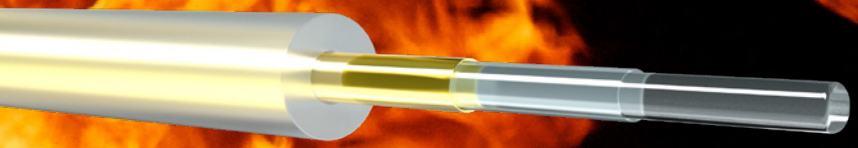
Ultra high-temperature jacket (UHTJ) for polyimide (PI) coated fibers



Your advantages at a glance

- Extended temperature range from –100 °C to +260 °C
- Excellent mechanical properties
- Very low coefficient of friction
- Excellent strippability
- Outstanding resistance to chemical degradation
- Self-extinguishing, flame retardant
- Non-conductive surface (EMC)
- Low-cost alternative to metal coatings (aluminum, gold)

Protective jacket for applications in the extended temperature range of –100 °C to +260 °C

Compared with fibers only coated with polyimide and without a protective jacket, our *ultra high-temperature jacket* (UHTJ) offers much improved abrasion resistance plus excellent mechanical properties for laying, and is very easy to strip during assembly. UHTJ covers a much larger temperature range than fibers with conventional ETFE or PFA jacket coatings, while also offering outstanding resistance to chemical degradation. Depending on the fiber dimension, the UHTJ is available in lengths of up to several kilometers.

Compared with alternative materials, an ***ultra high-temperature jacket*** (UHTJ) offers a much broader temperature range of –100 °C to +260 °C. While commercially available PFA jackets based on elastic polymers are usable across a similar temperature range, they are unable to meet key contemporary user requirements such as cost-effective cable stripping. Wider temperature ranges than the range offered by PI-coated fibers are possible only by using expensive metal coatings.

Please talk to us about options for customized cables combined with the new ***ultra high-temperature jacket*** – we will be happy to work with you on a solution tailored to your application needs.

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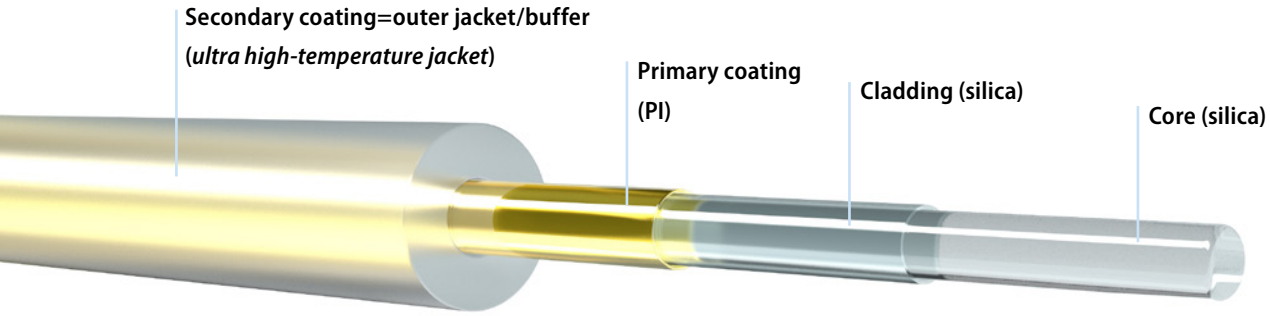

Range of products

Product portfolio

- Protective ***ultra high-temperature jacket*** for polyimide (PI) coated fibers
- Silica/silica fiber with optimized transmission from UV to NIR
- Huge range of core and cladding diameters
- Depending on fiber diemension, lengths up to several kilometers available
- Standard assembly with SMA connector

Product properties

- NA=0.12 to 0.29
- Application temperature –100 °C to +260 °C
- Depending on fiber design, suitable for laser beam transmission up to multi kW range
- Residue-free stripping with excellent edges

Our strengths:

- Customer-specific solutions
- Complete value chain (raw materials, fibers, cables, assemblies, special optical components) with the option of modifications anywhere along the chain
- Specialists for in-house *special fiber* production and assembly
- Experience in high-end optical metrology applications, including the *Cold Atom Lab* on the International Space Station (ISS), NASA's *New Horizons mission* to Jupiter and Pluto, and the *detection of gravitational waves with LIGO*
- Experience with tight measurement tolerances
- Experience with high-power laser applications *(industrial laser assemblies)*
- Highest quality standards
- Long experience with product deployment under the harshest environmental conditions
- Excellence in production and logistics

Ordering options

- Fiber type
- Ultra high-temperature jacket color
- Choice of assembly as cable or fiber bundle

List of application temperatures:

- –40 °C to +150 °C High-temperature acrylate jacket
- –40 °C to +180 °C Silicone jacket
- –40 °C to +150 °C ETFE jacket
- ***–100 °C to +260 °C ultra high-temperature jacket (UHTJ)***
- –190 °C to +385 °C Polyimide without a protective jacket
- –269 °C to +400 °C Aluminum coating
- –269 °C to +700 °C Gold coating

Fields of use:

- Spectroscopy
- FBG sensors
- Process analysis
- Manufacturing
- Energy (oil and gas)
- Aerospace
- Automotive

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