})	≤ 1260nm
PMD Individual Fibre	< 0,1ps/√ km
Tensile Proof Test	100 kpsi (0,7 GPa)
Coating Strip Force	1,2N ≤ CSF ≤ 8,9N
Macrobending 10 Turns, 15mm, @1550nm	≤ 0,03 dB
Macrobending 10 Turns, 15mm, @1625nm	≤ 0,1 dB
Macrobending 1 Turns, 10mm, @1550nm	≤ 0,1 dB
Macrobending 1 Turns, 10mm, @1625nm	≤ 0,2 dB
Macrobending 1 Turns, 7,5mm, @1550nm	≤ 0,5 dB
Macrobending 1 Turns, 7,5mm, @1625nm	≤ 1,0 dB

Corning® ClearCurve® LBL Optical Fibre	
Cladding Diameter	125,0 ± 0,7µm
Cladding Non-Circularity	≤ 0,7%
Core/Cladding Concentricity	≤ 0,5µm
Coating Diameter (Uncoloured)	242 ± 5µm
Coating-Cladding Concentricity	≤ 12µm
Attenuation - Loose Tube Cables:	
@1310nm (typical/max.)	0,31/0,35 dB/km
@1550nm (typical/max.)	0,20/0,24 dB/km
@1625nm (typical/max.)	0,21/0,26 dB/km
Attenuation - Tight Buffer Cables:	
@1310nm (typical/max.)	0,30/0,35 dB/km
@1550nm (typical/max.)	0,25/0,30 dB/km
@1625nm (typical/max.)	0,35/0,40 dB/km
Dispersion:	
@1550nm	≤ 18ps/nm.km
@1625nm	≤ 23ps/nm.km
Chromatic Dispersion:	
Zero Dispersion Wavelength (λ_0)	1304-1324nm
Zero Dispersion Slope (S_0)	≤ 0,092ps/nm ² km
Group Refractive Index:	
@1310nm	1,467
@1550nm	1,4677
Mode Field Diameter:	
@1310nm	8,6 ± 0,4µm
@1550nm	9,6 ± 0,5µm
Cut-off Wavelength (λ_{cc})	≤ 1260nm
PMD Individual Fibre	< 0,2ps/√ km
Tensile Proof Test	100 kpsi (0,69 GPa)
Fibre Curl	≥ 4,0m radius
Coating Strip Force:	
Dry	3N
Macrobending 1 Turns, 7,5mm, @1550nm	≤ 0,4 dB
Macrobending 1 Turns, 7,5mm, @1625nm	≤ 0,8 dB

Values are valid for cabled fibre, local attenuation discontinuity ≤ 0,1 dB

Note: due to OTDR measurement uncertainty KDP cannot guarantee attenuation values at fibres shorter than 1000m.

DrakaElite BendBright	
Cladding Diameter	125,0 ± 0,4µm
Cladding Non-Circularity	≤ 0,3%
Core/Cladding Concentricity Error (Offset)	≤ 0,3µm
Coating Diameter (Uncoloured)	242,0 ± 5µm
Coating-Cladding Concentricity Error (Offset)	≤ 12µm
Attenuation - Loose Tube Cables:	
@1310nm (typical/max.)	0,31/0,35 dB/km
@1550nm (typical/max.)	0,20/0,24 dB/km
@1625nm (typical/max.)	0,21/0,26 dB/km
Attenuation - Tight Buffer Cables:	
@1310nm (typical/max.)	0,30/0,35 dB/km
@1550nm (typical/max.)	0,25/0,30 dB/km
@1625nm (typical/max.)	0,35/0,40 dB/km
Chromatic Dispersion:	
Zero Dispersion Wavelength (λ_0)	1300-1324nm
Zero Dispersion Slope (S_0)	≤ 0,092ps/nm ² km
Group Refractive Index:	
@1310nm	1,467
@1550nm	1,467
Mode Field Diameter:	
@1310nm	8,8 ± 0,4µm
@1550nm	9,8 ± 0,5µm
Cut-off Wavelength (λ_{cc})	≤ 1260nm
PMD Individual Fibre	< 0,1ps/√ km
Tensile Proof Test	200 kpsi (1,4 GPa)
Coating Strip Force	1,2N ≤ CSF ≤ 8,9N
Macrobending 1 Turns, 10mm, @1550nm	≤ 0,03 dB
Macrobending 1 Turns, 10mm, @1625nm	≤ 0,1 dB
Macrobending 1 Turns, 7,5mm, @1550nm	≤ 0,08 dB
Macrobending 1 Turns, 7,5mm, @1625nm	≤ 0,25 dB
Macrobending 1 Turns, 5mm, @1550nm	≤ 0,15 dB
Macrobending 1 Turns, 5mm, @1625nm	≤ 0,45 dB

