

# CorActive –Erbium and Thulium Doped Fibers For Material Processing and Medical Applications

CorActive's eye-safe erbium doped and thulium doped fibers offer high doping concentrations and high QCE values that ensure minimum fiber length, minimum pump power and reduced non-linearities.

CorActive's Er-doped and Tm-doped fibers feature highly efficient energy transfer that makes this product the ideal solution for the design of eye-safe fiber lasers and amplifiers for the material processing and medical applications.

## ADVANTAGES

- High absorption for reduced fiber length and non-linear effects
- High QCE values allows lower pump power requirements
- Photodarkening-free performance at high power ensures stable long-term operation

## APPLICATIONS

- MOPA Lasers
- High-Power/High Energy Pulsed Lasers
- Medical
- Material Processing

## PRODUCTS

Erbium (ER) Doped Fibers							
Model	Core Diameter/ MFD ( $\mu\text{m}$ )	Clad Diameter ( $\mu\text{m}$ )	Core NA	Clad/Core Absorption @ 1530 nm (dB/m)	Birefringence	Matched Passive Double Clad Fiber	Matched Passive Single Clad Fiber
ER35-7	6.5 $\pm$ 0.5	125 $\pm$ 2	0.22	35 $\pm$ 5	N/A	N/A	
ER35-7-PM	6.5 $\pm$ 0.5	125 $\pm$ 2	0.22	35 $\pm$ 5	$\geq 1.4\text{E-}04$	N/A	
NSP-0106 (SCF-ER60-8/125-12)	8.0 $\pm$ 1.0	125 $\pm$ 0.5	0.12	60 $\pm$ 10	N/A	N/A	
NSP-0108 (SCF-ER35-10/125-12)	10.0 $\pm$ 1.0	125 $\pm$ 0.5	0.12	35 $\pm$ 10	N/A	N/A	
NSP-0109 (SCF-ER35-12/125-10)	12.0 $\pm$ 1.0	125 $\pm$ 0.5	0.10	35 $\pm$ 10	N/A	N/A	

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**CorActive**  
Specialty Optical Fiber Manufacturer

## Erbium/Ytterbium (EY) Doped Fibers

Model	Core Diameter/ MFD ( $\mu\text{m}$ )	Clad Diameter ( $\mu\text{m}$ )	Core NA	Clad/Core Absorption @915nm (dB/m)	Birefringence	Matched Passive Double Clad Fiber	Matched Passive Single Clad Fiber
DCF-EY-6/128	6.5 $\pm$ 0.8	128 $\pm$ 3	0.20	0.90 $\pm$ 0.15	N/A	DCF-UN-8/125-14	SCF-UN-8/125-14
DCF-EY-6/128-PM	6.5 $\pm$ 0.8	128 $\pm$ 3	0.20	0.70 $\pm$ 0.15	$\geq 1.2\text{E-}04$	DCF-UN-8/125-14-PM	PM 1550
DCF-EY-10/128	10.0 $\pm$ 1.0	128 $\pm$ 3	0.20 $\pm$ 0.02	2.0 $\pm$ 0.5	N/A	DCF-UN-8/125-14	SCF-UN-8/125-14
DCF-EY-10/128-PM	10.0 $\pm$ 2.0	128 $\pm$ 3	0.20 $\pm$ 0.02	2.0 $\pm$ 0.5	$\geq 1.4\text{E-}04$	DCF-UN-8/125-14-PM	PM 1550
DCF-EY-10/200	10.0 $\pm$ 1.5	200 $\pm$ 10	0.20 $\pm$ 0.02	1.50 $\pm$ 0.25	N/A	DCF-UN-8/200-14	SCF-UN-8/200-14
DCF-EY-12/130	12.0 $\pm$ 1.0	130 $\pm$ 3	0.20 $\pm$ 0.02	2.8 $\pm$ 0.9	N/A	DCF-UN-8/125-14	SCF-UN-8/125-14
DCF-EY-16/128	16.0 $\pm$ 1.5	128 $\pm$ 3	0.16 $\pm$ 0.02	5.5 $\pm$ 1.5	N/A	DCF-UN-16/125-16	SCF-UN-16/125-16
DCF-EY-16/250P	16.0 $\pm$ 1.0	250 $\pm$ 5	0.11 $\pm$ 0.01	1.75 $\pm$ 0.25	N/A	DCF-UN-15/250-10	SCF-UN-15/250-10
NSP-0100 (DCF-EY-8/128P)	8.0 $\pm$ 1.0	128 $\pm$ 2	0.12 $\pm$ 0.01	1.5 $\pm$ 0.5	N/A	DCF-UN-8/125-14	SCF-UN-8/125-14
NSP-0101 (DCF-EY-11/128-16)	11.0 $\pm$ 1.0	128 $\pm$ 3	0.16 $\pm$ 0.01	2.5 $\pm$ 1.0	N/A	DCF-UN-8/125-14	SCF-UN-8/125-14
NSP-0102 (DCF-EY-25/250P)	25.0 $\pm$ 2.5	250 $\pm$ 5	0.10 $\pm$ 0.01	5.0 $\pm$ 1.0	N/A	DCF-UN-25/250-10	SCF-UN-25/250-10
EY 305	7 $\pm$ 1	125 $\pm$ 1	0.18	170 $\pm$ 20	N/A	N/A	N/A

