

锥形光纤

Fiber taper products

可选UV, WF, WFGe

Optran® UV, WF, Ultra WFGE



CeramOptec® 的熔融锥形光纤可部署在深紫外到近红外范围内。当输入和输出直径不同时，需要使用锥形产品。CeramOptec® 提供广泛的选择，包括特殊应用。

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.

优势

- 温度范围广
- 高抗激光损伤性
- 特殊护套可用于高温、高真空和腐蚀性化学品
- 全介电、非磁性设计

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

公式

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:

$$NA_2 = \frac{D_1}{D_2} NA_1$$

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® WFGE
Wavelength	From deep UV to NIR
Core diameter	50 to 1500 µm
Standard taper ratios	2:1 3:1 4:1 5:1 or customized
Standard proof test	100 kpsi
Minimum bending radius	5–100 mm (depending on the selected fiber diameter)