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Smart cables know the difference



About j-fiber

j-fiber GmbH based in Jena, Germany, is a worldwide leading supplier of high-performance Multimode and Singlemode optical fibers for advanced Telecom/ Datacom networks and provides specialty fiber and preform solutions for use in high-end industrial, military and R&D applications.

With its subsidiaries, j-plasma and j-fiber machinery, the company covers the complete value chain of fiber making from glass and preform design and production to the final fiber drawing process. Since 2007 j-fiber has been a member of the LEONI Group, a large global supplier of wires, cables and wiring systems for applications in the automotive, transport, communication and infrastructure

sectors as well as other industries. j-fiber is strongly committed to serve its worldwide cable manufacturers client base as their reliable fiber partner.

There is much more to discover about j-fiber. Please feel free to contact us for personal support or visit our web site for further information.

Connect to j-fiber



Member of LEONI Group

Your preferred source for high-performance optical fibers and individual preform designs

How to
Connect to j-fiber

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Perfect precision

efficient performance

Connect to j-fiber – a partnership you can rely on.

We commit to providing best fiber performance, cost-efficient fiber products, and reliability in partnership to make our clients gain maximum benefit from buying j-fiber products.

Expertise and excellence

j-fiber is one of the worldwide leading specialists for high-performance optical fibers and preform designs addressing advanced telecommunications and specialty industry markets. We are well positioned in our target

A unique fiber making competence

At j-fiber we know how to translate fiber making expertise into superior performance optical fibers that predictably and reliably fulfill what our worldwide customers expect. We have the range of skills and competences



markets which we serve with a clearly defined scope of business and a well balanced fiber portfolio. Our standard and specialty fiber solutions and preforms are acknowledged world-wide for superior quality, performance, reliability, and cost efficiency.

A tradition in optics and craftsmanship

We have our roots in the Jena/Germany tradition of industry glass making technologies and pioneering optics, based on the works of Zeiss, Schott or Abbe. Today, j-fiber stands for superior fiber making expertise, combined with the ability to translate customer requirements into innovative fiber solutions by using our own constantly enhanced fiber making manufacturing process technology and machinery.

to transform our own silica glass material and preform designs into superior optical fiber products.

Our Multimode optical fibers help to make Local Area Networks (LAN) future-safe and cost-efficient; we provide reliable state-of-the-art Singlemode fibers to FTTx and long-distance transmission networks while our specialty fibers and preforms enable innovations in high-end industrial, military, and research applications.

Connecting to excellent standard fibers

for an optimum network

Devotion and competence in Multimode fiber making

Our core competence is Multimode fiber making. j-fiber high-performance fibers have an acknowledged reputation for best fiber quality and maximum cost-efficiency.



Our 10 Gb/s fiber technology is guaranteed by DMD fiber profiling and calculation of minEMBc.

j-fiber – the specialist for future-safe cost-efficient LAN fiber solutions
We help to make Local Area Networks (LAN) ready for the performance and cost requirements of today and tomorrow. Our fibers support high-speed short-distance SAN applications as well as long-distance building, medium campus and access backbones. We provide maximum benefit for the specific cabling demands and applications in terms of bandwidth performance, link length and fiber costs.

Our complete portfolio of LAN fibers comprises standard OM1 and OM2 fibers for 1Gb/s transmission; 850nm laser-optimized high-performance OM3 fibers; and an OM4 standard compliant fiber to support current 10Gb/s Ethernet and 16Gb/s Fibre Channel transmission with a window for next generation 40Gb/s and 100Gb/s network requirements in structured cabling. For LAN cabling applications with the need to bridge larger distances j-fiber provides a portfolio of reliable high performance Singlemode fiber products, compatible with installed networks. Our fibers offer enhanced bending features for robust, flexible use at lowest attenuation while featuring perfect geometries with lowest fiber diameter tolerances to best meet LAN network system requirements.

j-fiber – the reliable Singlemode fiber source for FTTx
We give FTTx and Long Distance data transmission networks the flexibility, cost-efficiency and future-safe perspective they demand. Our Singlemode fibers meet the robustness, compatibility and performance requirements in FTTx applications and represent the reliable choice in state-of-the-art Singlemode fiber technology. For long-haul applications our Singlemode fibers provide the cost-advantages and performance reliability for high data-rate long-distance transmission.

