

PMC-C-2 μ m-7C

Hollow-Core Fiber optimized for 2-3 μ m range.



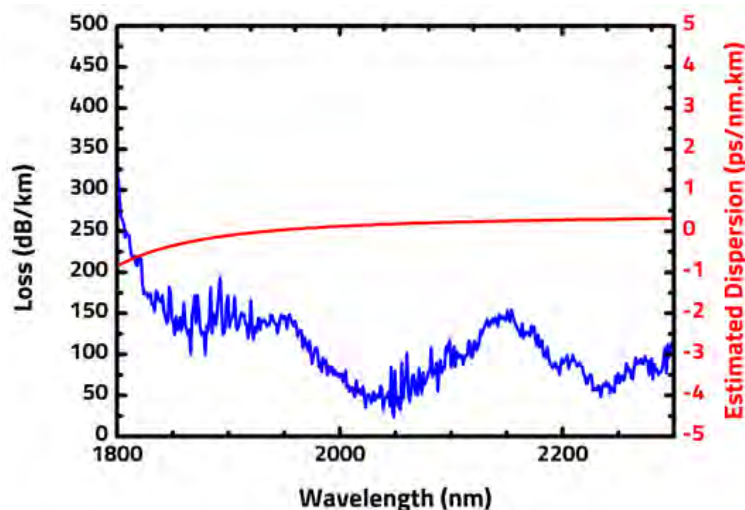
- Nearly single mode guidance
- Low dispersion, low loss
- High power and energy handling*
- Broad spectral coverage

Physical Properties

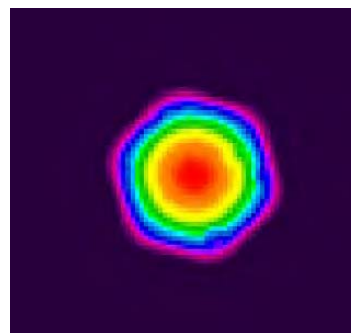
Core contour	Hypocycloid with negative curvature parameter $b > 0.7^{**}$
Inner core diameter	$56 \mu\text{m} \pm 1$
Outer fiber diameter	$415 \mu\text{m} \pm 3\%$
Fiber coating layer	Primary polymer coating

Optical Properties

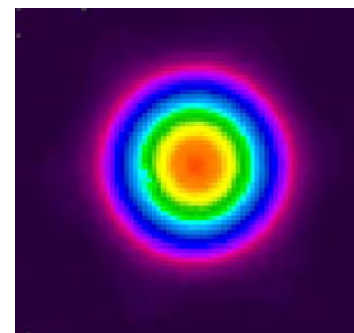
Center wavelength	2000 nm
Attenuation @2000 nm	$60 \text{ dB/km} \pm 5$
Dispersion @2000 nm	$1 \text{ ps/nm.km} \pm 0.5$
Transmission band**	$> 350 \text{ nm}$
**Attenuation lower than 150 dB/km	
Mode field diameter ($1/e^2$)	$42 \mu\text{m} \pm 1$
3 dB bend loss radius @1030 nm	$5 \text{ cm} \pm 2$