Values are valid for cabled fibre, local attenuation discontinuity ≤ 0,1 dB

Note: due to OTDR measurement uncertainty KDP cannot guarantee attenuation values at fibres shorter than 1000m.

Corning® ClearCurve® ZBL Optical Fibre	
Cladding Diameter	125,0 ± 0,7µm
Cladding Non-Circularity	≤ 0,7%
Core/Cladding Concentricity	≤ 0,5µm
Coating Diameter (Uncoloured)	242 ± 5µm
Coating-Cladding Concentricity	≤ 12µm
Attenuation - Loose Tube Cables:	
@1310nm (typical/max.)	0,31/0,35 dB/km
@1550nm (typical/max.)	0,20/0,24 dB/km
@1625nm (typical/max.)	0,21/0,26 dB/km
Attenuation - Tight Buffer Cables:	
@1310nm (typical/max.)	0,30/0,35 dB/km
@1550nm (typical/max.)	0,25/0,30 dB/km
@1625nm (typical/max.)	0,35/0,40 dB/km
Dispersion:	
@1550nm	≤ 18ps/nm.km
@1625nm	≤ 23ps/nm.km
Chromatic Dispersion:	
Zero Dispersion Wavelength (λ_0)	1304-1324nm
Zero Dispersion Slope (S_0)	≤ 0,092ps/nm ² km
Group Refractive Index:	
@1310nm	1,467
@1550nm	1,4677
Mode Field Diameter:	
@1310nm	8,6 ± 0,4µm
@1550nm	9,65 ± 0,5µm
Cut-off Wavelength (λ_{cc})	≤ 1260nm
PMD Individual Fibre	< 0,2ps/√ km
Tensile Proof Test	100 kpsi (0,69 GPa)
Fibre Curl	≥ 4,0m radius
Coating Strip Force:	
Dry	3N
Macrobending 1 Turns, 5mm, @1550nm	≤ 0,10 dB
Macrobending 1 Turns, 5mm, @1625nm	≤ 0,30 dB

TeraLight Ultra Optical Fibre	
Cladding Diameter	125,0 ± 0,7μm
Cladding Non-Circularity	≤ 0,7%
Core/Cladding Concentricity Error (Offset)	≤ 0,5μm
Coating Diameter (Coloured)	242 ± 7μm
Coating-Cladding Concentricity Error (Offset)	≤ 12μm
Attenuation - Loose Tube Cables:	
@1550nm (typical/max.)	0,25/0,30 dB/km
@1625nm (typical/max.)	0,27/0,34 dB/km
Attenuation - Tight Buffer Cables:	
@1550nm (typical/max.)	0,25/0,35 dB/km
@1625nm (typical/max.)	0,27/0,40 dB/km
Dispersion:	
@1530nm	≤ 2,0ps/nm.km
@1565nm	≤ 8,0ps/nm.km
@1625nm	≤ 12,0ps/nm.km
Chromatic Dispersion:	
1530-1565 nm	5,5-10,0ps/(nm.km)
1565-1625 nm	7,5-13,4ps/(nm.km)
Dispersion Slope @1550nm	≤ 0,052ps/(nm ² km)
Cut-off Wavelength (λ _c)	≤ 1300nm
Group Refractive Index:	
@1550nm	1,4683
@1625nm	1,4685
Mode Field Diameter:	
@1550nm	9,2 ± 0,5μm
PMD Individual Fibre	< 0,1ps/√ km
Effective area @ 1550nm	63 μm ² (typical) @1550nm
Fibre Curl	≥ 4,0m radius
Tensile Proof Test	100 kpsi (0,70 GPa)
Coating Strip Force	1,2N ≤ CSF ≤ 8,9N
Macrobending 1 Turns, 16mm, @1550nm	≤ 0,5 dB
Macrobending 100 Turns, 25mm, @1550nm	≤ 0,05 dB
Macrobending 100 Turns, 0,05mm, @1625nm	≤ 0,05 dB

