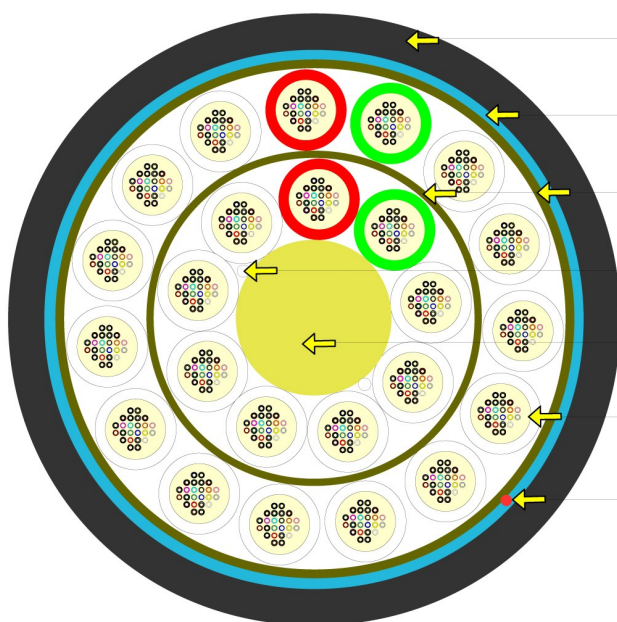


Multi Loose Tube Cable

ID: **Z017**

A-DQ(ZN)2Y 24x3,5 max. 576F

This cable is suitable for outdoor use.



Black PE outer jacket, UV stable

Water blocking E-glass

Water-swellable tape

Water blocking yarn

FRP dielectric central strength member (OD 3,0 mm)
PE coated (OD 6,9 mm)

Gel filled loose tube with optical fibre

RIP-cord

Fibre colour coding

According to IEC 60304

1 Red	7 Brown	13 Red*	19 Brown*
2 Green	8 Violet	14 Green*	20 Violet*
3 Blue	9 turquoise	15 Blue*	21 turquoise*
4 Yellow	10 Black	16 Yellow*	22 Natural*
5 White	11 Orange	17 White*	23 Orange*
6 Grey	12 Pink	18 Grey*	24 Pink*

* with black rings

Other fibre colour sequences available on request

Tube colour coding

1 Red	10 Red
2 Green	11 Green
3-9 White	12-24 White

in the case of lower number of fibres some tubes are replaced by uncoloured fillers

Other tubes colour sequences available on request

Sheat Marking

Print colour	White
Print method	INK-Jet
Print legend	manufacturer's name, job number, type of cable, length marking @ 1 m intervals

Other print legends available on request

Order example

2100 m A-DQ(ZN)2Y 576E9/125G.652D jacket colour BLK, cable specification Z017

Mechanical and Environmental properties

Max. tensile strength	*E1A	4000 N
Crush resistance	*E3	2000 N/10cm
Impact resistance	*E4	3 impacts (w/20N.m)
Min. bend radius	*E11A	15x cable diameter
	*E11B	20x cable diameter
Compound flow	*E14	30 cm / 24h / 70°C passed
Moisture resistance	*F5	passed
Temperature range	*F1	-5 °C to +40 °C
	installation	-30 °C to +70 °C
	operation	-40 °C to +70 °C
	storage	-40 °C to +70 °C
Cable informative nominal weight (calc.)		490 kg/km
Standard put-up length		2100 m
Packaging		Solid wooden drum
Loose tube diameter		3,5 mm
Outer jacket thickness		1,8 (min. 1,5) mm
Cable outer diameter		27,4 ± 0,5 mm
		(measured acc.to EN 60811-1-1)

* IEC 60794-1-2

Note: When installing or assembly under temperature below 5°C cable has to be stock in temp of 20°C at least 24h before installation.

Cable life time - minimum 30 years



Fibre specification

Values are valid for cabled fibre.

