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<td>Our glossary</td>
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</tbody>
</table>
A full range of services for your needs
CeramOptec® offers customised solutions in fiber optic technology, from individual fibers to ready-to-use cable assemblies.

With over 30 years’ experience in the development and production of optical fibers and everything that goes with it, we are a trusted partner for industry and research. We develop our precision-made solutions in-house, from preform manufacturing to finished cables and bundles, as this allows us to provide you with effective, expert support and meet your individual requirements efficiently. We offer a one-stop solution for all your fiber optics needs. Many prestigious clients rely on our products. We hope that this brochure will provide you with a sound basis for your decision, and we would be delighted to tell you more about our products and processes in person.

Your advantages
- Over 500 Optran® UV and Optran® WF fibers in stock
- Non-standard diameters and NA values available
- Option of fully customised fiber production
- A complete solution for all your performance needs
- ISO 9001 compliant manufacturing environment
- CE mark

From initial enquiry to the finished product
Quartz glass preforms by POVD and PCVD procedures

As one of the few suppliers on the market, CeramOptec® covers the entire manufacturing chain from the preform to the assembled fiber bundle. The preform sets both the optical properties as well as the geometry of the glass fiber drawn from it. Our in-house production gives us full control over these important parameters and enables us to adapt them quickly and flexibly to your requirements.

The use of two different processes for preform production – the POVD and the PCVD process – opens up a wide range of technical options and enables us to achieve particularly demanding special shapes.

POVD and PCVD are plasma technologies for the production of preforms with a quartz glass core and quartz glass cladding. They enable layers to be formed on the surface of the core material of pure or fluorine-doped quartz glass with a refractive index difference Δn of up to \(-0.028\). With CeramOptec’s manufacturer-specific POVD procedure, a gas mixture consisting of SiCl₄ and a suitable fluorine compound is introduced into the plasma stream. The plasma is generated using a high-frequency induction plasma torch that moves along the coating rod. In the PCVD process, CeramOptec uses a microwave-generated plasma that is overlaid by a high-temperature zone of about 1100 °C.

As a result of both processes, thin, fluorine-doped quartz layers are deposited from the gas phase on the surface of the quartz glass core. In this way, preforms with lengths of 300–1100 mm are produced in the POVD and PCVD production lines.

Technical data

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Numerical aperture (NA)</td>
<td>0.12 ± 0.02</td>
</tr>
<tr>
<td>Preform diameter</td>
<td>20–40 mm</td>
</tr>
<tr>
<td>Standard Kern / Mantel-Verhältnisse</td>
<td>1:1,04</td>
</tr>
<tr>
<td>OH content</td>
<td>high (&gt; 700 ppm)</td>
</tr>
<tr>
<td>Core geometry</td>
<td>round, square, rectangular, hexagonal, octagonal</td>
</tr>
<tr>
<td>Production process</td>
<td>POVD (Plasma Outside Vapor Deposition)</td>
</tr>
</tbody>
</table>
Fiber overview
Choose the right one

Different types of optical waveguides are used at different wavelengths depending on their transmission properties.

<table>
<thead>
<tr>
<th>Ultraviolet radiation (UV)</th>
<th>Visible light (VIS)</th>
<th>Near infrared (NIR)</th>
<th>Medium infrared (MIR)</th>
<th>Infrared radiation (IR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy increases</td>
<td>380</td>
<td>780</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wavelength (nm)</td>
<td>200</td>
<td>450</td>
<td>600</td>
<td>800</td>
</tr>
<tr>
<td>190 nm</td>
<td>Optran® UV und Optran® UV NCC</td>
<td>1200 nm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>300 nm</td>
<td>Optran® WF und Optran® WF NCC</td>
<td>2400 nm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>190 nm</td>
<td>Optran® UV NSS</td>
<td>1200 nm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>200 nm</td>
<td>Optran® UVWFS</td>
<td>2000 nm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>350 nm</td>
<td>Optran® HF UV und Optran® HWF</td>
<td>2200 nm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>400 nm</td>
<td>Optran® Ultra WFGE</td>
<td>2400 nm</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4000 nm</td>
<td>18000 nm</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Safety Fiber
More safety for users of fiber-coupled high-performance lasers

Copper wire conductors with a jacket facilitate the design of active protective devices

A new fiber design from CeramOptec increases user safety in connection with fiber-coupled high-performance lasers. Copper wires in a polyamide jacket support the configuration of active protective devices that interrupt the laser circuit in the event of fiber breakage or connection problems and protect the user from leaking radiation.