Our j-SMF (G.652.D) Singlemode fiber is the field proven full spectrum fiber solution for lowest costs and maximum flexibility in advanced FTTx projects with ensured installed fiber base compatibility.

Our j-LBL SMF (G.657.A) is the bend-insensitive Singlemode fiber for best performance in tight space or robust use situations.

j-fiber – the specialty solutions company

Specialty fiber solutions that help to enable advanced technologies and applications

Advanced industry, military or R+D applications demand for leading-edge specialty fiber solutions. j-fiber contributes the competence of a Multimode fiber leader to provide innovative specialty fiber designs and configurations which support the development

of high-technology device and component innovations.

A unique position: differentiating through competence and capabilities

What differentiates j-fiber from other fiber companies is the unique value chain of vertically integrated processes, competences and capabilities. j-fiber is able to use its own

ultra-pure glass material, enhance it with various specific dopants and transform it into innovative preform designs which allows us to predict and draw the perfect fiber that best responds to the specific customer application and product challenge.

Our unique advantage of specialty fiber making others simply cannot match: We combine the best of our own Plasma Based Vapor Deposition (PBVD) and MCVD process technologies with our superior quality assurance infrastructure for best performance specialty fibers. Adding our high-volume fiber draw capabilities we are able to provide the cost-efficiencies of a volume fiber supplier.



Datacom/Telecom



Industry



Sensors



Military & Aerospace



Laser Delivery



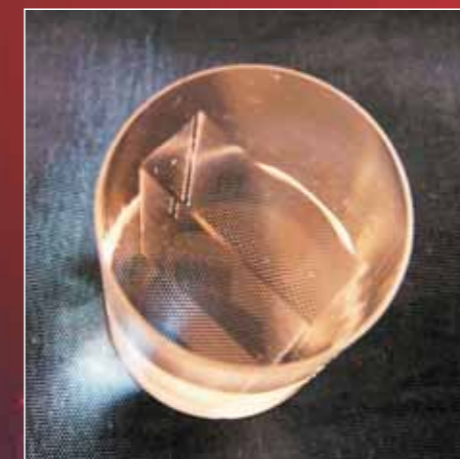
Geophysical



Transportation



Medical



„When we tell them what fiber we need, they come up with a convincing design solution. It helped us to develop our new laser technology and reduce time-to-market significantly.“ *Component manufacturer*

This is why j-fiber has become an acknowledged specialty fiber leader for innovative application fibers, custom designed specialty fibers, and modified standard fiber options such as:

High temperature fibers for sensors applications – such as for Distributed Temperature Sensing (DTS) and pressure sensing applications with special coatings: polyimide coated fiber for applications in environments up to 300°C, acrylate coated fiber for applications in environments up to 200°C offered in standard Multimode and Singlemode fiber designs

Graded Index Polymer Clad Multimode – combines the best of two worlds: same high bandwidth as a 50/125 or 62.5/125 standard telecom fiber plus mechanical robustness from a 200µm silica cladding and a 500µm ETFE buffer material – while offering field-connect precision in industrial applications for factory automation as well as short to medium distance communications

Step index fibers for high power laser transmission in industrial applications

Active fibers, non-circular core fibers for customized projects – on demand development of specific fiber designs and specifications

RadHard fibers and bend-insensitive fibers for military and aerospace – MIL-Spec qualified radiation hard fibers for harsh environments and radiation exposure with specific coatings, UV-cured dual layer acrylate coating with 500µm outside diameter, operating temperatures of -60° up to 85°C easy strippable coating material, user friendly and compatible in all cable constructions

The preform promises

how the fiber will perform

Making the perfect preform for your specific application

We offer our know-how, technologies and services to our clients to provide the specialty preform design, configuration, and manufacturing to help our clients develop their next generation fibers.