Corning® Leaf® Optical Fibre	
Cladding Diameter	125,0 ± 0,7μm
Cladding Non-Circularity	≤ 0,7%
Core/Cladding Concentricity	≤ 0,5μm
Coating Diameter (Uncoloured)	242 ± 5μm
Coating-Cladding Concentricity	≤ 12μm
Attenuation - Loose Tube Cables:	
@1550nm (typical/max.)	0,25/0,30 dB/km
@1625nm (typical/max.)	0,27/0,34 dB/km
Attenuation - Tight Buffer Cables:	
@1550nm (typical/max.)	0,25/0,30 dB/km
@1625nm (typical/max.)	0,35/0,40 dB/km
Dispersion:	
@1530nm	2,0-5,5ps/nm.km
@1550nm	4,5-6,0ps/nm.km
@1625nm	5,8-11,2ps/nm.km
Chromatic Dispersion:	
@1550nm	4ps/nm.km
@1625nm	10ps/nm.km
Group Refractive Index:	
@1310nm	1,468
@1550nm	1,469
Mode Field Diameter:	
@1550nm	9,6 ± 0,4μm
Effective area @1550nm	72μm ² @1550nm
PMD Individual Fibre	< 0,1ps/√ km
Tensile Proof Test	100 kpsi (0,69 GPa)
Fibre Curl	≥ 4,0m radius
Coating Strip Force:	
Dry	3N
Wet, 14-day Room Temperature	3N
Macrobending 100 Turns, 60mm, @1625nm	≤ 0,05 dB
Macrobending 100 Turns, 50mm, @1550nm	≤ 0,05 dB
Macrobending 1 Turns, 32mm, @1550nm	≤ 0,5 dB
Macrobending 1 Turns, 32mm, @1625nm	≤ 0,5 dB

SMF G.657.A1 BendBright 200 Draka	
Cladding Diameter	125,0 ± 0,7μm
Cladding Non-Circularity	≤ 0,7%
Core/Cladding Concentricity Error (Offset)	≤ 0,5μm
Coating Diameter (Coloured)	200 ± 10μm
Coating-Cladding Concentricity Error (Offset)	≤ 12μm
Attenuation - Loose Tube Cables:	
@1310nm (typical/max.)	0,31/0,35 dB/km
@1550nm (typical/max.)	0,20/0,24 dB/km
@1625nm (typical/max.)	0,21/0,26 dB/km
Attenuation - Tight Buffer Cables:	
@1310nm (typical/max.)	0,30/0,35 dB/km
@1550nm (typical/max.)	0,25/0,30 dB/km
@1625nm (typical/max.)	0,35/0,40 dB/km
Chromatic Dispersion:	
Zero Dispersion Wavelength (λ ₀)	1300-1324nm
Zero Dispersion Slope (S ₀)	≤ 0,092ps/nm ² km
Group Refractive Index:	
@1310nm	1,467
@1550nm	1,468
Mode Field Diameter:	
@1310nm	8,8 ± 0,4μm
@1550nm	9,8 ± 0,5μm
Cut-off Wavelength (λ _c)	≤ 1260nm
PMD Individual Fibre	< 0,1ps/√ km
Tensile Proof Test	100 kpsi (0,7 GPa)
Coating Strip Force	1,0N ≤ CSF ≤ 8,9N
Macrobending 10 Turns, 15mm, @1550nm	≤ 0,03 dB
Macrobending 10 Turns, 15mm, @1625nm	≤ 0,1 dB
Macrobending 1 Turns, 10mm, @1550nm	≤ 0,1 dB
Macrobending 1 Turns, 10mm, @1625nm	≤ 0,2 dB
Macrobending 1 Turns, 7,5mm, @1550nm	≤ 0,5 dB
Macrobending 1 Turns, 7,5mm, @1625nm	≤ 1,0 dB