Since the two copper wires are applied together with the polyamide sheathing after the fiber drawing process, the new fiber concept can be implemented for all standardized CeramOptec glass fibers. All-rounders such as the standard Optran® UV/WF fibers are also available as safety fibers, as are the homogenizing Optran® NCC fibers with polygonal core geometry. For optimum coverage of all bending radii and temperature zones, safety fibers are available with copper wire conductors of 50, 100 and 150 micrometers. Custom configurations are also available on request.
Optran® UV, Optran® WF
Silica / silica fiber

Superior performance and fiber optic properties from UV to IR wavelengths: CeramOptec®’s Optran® UV/WF fibers are available in a range of core diameters and assemblies, tailored to your specific application needs.

Applications
First choice for applications including spectroscopy, medical diagnostics, medical technology, laser delivery systems and many more.

Technical data

<table>
<thead>
<tr>
<th>Wavelength / spectral range</th>
<th>Optran® UV: 190–1200 nm</th>
<th>Optran® WF: 300–2400 nm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Numerical aperture (NA)</td>
<td>Low: 0.12 ± 0.02</td>
<td>0.12 ± 0.02</td>
</tr>
<tr>
<td>Core diameter</td>
<td>Available from 25 to 2000 μm</td>
<td></td>
</tr>
<tr>
<td>OH content</td>
<td>Optran® UV: high (&gt; 700 ppm)</td>
<td>Optran® WF: low (&lt; 1 ppm)</td>
</tr>
<tr>
<td>Fibers with OH contents</td>
<td>&lt; 0.25 ppm are available upon request</td>
<td></td>
</tr>
<tr>
<td>Standard core / cladding ratios</td>
<td>1:1.04</td>
<td>1:1.06</td>
</tr>
</tbody>
</table>

Applications
First choice for applications including spectroscopy, medical diagnostics, medical technology, laser delivery systems and many more.

Optran® UV NSS
Silica / silica fiber with hermetic carbon layer

CeramOptec® is glad to offer a new product for UVC spectral range. Improved solarization resistance and extra stability of UV NSS fiber open wide variety of applications.

Applications
First choice for applications including spectroscopy, semiconductor technology, laser delivery systems and many more.

Technical data

<table>
<thead>
<tr>
<th>Wavelength / spectral range</th>
<th>Optran® UV NSS: 190–1200 nm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Numerical aperture (NA)</td>
<td>Low: 0.12 ± 0.02</td>
</tr>
<tr>
<td>Core diameter</td>
<td>Available from 100 to 600 μm</td>
</tr>
<tr>
<td>OH content</td>
<td>High (&gt; 700 ppm)</td>
</tr>
<tr>
<td>Fibers with OH contents</td>
<td>0.25 ppm</td>
</tr>
<tr>
<td>Standard core / cladding ratios</td>
<td>1:1.06</td>
</tr>
</tbody>
</table>

Applications
First choice for applications including spectroscopy, semiconductor technology, laser delivery systems and many more.
Optran® UV NCC, Optran® WF NCC
Silica / silica non-circular core fiber

These fibers are ideal for laser applications, among others, where the shape and homogeneity of the output beam is decisive. CeramOptec® offers these fibers in rectangular, square, octagonal and other core / cladding geometries for additional advantages compared to our UV / WV range. Laser beam-shaping optics can be avoided.