## Thulium (TM) Doped Fibers

Model	Core Diameter ( $\mu\text{m}$ )	Clad Diameter ( $\mu\text{m}$ )	Core NA	Clad /Core Absorption @ 790 nm (dB/m)	Birefringence	Matched Passive Double Clad Fiber	Matched Passive Single Clad Fiber
DCF-TM-6/128	6.5 $\pm$ 0.5	128 $\pm$ 3	0.22 $\pm$ 0.02	1.5 $\pm$ 0.3	N/A	DCF-UN-6/123-23	SCF-UN-6/125-23
DCF-TM-10/128	10.0 $\pm$ 1.0	128 $\pm$ 3	0.22 $\pm$ 0.02	4.0 $\pm$ 0.6	N/A	DCF-UN-8/125-18	SCF-UN-8/125-18
DCF-TM-12/128P	12.0 $\pm$ 1.0	128 $\pm$ 3	0.13 $\pm$ 0.01	22 $\pm$ 3	N/A	DCF-UN-8/125-14	SCF-UN-8/125-14
DCF-TM-22/400P	22.0 $\pm$ 2.0	400 $\pm$ 10	0.10 $\pm$ 0.01	3.0 $\pm$ 0.3	N/A	DCF-UN-16/400-10	SCF-UN-16/400-10
NSP-0103 (DCF-TM-9/128P-13)	9.0 $\pm$ 1.0	128 $\pm$ 3	0.13 $\pm$ 0.01	3.0 $\pm$ 0.5	N/A	DCF-UN-8/125-14	SCF-UN-8/125-14
SCF-TM-8/125	8.0 $\pm$ 1.0	125 $\pm$ 1	0.17 $\pm$ 0.01	13 $\pm$ 2 @1567nm	N/A	N/A	SCF-UN-8/125-14
TH-512	9.0 $\pm$ 1.0	125 $\pm$ 1	0.16 $\pm$ 0.02	> 120	N/A	N/A	N/A
DCF-TM-25/250P-11	25.0 $\pm$ 2.5	250 $\pm$ 5	0.11 $\pm$ 0.01	8.0 $\pm$ 1.5	N/A	N/A	N/A
NSP-107 (DCF-TM-6/128-HA)	6.5 $\pm$ 0.5	128 $\pm$ 3	0.22 $\pm$ 0.02	2.5 $\pm$ 0.5	N/A	DCF-UN-6/123-23	SCF-UN-6/125-23
NSP-0111 (DCF-TM-10/200)	10.0 $\pm$ 1.0	200 $\pm$ 5	0.23 $\pm$ 0.02	3.5 $\pm$ 0.5	N/A	DCF-UN-8/200-18	SCF-UN-8/200-18

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## Typical Applications

### Erbium (ER) Doped Fibers

Model	Typical Applications
ER35-7	Low peak power pulsed laser design (preamplifier stage)
ER35-7-PM	Low peak power pulsed laser design (preamplifier stage)
NSP-0106 (SCF-ER60-8/125-12)	Low peak power pulsed laser design (preamplifier stage)
NSP-0108 (SCF-ER35-10/125-12)	Low peak power pulsed laser design (preamplifier stage)
NSP-0109 (SCF-ER35-12/125-10)	Low peak power pulsed laser design (preamplifier stage)

### Erbium/Ytterbium (EY) Doped Fibers

Model	Typical Applications
DCF-EY-6/128	Low peak power pulsed laser design ≤ 10W CW 1550nm laser
DCF-EY-6/128-PM	Mid/High peak power pulsed laser design
DCF-EY-10/128	≤ 10W CW 1550nm laser
DCF-EY-10/128-PM	Mid/High peak power pulsed laser design
DCF-EY-10/200	≤ 20W CW 1550nm laser
DCF-EY-12/130	Mid/High peak power pulsed laser design ≤ 10W CW 1550nm laser
DCF-EY-16/128	Mid/High peak power pulsed laser design
DCF-EY-16/250P	Pulsed Laser ≥10kW, Power Amplifier stage design
NSP-0100 (DCF-EY-8/128P)	Mid/High peak power pulsed laser design
NSP-0101 (DCF-EY-11/128-16)	Mid/High peak power pulsed laser design
NSP-0102 (DCF-EY-25/250P)	Pulsed Laser ≥10kW, Power Amplifier stage design

### Thulium (TM) Doped Fibers

Model	Typical Applications
DCF-TM-6/128	≤20W CW 2μm laser
DCF-TM-10/128	≤10W CW 2μm laser
DCF-TM-12/128P	1st Stage Amplifier of pulsed MOPA laser design
DCF-TM-22/400P	≥10W CW 2μm laser
DCF-TM-25/250P-11	Power Amplifier Stage of pulsed MOPA laser design

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## Thulium (TM) Doped Fibers

Model	Typical Applications
NSP-0103 (DCF-TM-9/128P-13)	≤10W CW 2μm laser 1st Stage Amplifier for pulsed MOPA laser design
SCF-TM-8/125	Pre-amplifier Stage for pulsed MOPA laser design
TH-512	Pre-amplifier Stage for pulsed MOPA laser design
NSP-107 (DCF-TM-6/128-HA)	≤ 20W CW 2μm laser
NSP-0111 (DCF-TM-10/200)	≥10W CW 2μm laser

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