

TOP® Fiber Cables, Bundles & Assemblies

Specification Datasheet · TopRays Optical Fiber

We provide fiber solutions, carefully designed to meet your needs. Detailed parameters for fiber feedthroughs and collimators are given in Sections 12 and 13.



Single-Fiber Cables

- Wide operating temperature range
- Excellent laser-damage resistance
- Special jackets available
- Consistent core-to-cladding ratio along the entire fiber
- Fully customizable
- Optional fiber: all TOP® fibers
- Anti-reflection (AR) coating
- Connectors: SMA | FC/PC | ST | D80 | QBH | E2000
- Other interfaces (including custom ferrules) available on request

TOP® Fiber Bundles · Special Multi-Fiber Assemblies

- High transmission
- Large effective diameter
- Long service life
- Excellent high-temperature performance, up to +600 °C and above
- Eliminated gaps between fibers
- A range of ready-to-use assemblies
- Uniform distribution in multi-branch bundles
- Custom fiber arrangements

Technical Parameters

- Usable wavelength: 180 – 2400 nm
- Numerical aperture (NA): low 0.12 · standard 0.22 · high 0.28; 0.37 (TOP® NIR-Ge); all ± 0.02

Bundle Options

- TOP® bundle end-face processes: bonding, sorting, fusing, anti-reflection (AR) coating
- Bonding: bonded bundles offer unmatched flexibility, enabling many diameters and geometries.
- Sorting: fibers are sorted to distribute power evenly among bundle branches and improve measurement accuracy through spatial mapping of the fibers.
- Fusing: in fused bundles, removing gaps between fibers raises the fill factor, increasing transmission by up to 20%.
- Anti-reflection (AR) coating: effectively reduces back reflection at fiber end faces, directly increasing transmission per end face by about 3.5%.

- Optional fiber: all TOP® fibers
- Effective end-face geometries: round, semicircular, square, rectangular, linear, ring, segmented ring
- Design: single-branch, dual-branch or multi-branch
- Bundle type: bonded end or fused end

Fused end: the fusing process merges the fibers in the bundle, eliminating gaps to form a honeycomb structure. This structure reduces signal loss and improves uniformity within the bundle, significantly raising transmission efficiency.