Homogeneous power distribution

Wavelength
- Optran® UV NCC: 190–1200 nm
- Optran® WF NCC: 300–2400 nm

Numerical aperture (NA)
- Low: 0.16 ± 0.02
- Standard: 0.22 ± 0.02
- High: 0.28 ± 0.02

Different core and cladding geometries available such as square, rectangular or octagonal

Technical data
- Wavelength / spectral range: Optran® UV NCC: 190–1200 nm, Optran® WF NCC: 300–2400 nm
- Numerical aperture (NA): 0.16 ± 0.02, 0.22 ± 0.02, 0.28 ± 0.02 or customised
- Operating temperature: -190 to +350 °C
- Core diameter: Geometries and diameters upon request
- OH content:
  - Optran® UV NCC: High (> 700 ppm)
  - Optran® WF NCC: Low (< 1 ppm)
  - Fibers with OH content < 0.25
- Standard proof test: 100 kpsi (nylon, ETFE, acrylate cladding)
  - Fibers with OH content < 0.25: 70 kpsi (polyimide cladding)
- Minimum bending radius:
  - 50 × cladding diameter (short-term mechanical stress)
  - 150 × core diameter (during use with high laser power)
- Attenuation values: In relation to wavelength; see p. 18

Pure fused silica / F-doped fused silica square and rectangular shaped fibers
Fibers which deviate from the traditional round form with a square or rectangular shape offers advantages due to providing maximum packing density for input and output. These fibers are very suitable for connections to angular sources and receivers. The angular shaped core provides consistent short-distance homogenization input power distribution. Our angular fibers are also available in rectangular shapes with large side ratios and a small corner radius, thanks to our special PCVD-technology.

Large NCC’s are ideal for applications which require a combination of flexibility and large cross sections in silica fibers, e.g. a diode laser delivery system.

Applications
First choice for applications for beam shaping e.g. including surface treatment or for lighting.
**Optran® UVWFS broadband fiber**

Silica / silica fibers for applications from UV-C to IR-B

CeramOptec® is glad to offer a new extremely low loss fiber for the 200 nm to 2000 nm wavelength range. UVWFS fiber owns properties of UV and WF fibers and can be used for a variety of applications.

**Technical data**

<table>
<thead>
<tr>
<th>Wavelength / spectral range</th>
<th>Optran® UVWFS: 200–2000 nm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Numerical aperture (NA)</td>
<td>0.12 ± 0.02</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>-190 to +350 °C</td>
</tr>
<tr>
<td>Core diameter</td>
<td>Available from 100 to 800 µm</td>
</tr>
<tr>
<td>OH content</td>
<td>Optran® UVWFS: ~ 5 ppm</td>
</tr>
<tr>
<td>Standard core / cladding ratio</td>
<td>1:1.06</td>
</tr>
<tr>
<td>Standard prooftest</td>
<td>70 kpsi (polyimide jacket)</td>
</tr>
<tr>
<td>Minimum bending radius</td>
<td>50 × cladding diameter (short-term mechanical stress)</td>
</tr>
<tr>
<td></td>
<td>150 × core diameter (during use with high laser power)</td>
</tr>
<tr>
<td>Attenuation values</td>
<td>In relation to wavelength: see p. 19</td>
</tr>
</tbody>
</table>

**Applications**

CeramOptec® UVWFS optical fiber is the first choice for many applications where you work with different wavelengths simultaneously: spectroscopy, analytical instruments, sensing applications, astronomy, aerospace and avionics, military applications and many more.

---

**Optran® HUV, Optran® HWF**

Silica fiber with hard polymer cladding

CeramOptec® offers its Optran® HUV/HWF fibers as a cost-effective alternative to silica / silica fibers. They provide high numerical aperture values, minimal bend losses and efficient connectorisation for a wide range of applications.

