Optic Fiber Systems

Cut-off Wavelength Shifted Single Mode Optical Fiber E2 (G654E)

Cut-off wavelength shifted Single Mode Optical Fiber E2 (G654E) is manufactured with preforms obtained by vapour axial deposition (VAD). The fiber complies with ITU-T G. 654.E. Shifted dispersion and cutoff-shifted optical fiber with very low loss (CSF), can be used in long-distance digital transmission applications such as terrestrial long-distance communication systems and submarine trunk cables with optical amplifiers.The product is manufactured in the Russian Federation, fully meets the requirements of the Russian Government Decree No. 719 dated July 17, 2015, the Russian Government Decree No. 925 dated September 16, 2016. When used in a domestically produced cable, it allows to receive a 30% preference for purchases by Federal Law No. 223 comparing with imported analogs. Geometric and optical characteristics (attenuation, cutoff wavelength, chromatic dispersion, etc.) and mechanical characteristics of the product allow the use of fiber in the marine and coastal optical lines design, as well as, if necessary, the use of optical fibers that provide maximum transmission distance by the use of optical power high levels.

Dimensional Specifications

Core-Clad Concentricity, μm	≤ 0,80
Cladding Diameter, μm	125±0,7
Cladding Non-Circularity, %	≤ 2,0
Coating Diameter, μm	243,5±3,0
Fiber Curl, m radius of curvature	≥ 4
Coating-Cladding Concentricity, μm	≤ 12
Length*, km	25,2 / 50,4

*Supplies of other lengths are possible

Optical Specifications

Maximum Attenuation*, dB/km at wavelengths	
1550 nm	≤ 0,17
1625 nm	≤ 0,19
Attenuation vs. wavelength[1]	
1285-1330 nm at wavelength 1310 nm	≤ 0,02
525-1575 nm at wavelength 1550 nm	≤ 0,03
Point discontinuity, dB	
1550 nm	≤ 0,05
Mode Field Diameter, μm	
1550 nm	11,5±0,7
Cable Cutoff wavelength, (λ_{cc}), nm	≤1530
Dispersion, ps/nm·km	
1550 nm	≤ 22
1625 nm	≤ 28
Dispersion slope at 1550 nm, ps/nm^2·km	S_o≤ 0,070
Polarization Mode Dispersion (PMD), ps/√k	FA[2]
Maximum Individual Fiber PMD	≤ 0,1
PMD Link Design Value	≤ 0,06

[1] Attenuation coefficients within wavelength ranges do not differ from attenuation coefficients at reference wavelengths by more than a specified value

[2] GOST R IEC 60793-1-48 (Method A, stationary analyzer)

Macrobend Loss

Complies with the recommendations ITU-T G.654
no more than 0,1 dB on 1625 with 100 turns Ø 60mm

Mechanical Specifications

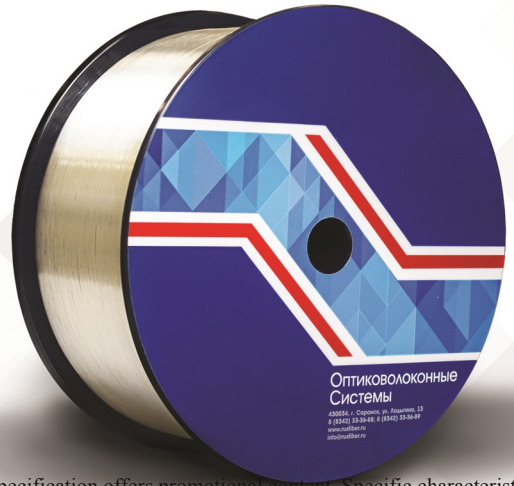
Proof Test, (Other tension force on request)	GPa %	≥ 0,69 >1%
Coating Strip Force, N		
Peak force		1 – 8,9
Typical average force		1 – 5
Dynamic Stress Corroison Susceptibility Parameter (Nd)		≥ 20

Environmental Characteristics

Induced Attenuation 1 31 0 nm, 1 550 nm & 1 625 nm, dB/km	
-60ºC ~ +85ºC Temperature dependence	≤ 0,05
+23ºC Water Immersion	≤ 0,05
+85ºC Heat Aging	≤ 0,05
+85ºC/85% Damp Heat	≤ 0,05

Perfomance Specifications

Effective Group Index of Refraction	
1550 nm	1,464



This Specification offers promotional content. Specific characteristics of optical fiber to be determined in accordance with a contract and TU.

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