



Member of LEONI Group

Low Bend Loss Singlemode Fiber j-LBL G.657.A2

Ordering Information

To order j-fiber j-LBL G.657.A2 please call, fax or email us and specify the following parameters when ordering:

Fiber Type: j-LBL SMF
Singlemode Fiber
09/125 μm

Fiber Quantity: kms

Other: desired ship date,
reel length, special
requests

For further information about our Singlemode fiber and other j-fiber products and services, please contact us:

j-fiber GmbH

Im Semmicht 1
D-07751 Jena, Germany
Tel.: +49-3641-352 100
Fax: +49-3641-352 101
Email: info@j-fiber.com
Internet: www.j-fiber.com

DB-FUL-003-03-0419 Issued April 2019
Supersedes DB-FSL-003-03-0518

Copyright 2019 © j-fiber GmbH
Confidential with regard to DIN ISO 16016
Officially registered facility according to EWG No. 1221/2009



j-fiber's j-LBL G.657.A2 is a full spectrum fiber and features an optimized waveguide design for excellent macro bending performance.

Within the Fiber-to-the-Home (FTTx) network the fiber to be installed is subject to a greater degree of bending, since smaller distribution cabinets and compact fiber management systems are deployed. j-fiber's j-LBL G.657.A2 offers outstanding bend performance that is far superior to conventional singlemode fiber for access and premises networks or any application where tolerance to small bend radii and robustness is required. At the same time j-fiber j-LBL G.657.A2 is fully compatible with the installed fiber base of any G.652.D fiber.

j-fiber's j-LBL G.657.A2 excellent bend performance also results in lower attenuation in challenging cabling constructions such as tight buffer, ribbon and cables for low temperatures.

Features and Benefits

- Full spectrum fiber for use in wavelength range 1260 nm up to 1625 nm
- Low macro-bending loss for small bend radii supports compact installations
- Low micro-bending loss allows for highly demanding cable designs such as required in Fiber-to-the-Home applications
- Full backwards-compatibility and interoperability with installed fiber base, such as standard Singlemode fiber accord. G.652.D

Standards & Compliance

- ITU-T Recommendation G.652.D, G.657.A2
- IEC 60793-2-50 Type B-657.A2

Macrobend Loss

		Spec. Values	Unit
Bend-induced loss			
10 turns	1550 nm	≤ 0.03	dB
Radius 15 mm	1625 nm	≤ 0.1	
1 turn	1550 nm	≤ 0.1	
Radius 10 mm	1625 nm	≤ 0.2	
1 turn	1550 nm	≤ 0.4	
Radius 7.5 mm	1625 nm	≤ 0.8	

Optical Characteristics

	Spec. Values	Unit
Attenuation Coefficient ¹		
1310 nm	≤ 0.35	dB/km
1383 nm	≤ 0.33	
1550 nm	≤ 0.21	
1625 nm	≤ 0.23	
Attenuation Variance Range		dB/km
1285 – 1330 nm	≤ 0.05	
1525 – 1575 nm	≤ 0.04	
Mode Field Diameter		μm
1310 nm	8.6 ± 0.4	
1550 nm	9.6 ± 0.5	
Point Discontinuity (tp=1 μs)		dB
1310 nm	≤ 0.05	
1550 nm	≤ 0.05	
Fiber Cut-off Wavelength λ _c	1180-1310	nm
Cable Cut-off Wavelength λ _{cc}	≤ 1260	
Zero Dispersion Wavelength λ ₀	1300 ≤ λ ₀ ≤ 1324	nm
Zero Dispersion Slope S ₀	≤ 0.092	ps/nm ² ·km
Effective Group Index of Refraction		
1310 nm	1.467	
1550 nm	1.468	
Polarization Mode Dispersion Link Value ²	≤ 0.06	ps/√km
Individual Fiber ³	≤ 0.2	

¹ Attenuation values for 1383 nm represent post-hydrogen aging performance

² M=20, Q=0.01%

³ Individual values may change when cabled

Geometrical Characteristics

	Spec. Values	Unit
Cladding Diameter	125.0 ± 0.7	μm
Core/Clad Concentricity Error	≤ 0.5	μm
Cladding Non-Circularity	≤ 0.8	%
Coating Diameter	242 ± 7	μm
Coating/Clad Concentricity Error	≤ 12	μm
Fiber Curl Radius	≥ 4.0	m
Standard Lengths	2.2 - 50.4	km
Colors ¹	Natural	

¹ Colored and ring-marked fibers on request.

Spool Sizes

	small	large	Unit
Fiber length	< 25.2	> 25.2	km
Spool diameter	9.25/23.5	10.4/26.4	in./cm
Spool width	4.21/10.7	6.65/16.9	
Spindle	1/2.54	1/2.54	
Traverse width	3.75/9.5	5.9/15.0	

Mechanical Characteristics

	Spec. Values	Unit
Proof stress level	≥ 100	kpsi
	≥ 0.7	GPa
Dynamic Tensile Strength		GPa
Unaged Fiber (0.5 m)		
Median Tensile Strength	≥ 3.8	
15th Percentile Tensile Strength	≥ 3.3	
Aged Fiber (0.5 m)		
Median Tensile Strength	≥ 3.0	
15th Percentile Tensile Strength	≥ 2.8	
Dynamic Fatigue		≥ 18
Stress Corrosion Parameter n _d		
Operating Temperature Range	-60 to +85	°C
Average Coating Strip Force (typical)	1.9	N

Environmental Characteristics

	Spec. Values	Unit
	at 1550/1625nm	
Change of Temperature Attenuation increase, -60°C to +85°C	≤ 0.05	dB/km
Dry Heat Attenuation increase, 30 days at 85°C	≤ 0.05	dB/km
Damp Heat Attenuation increase, 30 days at 85°C/85% R.H.	≤ 0.05	dB/km
Water Immersion Attenuation increase, 30 days in 23°C water	≤ 0.05	dB/km

Coating

j-fiber j-LBL G.657.A2 is protected with an enhanced coating that guarantees long-term performance and reliability. The dual-layer acrylate material is user friendly and compatible in all cable constructions, such as tight buffer and loose tube designs with low bending loss.

Environmental Friendly Packaging

The shipping spool is designed to safeguard j-fiber optical fiber not only during shipping but also during subsequent handling in the customer's plant. It features smooth inside surfaces to ensure that the fiber is wound on and off the spool without the risk of breaking. The spool barrel is isolated via a polyethylene cover and additionally protected with an air-cushion-foil. The inside end of the fiber can be accessed for various measurements while still on the shipping spool. Each spool carries product information, including fiber type and measurement data. All spools and transport boxes are designed to take advantage of our recycling program.