**Technical data**

<table>
<thead>
<tr>
<th>Wavelength / spectral range</th>
<th>Optran® HUV / HWF: 350–2200 nm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Numerical aperture (NA)</td>
<td>Standard 0.37 ± 0.02</td>
</tr>
<tr>
<td></td>
<td>High 0.52 ± 0.02</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>-40 to +150 °C</td>
</tr>
<tr>
<td>Core diameter</td>
<td>Available from 100 to 2000 µm</td>
</tr>
<tr>
<td>OH content</td>
<td>Optran® HUV: high (&gt; 700 ppm)</td>
</tr>
<tr>
<td></td>
<td>Optran® HWF: low (&lt; 1 ppm)</td>
</tr>
<tr>
<td>Standard prooftest</td>
<td>100 kpsi</td>
</tr>
<tr>
<td>Minimum bending radius</td>
<td>50 × cladding diameter (short-term mechanical stress)</td>
</tr>
<tr>
<td></td>
<td>150 × core diameter (during use with high laser power)</td>
</tr>
<tr>
<td>Attenuation values</td>
<td>In relation to wavelength: see p. 19</td>
</tr>
</tbody>
</table>

**Applications**

First choice for applications from illumination to photodynamic therapy and many more.
Optran® Ultra WFGE
Ge-doped silica / silica fiber

The CeramOptec® Optran® Ultra WFGE fibers stand out through maximum numerical aperture values, unmatched performance and a broad spectral range. There is a large choice of core diameters and solutions tailored to your specific needs are available upon request.

High NA for demanding applications

Wavelength
Optran® Ultra WFGE 400–2400 nm

Numerical aperture (NA)
Standard 0.37 ± 0.02
Higher NA on request

Technical data
Wavelength / spectral range Optran® Ultra WFGE: 400–2400 nm
Numerical aperture (NA) 0.37 ± 0.02
Operating temperature -190 to +350 °C
Core diameter Available from 50 to 1000 μm
Standard core / cladding ratios 1:04 | 1:06 | 1:12 | 1:15 | 1:12 | 1:15 | 1:14 or customised
Standard prooftest 100 kpsi (nylon, ETFE, acrylate jacket)
70 kpsi (polyimide jacket)
Minimum bending radius 50 × cladding diameter (short-term mechanical stress)
150 × core diameter (during use with high laser power)
Attenuation values In relation to wavelength: see p. 18

Applications
First choice for applications including spectroscopy, laser technology, research, photodynamic therapy and many more.

Optran® MIR
Silver halide fiber

This unique fiber, which comprises a photosensitive compound (AgCl, AgBr), is ideal for the mid-infrared (MIR) range.

Middle infrared range

Wavelength
Optran® MIR 4–18 μm

Numerical aperture (NA)
Low 0.13 ± 0.02
Standard 0.25 ± 0.02
High 0.35 ± 0.02

Technical data
Wavelength / spectral range Optran® MIR: 4–18 μm
Numerical aperture (NA) 0.13 ± 0.02 | 0.25 ± 0.02 | 0.35 ± 0.02
Operating temperature -60 to +110 °C
Standard diameter Core / cladding (μm) 400/500 μm | 600/700 μm | 860/1000 μm
Calculation index (core) 23
Reflective losses @ 10.6 μm 25 %
Minimum bending radius 100 × cladding diameter
Highest power 30 Watt
Attenuation values In relation to wavelength: see p. 19

Applications
First choice for applications including CO₂-laser guides, FTIR spectroscopy, laser surface treatments and many more.
At a glance
Comparison of attenuation values

**Optran® UV, WF / UV NCC, WF NCC / Ultra WFGE**

- UV and UV NCC fiber
- WF and WF NCC fiber
- Ultra WFGE fiber

**Optran® UV NSS**

- UV NSS fiber

**Optran® UV NSS (Comparison of solarization resistance)**

- UV fiber
- UVNS fiber
- UVNSS fiber

**Optran® Uuvwfs broadband fiber**

- WF fiber
- Uuvwfs fiber
- UV fiber

**Optran® Huv, Optran® Hwf**

- HUV fiber
- HWF fiber

**Optran® MIR**

- MIR fiber
Fiber bundles
Multi-fiber assemblies

CeramOptec®’s fiber bundles are designed for superior quality and optimum fiber optic properties. We optimise your bundles for various parameters, including NA and packing efficiency. Our fiber assemblies can be flexibly configured and tailored precisely to your application needs.

