



JSC "Fiber optic Systems" low water peak optical fiber "E3 (G652D)" is a single-mode fiber produced by vapor axial deposition method (VAD). The fiber with a quartz core alloyed with Germanium and quartz cladding complies with the recommendations ITU-T G.652d. 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. Fiber's dual acrylate coating

ensures its high strength, structural integrity and long service life. The fiber works in a full spectral range of different access networks including FTTH, can be applied in long distance communications. Fiber E3 (G652D) shows reliable results of weldability with most available on the market SMF fibers, that is confirmed by the testing results of Russian cable factories, telecommunications' operators and research institutes. Fiber quality's compliance with Russian and international standards is confirmed by the Certificate № SSAQ 025.1.2.0109 issued by certification agency "Kabelsert" of JSC "VNIIKIP" on 12.29.2016.

Dimensional Specifications

Core-Clad Concentricity, μm	$\leq 0,5$
Cladding Diameter, μm	$125\pm 0,7$
Cladding Non-Circularity, %	$\leq 0,7$
Coating Diameter, μm	$243,5\pm 3$
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	
1310 nm	$\leq 0,34$
1383 nm	$\leq 0,33$
1550 nm	$\leq 0,20$
1625 nm	$\leq 0,25$
Attenuation vs. wavelength	
1285-1330 nm at wavelength 1310 nm	$\leq 0,03$
1525-1575 nm at wavelength 1550 nm	$\leq 0,02$
Point discontinuity, dB	
1310 nm	$\leq 0,05$
1550 nm	$\leq 0,05$
Mode Field Diameter, μm	
1310 nm	$9,2\pm 0,4$
1550 nm	$10,4\pm 0,5$
Cable Cutoff wavelength, (λ_{cc}), nm	
	≤ 1260
Chromatic dispersion coefficient, ps/(nm·km)	
1550 nm	≤ 18
1625 nm	≤ 22
Zero-dispersion wavelength (λ_0), nm	
	1300-1324
Zero dispersion slope, ps/(nm ² ·km)	
	$\leq 0,092$
Polarization Mode Dispersion (PMD), ps/ $\sqrt{\text{km}}$	
Maximum Individual Fiber PMD	$\leq 0,2$
PMD Link Design Value	$\leq 0,14$

** Attenuation coefficients in a wavelength range do not differ from attenuation coefficients at references more than indicated values

Macrobend Loss, dB

Compliant ITU-T G.652d

0,1 dB at 1625 nm 100 turns around a mandrel of $\varnothing 60$ mm

Mechanical Specifications

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

Environmental Characteristics

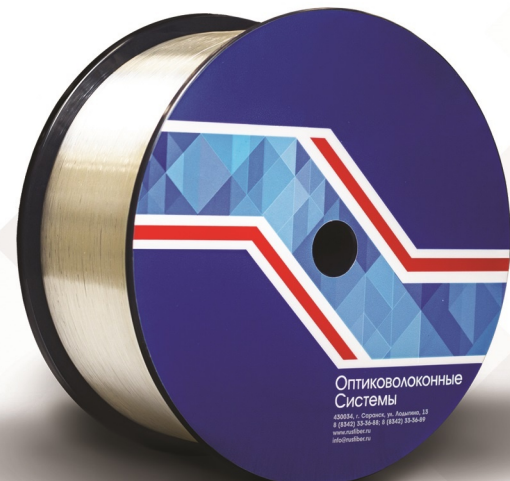
Induced Attenuation 1310 nm, 1550 nm & 1625 nm, dB/km

-60°C ~ +85°C Temperature dependence	$\leq 0,05$
+23°C Water Immersion	$\leq 0,05$
+85°C Heat Aging	$\leq 0,05$
+85°C/85%Damp Heat	$\leq 0,05$

Performance Specifications

Effective Group Index of Refraction

1310 nm /1383 nm	1,4660
1550 nm	1,4667
1625 nm	1,4670



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

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