Typical attenuation and dispersion



Output near field profile



Output far field profile

* See Opt. Express **22**, no. 9, 10735, 2014

** For b definition, see Opt. Exp. **21**, no. 23, 28597, 2013



PMC-C-R&D BROADBAND 600-1400nm

Broadband hollow core fiber



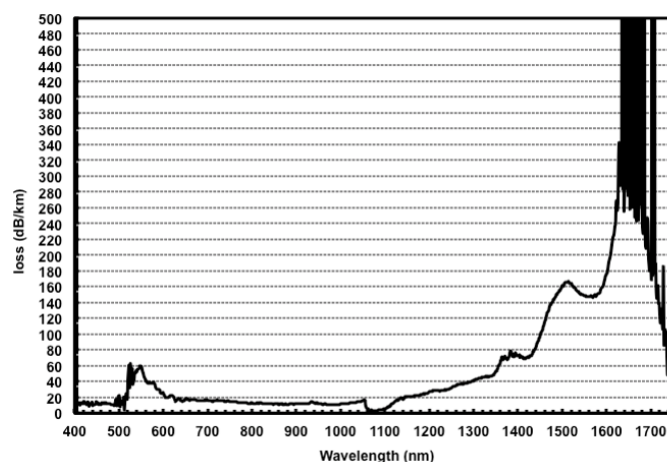
- *Nearly single mode guidance*
- *Low dispersion, low loss*
- *High power and energy handling*
- *Broad spectral coverage*

Physical Properties

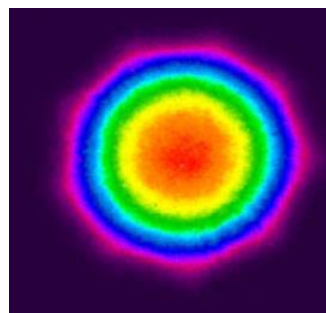
Inner core diameter	40 $\mu\text{m} \pm 1\mu\text{m}$
Outer fiber diameter	260 $\mu\text{m} \pm 1\%$

Optical Properties

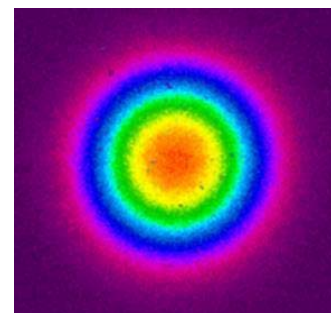
Attenuation @ 780nm, 920nm & 1050nm	<100 dB/km
Dispersion @ 1050 nm	0.5 ps/nm.km $\pm$ 0.5
Mode Field Diameter (1/e ²) @ 450nm	31 $\mu\text{m} \pm 2 \mu\text{m}$
N.A.	0.016 $\pm$ 0.004



Typical attenuation



Output near field profile



Output far field profile



PMC-C-Yb-7C

Hollow-Core Fiber optimized for 900-1100nm range. Ideal For Yb and Nd:YAG based lasers.



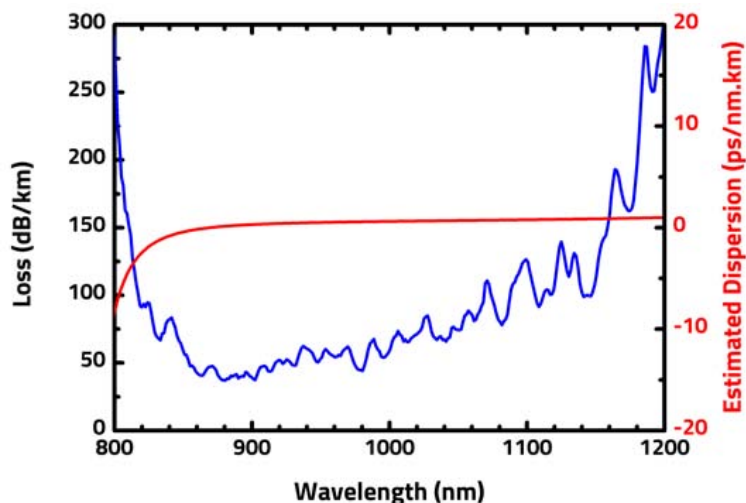
- Nearly single mode guidance
- Low dispersion, low loss
- High power and energy handling*
- Broad spectral coverage

Physical Properties

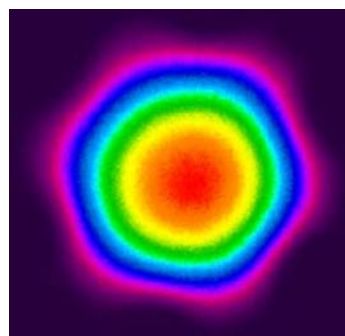
Core contour	Hypocycloid with negative curvature parameter $b > 0.7^{**}$
Inner core diameter	$57 \mu\text{m} \pm 1$
Outer fiber diameter	$320 \mu\text{m} \pm 3\%$
Fiber coating layer	Primary polymer coating

