

## OPTICAL FIBERS FOR LIDAR APPLICATIONS



At Coractive, we are constantly designing and innovating to manufacture specialized optical fibers so our customers can become and remain leaders in their markets.

With the mission of providing the highest quality optical fiber solutions and outstanding customer service, we specialize in optical fiber design and manufacture.

Founded in 1998 and based in Quebec City, Canada, Coractive's team of specialists have since helped to deliver tried and tested solutions throughout the world.

## **List of Optical Fibers for LiDAR Applications**

Fiber type	Model	Core Diameter (µm) or MFD*	Cladding Diameter (µm)	Core NA	Core Absorption @1530nm (dB/m)	Applications	Description	
Er Doped Single Clad Fiber	ER35-7	7*	125	0.22	35	. 1.5 µm LIDAR source pre-amplifier, EDFA, narrow linewidth sources	High absorption & high efficiency	
	ER12-6	6*	125	0.22	12		Mid level absorption & high efficiency	
	ER8-6	6*	125	0.22	8		Low absorption & high efficiency	
	SCF-ER35-10/125-12	10	125	0.12	35		High absorption and larger MFD	
	EDF-L 1500	6*	125	0.21	21		Optimized for narrow linewidth (ex : fiber optics gyroscope light sources)	
	ER35-7-PM	7*	125	0.2	35		High absorption and polarization maintaining	
	ER50-7-PM	7*	125	0.21	50		Very high absorption and polarization maintaining	

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Fiber type	Model	Core Diameter (µm) or MFD*	Cladding Diameter (µm)	Core NA	Clad absorption @915nm (dB/m)	Applications	Description
Ey Doped Double Clad Fiber	DCF-EY-6/128-G2	6	128	0.2	0.9	1.5 µm LIDAR source amplifiers	Single mode. Lower power or first stage of amplifiers
	DCF-EY-10/128H-G2	10	128	0.2	2.4	1.5 µm LIDAR source amplifiers	Few moded fiber. 2nd stage of amplifier.
	DCF-EY-12/130H	12	130	0.2	3.2	1.5 µm LIDAR source amplifiers	Few moded fiber. 2nd stage of amplifier.
	DCF-EY-11/125-18	11	125	0.18	2.75	1.5 µm LIDAR source amplifiers	Few moded fiber. 2nd stage of amplifier.
	DCF-EY-10/128P	10	128	O.11	2.9	1.5 µm LIDAR source amplifiers	Single mode. Large MFD. Optimized for single stage up to 10W
	DCF-EY-11/128P-SMF	11*	128	O.11	2.9	1.5 µm LIDAR source amplifiers	Single mode. SMF28 match. Optimized for single stage up to 10W
	DCF-EY-16/128-18	16	128	0.18	6	High Power 1.5 µm LIDAR source amplifiers	Reach at least 50W
	DCF-EY-16/250P	16	250	O.11	1.11	High Power 1.5 µm LIDAR source amplifiers	Reach at least 50W
	DCF-EY-25/250P <sup>1</sup>	25	250	0.1	5	High Power 1.5 µm LIDAR source amplifiers	Reach at least 100W
	DCF-EY-8/105/125-14/22-HTA	8	105	0.14	4	1.5 µm LIDAR source amplifiers	All glass fiber. No low index polymer
	DCF-EY-10/128-G2-PM	10	128	0.2	2	1.5 µm LIDAR PM source amplifiers, wind sensing	Polarization maintening
	DCF-EY-6/128-PM	6	128	0.2	0.7	1.5 µm LIDAR PM source amplifiers, wind sensing	Single mode. Lower power or first stage of amplifiers. Polarization maintening
Passive Double Clad Fiber	DCF-UN-8/125-14	8	125	0.14	-	Relay and passive component fibers	Match: DCF-EY-6/128, DCF-EY-10/128H, DCF-EY-12/128H, DCF-EY-11/128smf
	DCF-UN-10/125-10	10	125	O.1	-		Match : DCF-EY-10/128P
	DCF-UN-16/125-16	16	125	0.16	-		Match : DCF-EY-16/128-18
	DCF-UN-25/250-11	25	250	0.11	-		Match : DCF-EY-25/250P
	DCF-UN-8/105/125-14/22-HTA	8	105 & 125	0.14 & 0.22	-		Match : DCF-EY- 8/105/125-14/22-HTA
	DCF-UN-8/125-14-PM	8	125	0.14	-		Match Coractive's DCF-EY-10/128-G2-PM active fiber
Passive	SCF-UN-8/125-14	8	125	0.14	-	Relay and passive component fibers	Match Coractive's DCF-EY-10/128H and SMF-type fibers
Attenuating Fibers	ATN-FB	7	125	0.14	-	Attenuating fiber : 0.4 - 15 dB/cm range	Attenuating termination of unused component legs - Prevents self-pulsation
	ATN-FBL	7	125	0.14	-	Attenuating fiber - < 0.4 dB/cm range	Attenuating termination of unused component legs - Prevents self-pulsation

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