Our services and options: defining the requirements of the final fiber product depending on each specific application

Preform design: specify the preform design and configuration

- Profile: step index or graded index
- Dopant options to build up a required profile: Germanium, Fluorine, Boron, Rare-earth elements
- Fiber geometry

Preform making: define the appropriate process technology

- MCVD (inside deposition): graded index and step index preforms
- PBVD (outside deposition): step index fiber (large core), capillary fiber, hollow core fiber
- Jacketing or direct deposition
- Additional preform treatment: drilling, stretching

Fiber draw

High drawing capacity, variability in fiber diameter processing, selection of coating materials (incl. low index and high temperature materials)

Tell us, how we can best serve you.

j-fiber specialty preforms and customized glass services – on demand

The preform ensures the expected performance of the final fiber product. Usually this is revealed after fiber draw and testing – too late to change preform parameters, because the right set of preform parameters determines the fiber performance for the required application: the specific preform design and configuration, the quality of the silica glass, the specific doping materials and concentrations, and the expertise to apply materials and technologies.

Here j-fiber has a unique competence center and technology think tank in-house: two highly optimized and effective processes – PBVD and MCVD, a broad scope of doping and coating options, and of course the long technological expertise needed to create the perfect preform to draw the perfect fiber – guaranteed.

j-fiber proprietary preform design, development and manufacturing:

Graded index Multimode, Telecom/special Singlemode, step index Multimode (large/small core), photosensitive preforms, special doped preforms (Yb, Nd, Er, B)

Customized MMF preform and fiber solutions:

Special core diameters and shapes (non-circular), high or low numerical aperture, individual refractive index, wavelength optimization for 300nm up to 1700nm

Customized SMF preform and fiber solutions:

Special mode field diameters, select cut-off wavelengths, specific mode dispersion, high germanium concentration

„Made by j-fiber“ – the art of superior fiber making



The making of optical fibers is an art.

Fibers that transmit data at the speed of light, or which laser-cut even hardest materials with ultimate precision and with multi-kw power, or fibers that send signals even under extreme heat, radiation or mechanical stress and that work reliably over long distances.

At j-fiber we have been improving this art to perfection, based on a long tradition of best German industry glass making technologies for advanced applications combined with a substantial knowledge of optical fibers technologies and processing.

Managing processes and value chain is the secret behind superior fiber quality and maximum cost-efficiency

Our customers rely on us for best fiber quality. We are the preferred fiber supplier to the majority of the European cable makers and to many telecom cable and specialty component companies worldwide.

We know how to manage our processes and our value and supply chains for best fiber products fulfilling highest customer requirements in quality, reliability, cost-efficiency, and on-demand delivery.

Certified quality management and „green manufacturing“

Our satisfied customers already know it: j-fiber is strongly committed to high quality standards and environmental responsibility. j-fiber has been certified in accordance with **DIN ISO 9001** and **DIN ISO 14001**. We have been fully authorized as fiber manufacturer to supply **MIL-PRF 49291** standard compliant Multimode and Singlemode RadHard fibers. And we have always been committed to „green manufacturing“. For the company wide implementation of environmentally friendly processes and the careful use of resources j-fiber has been the first European fiber company to pass the strict eco-audit **EMAS**. We have become **REACH** compliant (Regulation on Registration, Evaluation, Authorization and Restriction of Chemicals), an EU regulation with the aim to better protect human health and environments. Same as with the EU Restriction of Hazardous Substances (**RoHS**) regulation we make sure that not only our products but that of all of our suppliers fulfil these strict regulations.

Best quality products do not compromise – neither on costs nor on environmental health or human safety. This is our philosophy and commitment.