Optical Properties

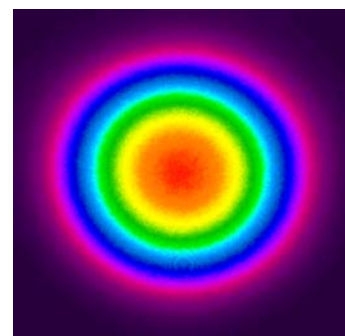
Center wavelength	1030 nm
Attenuation @ 1030 nm	$< 100 \text{ dB/km}$
Dispersion @ 1030 nm	$1 \text{ ps/nm.km} \pm 0.5$
Transmission band**	300nm
**Attenuation lower than 100 dB/km for the 850-1150nm	
Mode field diameter ($1/e^2$)	$39 \mu\text{m} \pm 1$
3 dB bend loss radius @ 1030 nm	$5 \text{ cm} \pm 2$



Typical attenuation and dispersion



Output near field profile



Output far field profile

* See Opt. Express **22**, no. 9, 10735, 2014

** For b definition, see Opt. Exp. **21**, no. 23, 28597, 2013



PMC-C-Yb-19C

*Kagome Hollow-Core Fiber with optimized performance for 900-1100nm range.
Ideal For Yb and Nd:YAG based lasers.*

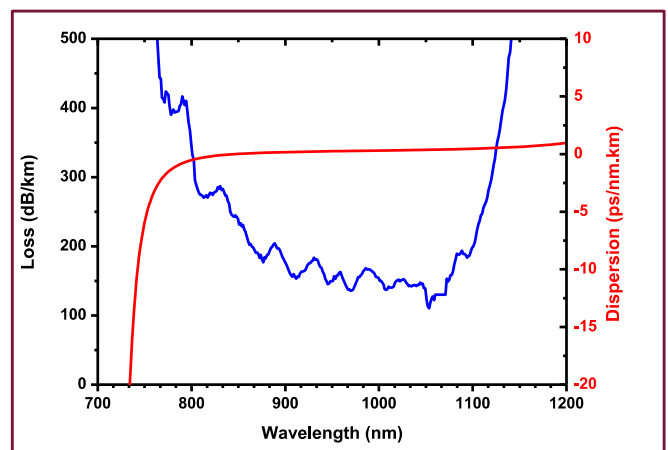
- *Broad Spectral Coverage*
- *Ultra Large Core Size*
- *Nearly Single Mode Guidance*
- *Low Dispersion*
- *Record-high laser damage threshold**



Optical micrograph of fiber end facet

Physical Properties

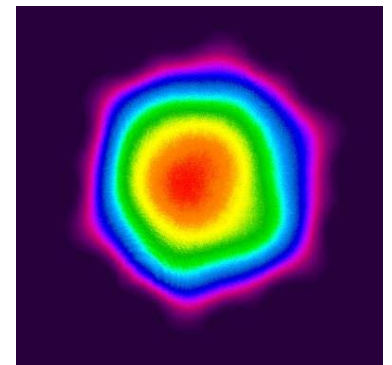
Core contour	Hypocycloid with negative curvature parameter $b=0.8^{**}$
Inner Core Diameter	$85 \mu\text{m} \pm 1$
Outer Fiber Diameter	$330 \mu\text{m} \pm 1$
Fiber Coating Layer	Primary polymer coating



Typical attenuation and dispersion

Optical Properties

Center Wavelength	1030 nm
Attenuation @ 1030 nm	$150 \text{ dB/km} \pm 5$
Dispersion @1030 nm	$1 \text{ ps/nm/km} \pm 0.5$
Transmission band**	>300nm
**Attenuation lower than 100 dB/km for the 900-1100nm	
Mode Field Diameter ($1/e^2$)	$59 \mu\text{m} \pm 1$
3 dB bend loss radius @1030 nm	$10 \text{ cm} \pm 2$