Multi mode fiber			62,5/125 µm OM1	50/125 µm OM2	50/125 µm OM2	50/125 µm OM2	50/125 µm OM3	50/125 µm OM4
Bandwidth (overfilled launch)								
	@ 850 nm	Mhz.km	≥ 220	≥ 500	≥ 600	≥ 600	≥ 1500	≥ 3500
	@ 1300 nm		≥ 600	≥ 500	≥ 1200	≥ 1200	≥ 500	≥ 500
Bandwidth (laser EMB ¹³)								
	@ 850 nm	Mhz.km	-	-	-	-	≥ 2000	≥ 4700
	@ 1300 nm		-	-	-	-	≥ 500	≥ 500
1Gbps Ethernet operation Link Length								
	@ 850 nm	(m)	≤ 300	550 ¹¹	≤ 600 ¹¹	≤ 750 ¹¹	-	-
	@ 1300 nm		≤ 550	550 ¹²	≤ 600 ¹²	≤ 2000 ¹²	-	-
10 Gigabit Ethernet Link Lengths								
	@ 850 nm	(m)	-	-	-	-	≤ 300	550
Attenuation- Loose Tube Cables								
	@ 850 nm (typical / maximum)	dB/km	2.6 / 3.2	2.4 / 3.5	2.3 / 3.0	2.3 / 3.0	2.0 / 3.0	2.0 / 3.0
	@ 1300 nm (typical / maximum)		0.5 / 1.0	0.7 / 1.5	0.6 / 1.0	0.6 / 1.0	0.5 / 1.0	0.5 / 1.0
Attenuation-Tight Buffer Cables								
	@ 850 nm (typical / maximum)	dB/km	2.6 / 3.2	2.0 / 3.5	2.0 / 3.5	2.0 / 3.5	2.1 / 3.5	2.1 / 3.5
	@ 1300 nm (typical / maximum)		0.5 / 1.0	0.5 / 1.5	0.5 / 1.5	0.5 / 1.5	0.7 / 1.5	0.7 / 1.5
Numerical Aperture		µm	0.275 ± 0.015	0.20 ± 0.015	0.20 ± 0.015	0.20 ± 0.015	0.20 ± 0.015	0.20 ± 0.015
Core Diameter		µm	62.5 ± 2.5	50.0 ± 2.5	50.0 ± 2.5	50.0 ± 2.5	50.0 ± 2.5	50.0 ± 2.5
Core Non-Circularity			≤ 5 %	≤ 5 %	≤ 5 %	≤ 5 %	≤ 5 %	≤ 5 %
Cladding Diameter		µm	125 ± 1.0	125 ± 1.0	125 ± 1.0	125 ± 1.0	125 ± 1.0	125 ± 1.0
Clad Non-Circularity			≤ 1 %	≤ 1 %	≤ 1 %	≤ 1 %	≤ 1 %	≤ 1 %
Coating Diameter		µm	245 ± 10	245 ± 10	245 ± 10	245 ± 10	245 ± 10	245 ± 10
Coating Non-Circularity		%	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5
Core/Clad Concentricity Error		µm	≤ 1.0	≤ 1.5	≤ 1.5	≤ 1.5	≤ 1.5	≤ 1.5
Coating-Clad Concentricity Error		µm	≤ 8	≤ 8	≤ 8	≤ 8	≤ 8	≤ 8
Zero Dispersion Wavelength (λ ₀)		nm	1320 – 1365	1295 – 1340	1295 – 1340	1295 – 1340	1295 – 1340	1295 – 1340
Group Refractive Index								
	@ 850 nm		1.496	1.483	1.483	1.483	1.483	1.483
	@ 1300 nm		1.491	1.479	1.479	1.479	1.479	1.479

1 - serial Laser 1000BASE-SX

2 - serial Laser 1000BASE-LX

3 - Effective Modal Bandwidth per TIA/EIA-492AAAC and draft IEC 60793-2-10 for type A1a.2, ensured by DMD performance specifications for sources meeting launch conditions specified in 10Gbit Ethernet (IEEE 802.3ae), OIF OC-192/STM-64 VSR-4-04, and 10 Gbit Fibre Channel (10GFC).