Corning® ClearCurve® Ultra Optical Fibre	
Cladding Diameter	125,0 ± 0,7μm
Cladding Non-Circularity	≤ 0,7%
Core/Cladding Concentricity	≤ 0,5μm
Coating Diameter	200 ± 10μm
Attenuation - Loose Tube Cables:	
@1310nm (typical/max.)	0,31/0,35 dB/km
@1550nm (typical/max.)	0,20/0,24 dB/km
@1625nm (typical/max.)	0,21/0,26 dB/km
Attenuation - Tight Buffer Cables:	
@1310nm (typical/max.)	0,30/0,35 dB/km
@1550nm (typical/max.)	0,25/0,30 dB/km
@1625nm (typical/max.)	0,35/0,40 dB/km
Chromatic Dispersion:	
Zero Dispersion Wavelength (λ ₀)	1304-1324nm
Zero Dispersion Slope (S ₀)	≤ 0,092ps/nm ² km
Mode Field Diameter:	
@1310nm	8,6 ± 0,4μm
Tensile Proof Test	100 kpsi (0,69 GPa)
Cut-off Wavelength (λ _c)	≤ 1260nm
Macrobending 10 Turns, 30mm, @1550nm	≤ 0,05 dB
Macrobending 1 Turns, 20mm, @1550nm	≤ 0,5 dB

Values are valid for cabled fibre, local attenuation discontinuity ≤ 0,1 dB

Note: due to OTDR measurement uncertainty KDP cannot guarantee attenuation values at fibres shorter than 1000m.

Values are valid for cabled fibre, local attenuation discontinuity ≤ 0,1 dB

Note: due to OTDR measurement uncertainty KDP cannot guarantee attenuation values at fibres shorter than 1000m.

Legacy 10, 40 100 Gb/S Graded-Index Multimode Fibre 50/125 Om2

OM2 500/500 Draka	
Core Diameter	50 ± 2,5µm
Core Non-Circularity	≤ 5%
Cladding Diameter	125,0 ± 1,0 µm
Cladding Non-Circularity	≤ 0,7%
Core/Cladding Concentricity Error (Offset)	≤ 1,0µm
Coating Diameter (Coloured)	242,0 ± 0,5µm
Coating-Cladding Concentricity Error (Offset)	≤ 10µm
Attenuation - Loose Tube Cables:	
@850nm (typical/max.)	2,0/3,5 dB/km
@1300nm (typical/max.)	0,7/1,5 dB/km
Attenuation - Tight Buffer Cables:	
@850nm (typical/max.)	2,4/3,5 dB/km
@1300nm (typical/max.)	0,5/1,5 dB/km
Group Refractive Index:	
@850nm	1,482
@1300nm	1,477
Bandwidth (overfilled launch):	
@850nm	≥ 500MHz-km
@1300nm	≥ 500MHz-km
Numerical Aperture	0,20 ± 0,015
Fibre Capacity:	
100G Ethernet (100GBASE-SR10)	-
40G Ethernet (40GBASE-SR4)	-
10G Ethernet (10GBASE-SR)	83m
1G Ethernet (1GBASE-SR10)	600m
Tensile Proof Test	100 kpsi (0,7 GPa)
Coating Strip Force	1,3-8,9N (3,8N typical)
Banding Loss 100 Turns, 7,5mm, @850nm	≤ 0,5 dB
Banding Loss 100 Turns, 7,5mm, @1300nm	≤ 0,5 dB

Values are valid for cabled fibre, local attenuation discontinuity ≤0,2 dB

Note: due to OTDR measurement uncertainty KDP cannot guarantee attenuation values at fibres shorter than 1000m.