<table>
<thead>
<tr>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Available fibers</strong></td>
</tr>
<tr>
<td><strong>Active bundle surface geometries</strong></td>
</tr>
<tr>
<td><strong>Bundle design</strong></td>
</tr>
<tr>
<td><strong>Bundle variant</strong></td>
</tr>
<tr>
<td><strong>Connectors</strong></td>
</tr>
</tbody>
</table>

PowerLightGuide bundles
Fused end bundles

CeramOptec®’s fused-end PowerLightGuide bundles set the benchmark for consistently high long-term performance. The fusing process completely eliminates inter-fiber spaces and thus positions CeramOptec®’s PowerLightGuide bundles among the most sophisticated fiber bundles on the market. As the bundles do not rely on adhesive, they are resistant to temperatures of more than +600 °C, making them the first choice for demanding applications!

### Advantages
- High transmission
- No inter-fiber spaces
- Large active diameter
- Wide range of ready-to-use assemblies available
- Long service life
- Even distribution in multi-branch bundles
- High temperature resistance above +600 °C

### Wavelength

| PowerLightGuides | 190 – 2400 nm |

### Numerical aperture (NA)

<table>
<thead>
<tr>
<th></th>
<th>Low</th>
<th>Standard</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>PowerLightGuides</td>
<td>0.12 ± 0.02</td>
<td>0.22 ± 0.02</td>
<td>0.37 ± 0.02</td>
</tr>
</tbody>
</table>

Bundles made from end-fused fibers show no gaps between individual fibers, since the fibers attain a hexagonal shape during the fusing process.
Fiber bundles

Overview

Gluing
Glued fiber bundles offer the greatest flexibility in terms of achievable diameters and geometries.

Sorting
A sorting of the fibers allows an even power distribution on several bundle arms and can increase the measuring precision by a spatial mapping of the fibers.

Fusion
For bundles of fused fibers all gaps between the fibers are removed, resulting in an increase of the filling factor and therefore the transmission by up to 20%.

AR coating
An AR coating almost completely eliminates reflection losses at the fiber ends, which can increase transmission by about 7%.
CeramOptec® offers a comprehensive range of cables and high-power cables tailored to your specific application needs. As we maintain complete control over the entire process, from pre-form manufacturing to the finished product, we are able to supply cables that meet the most demanding requirements regarding quality and fiber optic properties.

**Advantages**
- Broad temperature range
- High resistance against laser damage
- Special jackets available for high temperatures, high vacuum and harsh chemicals
- All dielectric, non-magnetic design
- Various lengths available

**Options**
- Available fibers: All fibers from our range
- Connectors: SMA | FC/PC | ST and others upon customer request, including ferrules
- Protection tubes: PVC | PTFE | Kevlar | C-Flex | Kevlar-reinforced PVC | Metal | Steel and others
- Cable variation: AR coating possible

---

CeramOptec®’s fused tapered fibers can be deployed from the deep UV to the NIR range. Taper products are required where input and output diameters differ. CeramOptec® offers a wide range of options, including for special applications.

**Advantages**
- Broad temperature range
- High resistance against laser damage
- Special jackets available for high temperatures, high vacuum and harsh chemicals
- All dielectric, non-magnetic design

**Formula**
A tapered optical fiber acts as a beam diameter and numerical aperture converter, with the input beam being converted according to the following formula:

\[
\frac{\text{NA}_1}{\text{NA}_2} = \frac{D_2}{D_1}
\]

NA1: Input NA  |  NA2: Output NA
D1: Input diameter  |  D2: Output diameter
The output NA is limited by the NA of the fiber used, which may result in a loss of light.

