



Single-mode optical fiber with low water peak E3 (G657A1/G652D) hybrid with advanced characteristics is a fiber with a reduced sensitivity to bends. The fiber is produced by vapor axial deposition method (VAD) with a quartz core alloyed with Germanium. It completely complies with the requirements of ITU-T G.652d and exceeds ITU-T G.657A1 parameters of macrobend loss and attenuation. It is a product manufactured in the Russian Federation. Double acrylic coating provides its high strength and a long service life. The fiber works in a full spectral range of different access

networks, including FTTH, and can be applied in long distance communications. Fiber bending resistance and improved attenuation parameters give an advantage in the application for residential networks. The quality control system of the factory confirms plug compatibility with E3 fiber (G652d) manufactured by "Optic fiber Systems", JSC as well as with all available on the market SMF fibers. Fiber quality's compliance with Russia and international standards is confirmed by the Certificate № SSAQ 025.1.2.0126 issued by certification agency "Kabelser" of JSC "VNIIPK" on 08.06.2018.

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	242 ± 5
Fiber Curl, m radius of curvature	≥ 4
Coating-Cladding Concentricity, μm	≤ 12
Length1, km	25,2 / 50,4

Optical Specifications

Maximum Attenuation*, dB/km at wavelengths	
на 1310 nm	$\leq 0,32$
на 1383 nm	$\leq 0,32$
на 1550 nm	$\leq 0,18$
на 1625 nm	$\leq 0,20$

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

на 1310 nm	$\leq 0,05$
на 1550 nm	$\leq 0,05$

Mode Field Diameter, μm

на 1310 nm	$9,2\pm 0,4$
на 1550 nm	$10,4\pm 0,5$

Cable Cutoff wavelength, (λ_{cc}), nm	≤ 1260
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Dispersion, ps/nm·km

на 1550 nm	≤ 18
на 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/ $\sqrt{\text{km}}$	FA ³	JME ⁴
Maximum Individual Fiber PMD	$\leq 0,1$	$\leq 0,1$
PMD Link Design Value	$\leq 0,06$	$\leq 0,04$

Macrobend Loss

Winding Conditions	Wavelength, nm	Induced Attenuation, (db)
1 turn around a mandrel with R 10mm	1550	$\leq 0,50$
	1625	$\leq 1,50$
10 turn around a mandrel with R 15mm	1550	$\leq 0,05$
	1625	$\leq 0,30$
100 turn around a mandrel with R 25mm	1310	
	1550	$\leq 0,01$
	1625	

Performance Specifications

Effective Group Index of Refraction	
на 1310 nm/1383 nm	1,466
на 1550 nm	1,467
на 1625 nm	1,470

Mechanical Specifications

ProofTest,	GPa	$\geq 0,69$
(Other tension force on request)	%	$> 1\%$

Coating Strip Force, N

Peak force	1 – 8,9
Typical average force	1 – 5

Dynamic Stress Corrosion	≥ 20
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Environmental Characteristics

Induced Attenuation 1310 nm, 1550 nm & 1625 nm,

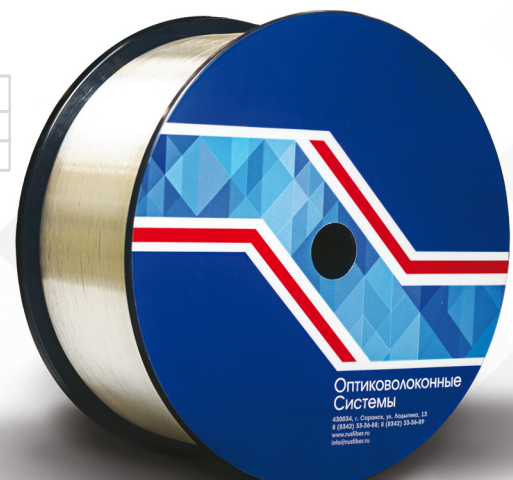
-60°C ~ +85°C Temperature	$\leq 0,05$
+23°C Water Immersion	$\leq 0,05$
+85°C Heat Aging	$\leq 0,05$
+85°C/85%Damp Heat	$\leq 0,05$

¹Supplies of other lengths are possible

²Attenuation coefficients in a wavelength range do not differ from attenuation coefficients at references more than indicated values

³GOST R MEK 60793-1-48 (Method A, fixed analyser)

⁴GOST R MEK 60793-1-48 (Method B, jones matrix eigenanalysis)



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