Legacy 10, 40 100 Gb/S Graded-Index Multimode Fibre 50/125 Om3 & Om4



OM2 500/500 Draka		
	OM3	OM4
Core Diameter	50 ± 2,5µm	50 ± 2,5µm
Core Non-Circularity	≤ 5%	≤ 5%
Cladding Diameter	125,0 ± 1,0 µm	125,0 ± 1,0 µm
Cladding Non-Circularity	≤ 0,7%	≤ 0,7%
Core/Cladding Concentricity Error (Offset)	≤ 1,0µm	≤ 1,0µm
Coating Diameter (Coloured)	242,0 ± 0,5µm	242,0 ± 0,5µm
Coating-Cladding Concentricity Error (Offset)	≤ 10µm	≤ 10µm
Attenuation - Loose Tube Cables:		
@850nm (typical/max.)	2,0/3,5 dB/km	2,0/3,5 dB/km
@1300nm (typical/max.)	0,5/1,5 dB/km	0,5/1,5 dB/km
Attenuation - Tight Buffer Cables:		
@850nm (typical/max.)	2,1/3,5 dB/km	2,1/3,5 dB/km
@1300nm (typical/max.)	0,7/1,5 dB/km	0,7/1,5 dB/km
Chromatic Dispersion:		
Zero Dispersion Wavelength (λ_0)	1295-1340nm	1295-1340nm
Zero Dispersion Slope (S_0)	≤0,105ps/nm ² km	≤0,105ps/nm ² km
Group Refractive Index:		
@850nm	1,482	1,482
@1300nm	1,477	1,477
Laser Bandwidth/EMB:		
Overfilled @850nm	1500MHz-km	3500MHz-km
Overfilled @1300nm	500MHz-km	500MHz-km
Numerical Aperture	0,200 ± 0,015	0,200 ± 0,015
Fibre Capacity:		
100G Ethernet (100GBASE-SR10)	140m	170m
40G Ethernet (40GBASE-SR4)	140m	170m
10G Ethernet (10GBASE-SR)	300m	550m
1G Ethernet (1GBASE-SR10)	1000m	1100m
Tensile Proof Test	100 kpsi (0,7 GPa)	100 kpsi (0,7 GPa)
Coating Strip Force	1,3-8,9N (3,8N typical)	1,3-8,9N (3,8N typical)
Banding Loss 100 Turns, 7,5mm, @850nm	≤ 0,5 dB	≤ 0,5 dB
Banding Loss 100 Turns, 7,5mm, @1300nm	≤ 0,5 dB	≤ 0,5 dB

Values are valid for cabled fibre, local attenuation discontinuity ≤0,2 dB

Note: due to OTDR measurement uncertainty KDP cannot guarantee attenuation values at fibres shorter than 1000m.

1) Distances assume maximum 1.0 dB total splice/connector loss, maximum 3.0 dB/km cable attenuation at 850 nm, and VCSEL spectral width of ≤ 0.45 nm. 100 Meter reach over OM3 and 150 meter reach over OM4 as defined by IEEE 802.3ba.

2) 1000-meter reach assuming total connection plus splice loss of 0.9 dB.

3) 550 meter reach assuming 3.5 dB/Km maximum cabled attenuation at 850 nm plus 1.0 dB of total connection and splice loss, or 3.0 dB maximum cabled Attenuation at 850 nm and 1.3 dB total connection and splice loss. 400 meter reach as defined by IEEE 802.3ae.



OM1 200/500 Draka	
Core Diameter	62,5 ± 2,5µm
Core Non-Circularity	≤ 5%
Cladding Diameter	125,0 ± 1,0 µm
Cladding Non-Circularity	≤ 0,7%
Core/Cladding Concentricity Error (Offset)	≤ 1,0µm
Coating Diameter (Coloured)	242 ± 5,0µm
Coating-Cladding Concentricity Error (Offset)	≤ 10µm
Attenuation - Loose Tube Cables:	
@850nm (typical/max.)	2,6/3,5 dB/km
@1300nm (typical/max.)	0,5/1,5 dB/km
Attenuation - Tight Buffer Cables:	
@850nm (typical/max.)	2,6/3,5 dB/km
@1300nm (typical/max.)	0,5/1,5 dB/km
Group Refractive Index:	
@850nm	1,496
@1300nm	1,491
Bandwidth (overfilled launch):	
@850nm	≥ 220MHz-km
@1300nm	≥ 500MHz-km
Numerical Aperture	0,275 ± 0,015
Chromatic Dispersion:	
Zero Dispersion Wavelength (λ_0)	1320-1365nm
Zero Dispersion Slope (S_0)	$\leq 0.11\text{ps/nm}^2 \text{ km}$ $(1320 \leq \lambda_0 \leq 1365\text{nm})$ $\leq 0.001 \times (1458 - \lambda_0)$ $(1320 \leq \lambda_0 \leq 1365\text{nm})$
Transmission Distance (Link Length):	
Gigabit Ethernet 850nm	300m
Gigabit Ethernet 1300nm	500m
Tensile Proof Test	100 kpsi (0,7 GPa)
Coating Strip Force	1,3-8,9N (3,8N typical)
Banding Loss 100 Turns, 7,5mm, @850nm	≤ 0,5 dB
Banding Loss 100 Turns, 7,5mm, @1300nm	≤ 0,5 dB

Values are valid for cabled fibre, local attenuation discontinuity ≤0,2 dB

Note: due to OTDR measurement uncertainty KDP cannot guarantee attenuation values at fibres shorter than 1000m.