**Technical data**
- Available fibers: Optran® UV | Optran® WF | Optran® WFGF
- Wavelength: From deep UV to NIR
- Core diameter: 50 to 1500 µm
- Standard taper ratios: 2:1 | 3:1 | 4:1 | 5:1 or customised
- Standard prooftest: 100 kpsi
- Minimum bending radius: 5~100 mm (depending on the selected fiber diameter)
Instructions for use
Fibers, fiber cables, fiber bundles

Please note the following information to ensure the long-term safe use of your fiber products:

Safety
1. The NA of the laser beam must be smaller than the NA of the fiber.
2. The laser beam must be directed towards the core diameter or fused bundle, as connectors or adhesive between the bundles may otherwise overheat.
3. It is recommended to have the laser energy distributed evenly (instead of a Gaussian distribution).

Application
1. Clean the fiber endface before switching on the laser.
2. Ensure that the ferrule and receptacle are entirely free from any contamination, as contaminants may burn in.
3. The cable / bundle surface may be cleaned with isopropyl alcohol, ideally under a microscope using a cotton bud.
4. Ensure that the optical axes are correctly aligned and not at an angle to each other, and that the focal point is correctly aligned. It is recommended to verify the alignment using a He-Ne laser.
5. Ensure that the minimum bending radius is complied with to prevent fiber breakage.

Our Glossar
We have explained some important concepts of fiber optics below.

Please do not hesitate to contact us if you have any questions.

| Fiber optics | The branch of optical technology concerned with the transmission of radiant power through fibers made of transparent materials such as glass, fused silica or plastic. |
| Optical fiber | (Also optical waveguide, fiber optic cable, optical cable) – a thin filament of drawn or extruded glass or plastic having a central core and a cladding of lower-index material to promote internal reflection. |
| Fiber bundle | A rigid or flexible, concentrated assembly of glass or plastic fibers used to transmit light. |
| Core | The light conducting portion of an optical fiber. It has a higher refractive index than the cladding. |
| Cladding | Low refractive index material that surrounds the core of an optical fiber. It contains the core light while protecting against surface scattering. The cladding can consist of fused silica, plastic or specialty materials. |
| Numerical aperture (NA) | In fiber optics, the NA describes the range of angles at which light can enter and exit the system. NA is an important parameter in applied fiber optics. |
| Ultraviolet | The invisible region of the spectrum beyond the violet end of the visible region. Wavelengths range from 1 to 400 nm. |
| Visible spectrum | The region of the electromagnetic spectrum to which the retina is sensitive and by which the eye sees. It extends from about 400 to 700 nm in wavelength. |
| Attenuation | The phenomenon of the loss of average optical power in an optical fiber or medium. |
| Bend loss | Loss of power in an optical fiber due to bending of the fiber. Usually caused by exceeding the critical angle required for total internal reflection by internal light paths. |
| Transmission | In optics, the conduction of radiant energy through a medium. Often denotes the percentage of energy passing through an element or system relative to the amount that entered. |

Product code key using the example of WF 300/330 (H)(B)N (28)

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiber type</td>
<td>UV = Optran® UV</td>
<td>WF = Optran® WF</td>
<td>NSS = Optran® NSS</td>
<td>NCC = Optran® NCC</td>
<td></td>
</tr>
<tr>
<td>Standard core / cladding ratios</td>
<td>Core ø (μm) / Cladding ø (μm)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buffer</td>
<td>H = hard polymer buffer</td>
<td>No information = silicone buffer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colour</td>
<td>B = black</td>
<td>BL = blue</td>
<td>W = white</td>
<td>Y = yellow</td>
<td>R = red</td>
</tr>
<tr>
<td>Jacket material</td>
<td>A = acrylate jacket (no buffer)</td>
<td>N = nylon jacket (silicone or hard polymer jacket)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>T = ETFE jacket (silicone or hard polymer buffer)</td>
<td>P = polyimide jacket (no buffer)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Numerical aperture (NA)</td>
<td>12 = 0,12</td>
<td>28 = 0,28</td>
<td>No information = 0,22 (standard)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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