Single mode fiber			9/125µm OS2 G.652D – ZWP	9/125µm OS2 G.657.A1	9/125µm OS2 G.657.A2	9/125µm OS2 G.657.B3	9/125µm G.655C&D	9/125µm G.655C & E, G.656
Chromatic Dispersion								
	@ 1285 - 1330 nm		≤ 3.5	-	-	-	-	-
	@ 1550 nm		≤ 18	-	-	-	-	-
	@ 1530 – 1565 nm	ps/(nm.km)	-	-	-	-	2.6 – 6.0	5.5 – 8.9
	@ 1565 – 1625 nm		-	-	-	-	4.0 – 8.9	6.9 – 11.4
	@ 1460 – 1625 nm		-	-	-	-	-1.0 – 8.9	2.0 – 11.4
Attenuation- Loose Tube Cables								
	@ 1310 nm (typical / maximum)	dB/km	0.31 / 0.35	0.31 / 0.35	0.31 / 0.35	0.31 / 0.35	-	-
	@ 1550 nm (typical / maximum)		0.20 / 0.24	0.20 / 0.24	0.20 / 0.24	0.20 / 0.24	0.25 / 0.30	0.25 / 0.30
	@ 1625 nm (typical / maximum)		0.21 / 0.26	0.21 / 0.26	0.21 / 0.26	0.21 / 0.26	0.27 / 0.34	0.27 / 0.34
Attenuation-Tight Buffer Cables								
	@ 1310 nm (typical / maximum)	dB/km	0.35 / 0.40	0.35 / 0.40	0.35 / 0.40	0.35 / 0.40	-	-
	@ 1550 nm (typical / maximum)		0.25 / 0.30	0.25 / 0.30	0.25 / 0.30	0.25 / 0.30	0.25 / 0.35	0.25 / 0.35
	@ 1625 nm (typical / maximum)		0.35 / 0.40	0.35 / 0.40	0.35 / 0.40	0.35 / 0.40	0.27 / 0.40	0.27 / 0.40
Cable Cut-Off Wavelength (λ _{cc})		µm	≤ 1260	≤ 1260	≤ 1260	≤ 1260	-	-
Mode Field Diameter								
	@ 1310 nm	µm	9.2 ± 0.4	8.6 - 9.3	8.8 ± 0.4	6.3 – 9.5	-	-
	@ 1550 nm	µm	10.4 ± 0.5	9.5 - 10.5	-	9.2 - 10.4	8.4 ± 0.6	8.6 ± 0.4
Cladding Diameter		µm	125.0 ± 0.7	125.0 ± 0.7	125.0 ± 0.7	125.0 ± 0.7	125.0 ± 0.7	125.0 ± 0.7
Clad Non-Circularity			≤ 1%	≤ 1%	≤ 1%	≤ 1µm	≤ 0.7%	≤ 0.7%
Coating Diameter		µm	235 – 245	235 – 245	235 – 245	245 ± 10	245 ± 5	245 ± 5
Core/Clad Concentricity Error		µm	≤ 0.5	≤ 0.5	≤ 0.5	-	≤ 0.5	≤ 0.5
Coating-Clad Concentricity Error			≤ 12µm	≤ 12µm	≤ 5%	≤ 5%	≤ 10µm	≤ 10µm
Zero Dispersion Wavelength (λ ₀)		nm	1302 – 1322	1302 – 1322	1302 – 1322	1302 – 1324	-	≤ 1405
Group Refractive Index								
	@ 1310 nm		1.467	1.467	-	-	1.471	1.471
	@ 1550 nm		1.468	1.468	-	1.468	1.470	1.470
Fiber PMD Individual fiber		ps/√km	0.1	0.1	0.1	0.2	0.1	0.1

ZWP – Zero Water Peak

