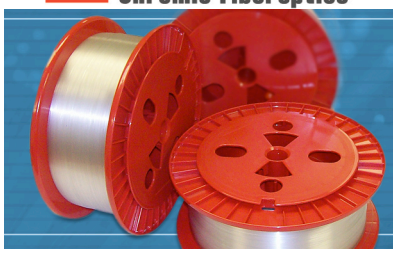
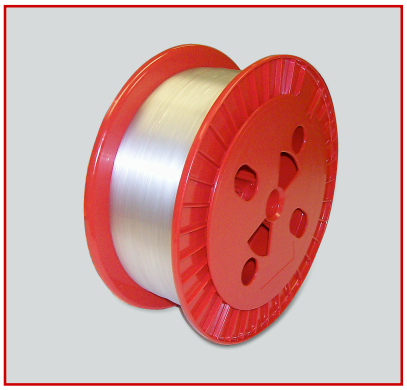
Chromis Fiberoptics



GigaPOF®-80AC Graded-Index Gigabit POF



The combination of low cost, extreme durability, and multi-gigabit performance makes GigaPOF®-80AC our most popular fiber for use in active optical cables (AOC), including USB, HDMI, and proprietary links. Because of the high numerical aperture and all-plastic construction, this fiber allows a minimum bend radius of less than 1 mm—the tightest of any optical medium in the world! With an 80-micron core diameter, it easily couples to standard multi-gigabit transmitters and receivers, while allowing a larger offset tolerance than glass fibers. GigaPOF®-80AC is a graded-index, acrylic plastic optical fiber (POF).

Graded-index POF: combining the best of the glass fiber and plastic fiber worlds

Until now, the simplicity of plastic optical fiber came with a heavy price: low performance and a restriction to visible wavelengths. The Chromis GigaPOF® line overcomes that trade-off by using low attenuation, IR-transparent perfluorinated and partially-chlorinated polymer materials, manufactured with a graded refractive index, and exacting geometric tolerances.

10-Gig capable and extremely durable

GigaPOF®-80AC supports 10-Gigabit Ethernet, HDMI, USB 3.0 and other multi-gigabit applications at distances up to 20 meters without dispersion compensation. It is also the most durable optical medium on the market, that can sustain operating bend radii smaller than 1 mm.

The world's lowest cost optical medium

Chromis prices GigaPOF®-80AC cables significantly lower than comparable glass multimode cables. But the savings from using this fiber don't end there - in active cable applications, an optical end-face can be prepared in seconds with our factory termination tool, and the fiber can be permanently clamped or glued directly into the optical sub assembly, without any need for a ferrule. GigaPOF®-80AC was designed specifically for multi-gigabit consumer AOC. It is the most cost-effective, durable solution on the market.

Product Specifications

Transmission Characteristics	
Attenuation at 850nm (dB/m)	≤ 1.2
Attenuation at 775nm (dB/m)	≤ 0.30
Attenuation at 680nm (dB/m)	≤ 0.25
Bandwidth (GHz at 20 meters)	≥ 10
Numerical aperture	0.32
Macrobend loss (dB for 180-degree bend on a 2mm radius)	≤ 0.2
Physical Characteristics	
Core diameter (μm)	80 ± 5
Cladding diameter (μm)	250 ± 5
Core-cladding concentricity (μm)	≤ 5
Maximum tensile load (N)	3.5
Long-term bend radius (mm)	1
Environmental Performance	
Operating temperature range	–20 C to +85 C
Damp heat performance (+85 C, 85%, RH)	> 1000 hours

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