EMC Cabling system

OPTICAL FIBER CHARACTERISITICS TEST METHODS

SINGLE MODE FIBERS

Parameter	Standard Grade Single Mode	Special Grade Single Mode	Units
Fiber Cord	090	091	
Attenuation, Loose Tube Cables			
@1310nm	≦0.38	≦0.35	dB/km
@1383nm	≦0.35	≦0.31	dB/km
@1550nm	≦0.25	≦0.22	dB/km
Dispersion			
Between 1285 and 1330 nm		≦3.09	ps/nm/km
Between 1525 and 1575 nm		≦18.0	ps/nm/km
Zero Dispersion Wavelength		1310±10	nm
Mode Field Diameter			
@1300nm		9.3 ± 0.5	um
@1550nm		10.5 ± 1.0	um
Cable Cut-off Wavelength		≦1250	nm
Cladding Diameter		125 ±1.0	um
Mode Field Concentricity Error		≦0.8	um
Cladding Non-Circularity		≦1	%
Coating Diameter		250±15	um
Proof-Test Level		100	kpsi

MULTI MODE FIBERS

Parameter	50/125	62.5/125	Units
Fiber cord	500	620	
Attenuation, Loose Tube Cables			
@850nm	2.5-2.8	2.6-2.8	dB/km
@1300nm	0.5-0.7	0.6-0.7	dB/km
Bandwidth			
@850nm	600-2000	200-800	MHz/km
@1300nm	1200-2000	600-1400	MHz/km
Numerical Aperture	0.2±0.02	0.275±0.015	
Core Diameter	50±3	62.5±3	um
Cladding Diameter	125±2	125±2	um
Core Non Circularity	≦6	≦6	um
Cladding Non-Circularity	≦2	≦2	%
Core /Cladding Offiset	≦6	≦6	%
Coating Diameter	250±15	250±15	um
Proof-Test Level	100	100	kpsi
Zero Dispersion Wavelength (λ 0) : 1332 nm ≦ λ 0 ≦ 1354 nm			
Zero Dispersion Slope (So) : ≦ 0.097 ps / (n ㎡.km)			
Operating Temperature Range : 60℃ To +85℃			

OPTICAL AND GEOMETRICAL FIBER PROPERTIES

	Test Method	ITU-T Test Method	EIA/TIA-455 FOTP Number	IEC-793-1 Test Method
Fiber Geometry	Transimitted Near Field	SM:G.652C Method 2.21 MM:G.651,Sec,1, Method B,3	MM:58	A2
Spectral Attenuation	Cut-Back	SM:G.652C Method 2.4.1, MM:G.651,Sec,2, Method B,2	SM Fibers:78 MM Fibers:46	CIA
Attenuation and Attenuation Unifromity at Specified Wavelengths	Backscattering (OTDR)	SM:G.652C Method 2.4.2, MM:G.651,Sec,2, Method B, 4	61 and 59	CIC
Numerical Aperture (MM Fibers)	Far-Field Light Distribution	G.651 Sec.1, Method B.4	47	C6
Cutoff Wavelength (SM Fibers)	Transmitte Power	G.652CMethods 2.3.1,2.3.3	80,170	C7A
Mode Field Diameter (SM Fibers)	Variable Aperture	G.652CMethods 2.1.2	167	
Band width (MM Fibers)	Frequency Domain	G.651 Sec. 3 Method B.2	30	C2B
Chromatic Dispersion (SM Fibers)	Pulse Delay	G.652C Method 2.5.3	168	C5B

MECHANICAL AND ENVIRONMENTAL CABLE PROPERTIES

	EIA/TIA-455 FOTP Number	IEC-794-1 Test Method	EN187000 Test Method (*)
Operating and Pulling Load	33	E1	501
Minimum Bending Radius	33	E11	501
Compression (Crush)	41	E3	504
Impact Resistance	25	E4	505
Twist(Torsion)	85	E7	508
Cyclic Flexing (Repeated Bending)	104	E6	509
Temperature Cycling	3	F1	601

SPECIFICATIONS OF CABLE MATERIALS

Material Type	International	German	British	USA/Canada
Polyethylene	IEC-502 IEC-708 IEC-811	DIN 0207 DIN 0818	BS-6234 BS-6469	ASTM D1248 Federal LP 390 GR-20-CORE
Polyvinyl Chloride (PVC)	IEC-811 IEC-332-1 IEC-332-3	DIN 57207	BS-6746 BS-7655 BS-6469	ASTM D2633 UL 1581 UL 94 OFNR IEEE 383
Halogen-Free, Flame-Retardant	IEC-332-1 IEC-332-3 IEC-754 IEC-1034	VDE 0472 804 VDE 0472 813 VDE 0207 24	BS-4066 BS-6724 BS-6469 BS-6425	ASTM D2633 ASTM E662 UL 1581 UL 1685/FT4 UL 94 OFNR IEEE 383