Chemical Resistance Table (@20°C)					
	LDPE	HDPE	PA	FR-LSZH	PUR
Acids, Dilute or Weak	E	E	F	N	G
Acids*, Strong or Concentrated	E	E	N	N	F
Alcohols, Aliphatic	E	E	N	N	F
Aldehydes	G	G	F	F	G
Bases	E	E	F	G	N
Esters	G	G	E	N	N
Hydrocarbons, Aliphatic	F	G	E	F	E
Hydrocarbons, Aromatic	F	G	E	N	N
Hydrocarbons, Halogenated	N	F	G	N	N
Ketones	G	G	E	N	N
Oxidizing Agents, Strong	F	F	N	N	N
Salts	E	E	E	G	E
Crude Oil	N	N	G	F	F
Kerosene	F	F	E	N	F
Mineral Oil	G	G	E	N	F

- E 30 days of constant exposure causes no damage. Plastic may tolerate for years.
- G Little or no damage after 30 days of constant exposure to the reagent.
- F Some effect after 7 days of constant exposure to the reagent. The effect may be crazing, cracking, loss of strength or discoloration, depending on the plastic.
- N Not recommended. Immediate damage may occur. Depending on the plastic, the effect may be severe crazing, cracking, loss of strength, discoloration deformation, dissolution or permeation loss.

Note: This table must be considered as an orientation

Properties of the Cable Sheath					
	LDPE	HDPE	PA	FR-LSZH	PUR
Flexibility	Medium	Low	Low	High	Very High
Water Resistance	High	High	Medium	Medium	Medium
Abrasion Resistance	High	High	High	Low	High
UV Radiation Resistance	High	High	Low	High	High
Brittleness in Low Temperature	Medium	Medium	Low	Medium	Very Low

Comparison of OS1 and OS2 Fibre		
Categories OS1 and OS2 are related to cable transmission performance. See table below		
Wavelength [nm]	Maximum Attenuation [dB/km]	
	OS1	OS2
1 310	1	0,4
1 383	Not Specified	0,4
1 550	1	0,4

Stripability of the Tight Burred Fibre

Tight (code T) - stripability up to 10 cm
Free (code F) - stripability more than 100 cm

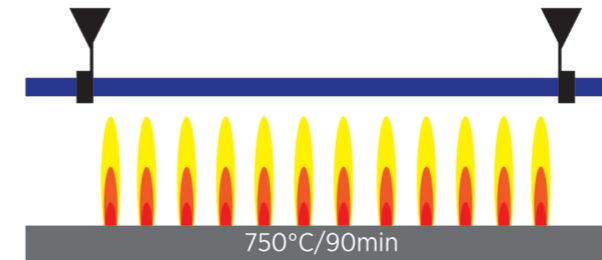
Fire Properties

Flame-Retardant:

The cable must meet the requirements of the test specified in IEC standard 60332-3 or IEC 60332-1. The cable does not propagate fire and is self-extinguishing. Notice: You can not assume that if the cable passes the test according 60332-1, a bundle of such cables passing a test 60332-3

Fire-Resistant:

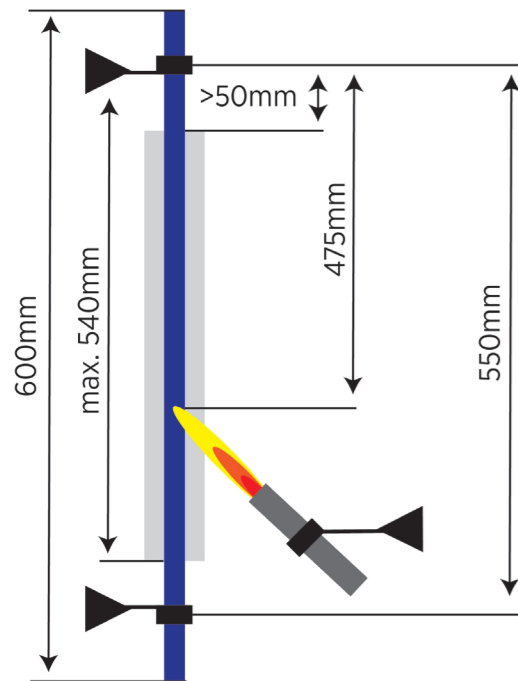
The cable must meet the requirements test specified in standard IEC 60331-11 and 25. The cable must be functional a minimum of 90 minutes in direct fire



Used Abbreviations:

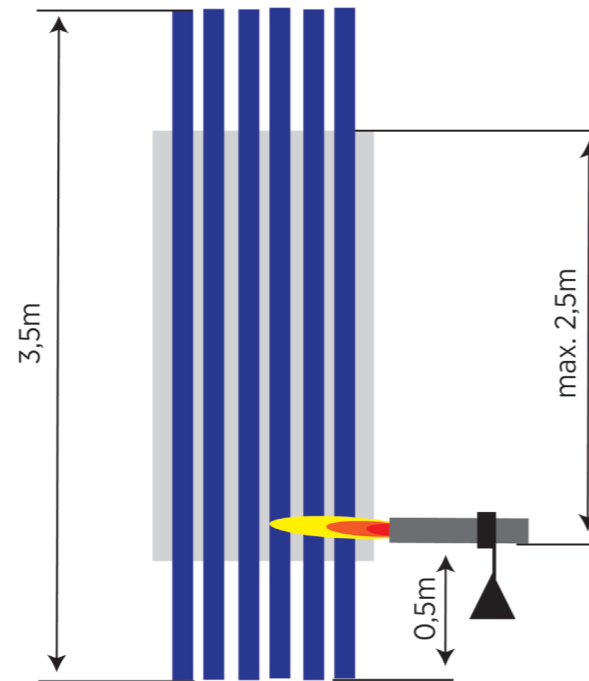
LSZH	Low Smoke, Zero Halogen
LSOH	Low Smoke, Zero Halogen
LSHF	Low Smoke, Halogen Free
HFFR	Halogen Free, Flame Retardant
FRNC	Fire Retardant, Non-Corrosive
FR-LSZH	Fire Retardant - Low Smoke, Zero Halogen

Test acc.to IEC 60332-1



Cable Diameter	Burning Time
≤ 25mm	60 sec
≥25 mm; ≤ 50 mm	120 sec

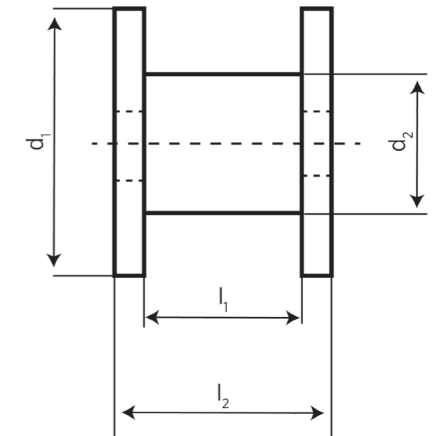
Test acc.to IEC 60332-3



Category	Amount of Burning Material	Burning Time
A*	7,0 lt/m	40 min
B	3,5 lt/m	40 min
C	1,5 lt/m	20 min
D	0,5 lt/m	20 min

Cable Drums

Drum	Material	d ₁ [mm]	d ₂ [mm]	l ₁ [mm]	l ₂ [mm]
450	Plywood	450	300	420	390
600	Plywood	600	300	420	490
755	Plywood	755	300	420	390
1000	Plywood	1000	640	630	600
1200	Plywood	1200	640	630	600
1200	Plywood	1200	640	740	710
1400	Plywood	1400	640	740	700
1400	Plywood	1400	640	830	790
KTS710	Solid Wood	710	355	502	400
KTS800	Solid Wood	800	400	502	400
KTS900	Solid Wood	900	450	662	560
KTS1000	Solid Wood	1000	500	662	560
KTS1250	Solid Wood	1250	630	830	710
KTS1400	Solid Wood	1400	710	860	710
KTS1600	Solid Wood	1600	800	1050	900
KTS1800	Solid Wood	1800	1000	1100	840
KTS2000	Solid Wood	2000	1250	1350	1045
KTS2240	Solid Wood	2240	1400	1450	1140



**Cable
monkey**.co.uk

**Racky
rax**.com

**Magic
patch**.co.uk

 **Connectix**
Cabling Systems™