Typical output near field profile @ 1030nm

* See *Opt. Express* **22**, no. 9, 10735, 2014

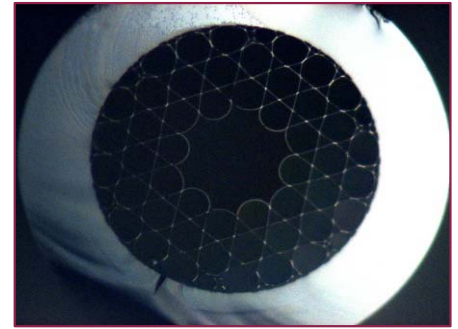
** For b definition, see *Opt. Exp.* **21**, no. 23, 28597, 2013



PMC-C-TiSa_Er-7C

*Kagome Hollow-Core Fiber with optimized performance for 800nm and 1550nm.
Ideal For Ti-Saph and Erbium based lasers.*

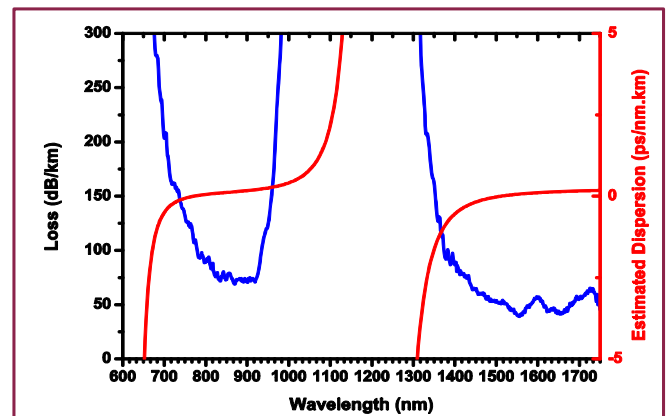
- *Broad Spectral Coverage*
- *Large Core Size*
- *Nearly Single Mode Guidance*
- *Low Dispersion*
- *Record-high laser damage threshold**



Optical micrograph of fiber end facet

Physical Properties

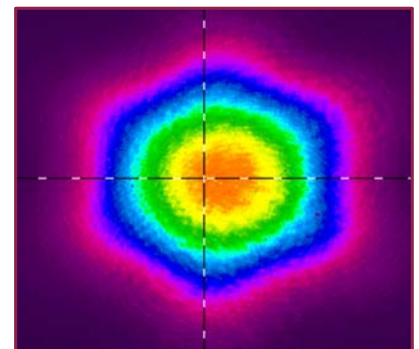
Core contour	Hypocycloid with negative curvature parameter $b=1^*$
Inner Core Diameter	$63 \mu\text{m} \pm 1$
Outer Fiber Diameter	$300 \mu\text{m} \pm 1$
Fiber Coating Layer	Primary polymer coating



Typical attenuation and dispersion

Optical Properties

Center Wavelength	800 nm / 1600nm
Attenuation @ 800 nm / 1550 nm	$<80 \text{ dB/km} \pm 5$
Dispersion @ 800 nm / 1550 nm	$1 \text{ ps/nm/km} \pm 0.5$
Transmission band** **Attenuation lower than 100 dB/km for the 1300-1750nm	$>100 \text{ nm} / >300\text{nm}$
Mode Field Diameter ($1/e^2$)	$44 \mu\text{m} \pm 1$
3 dB bend loss radius	$5 \text{ cm} \pm 2$



Typical output near field profile @ 800 nm

* See See CLEO STh4L.7, 2015

** For b definition, see Opt. Exp. 21, no. 23, 28597, 2013



PMC-C-Er-7C

Hollow-Core Fiber optimized for 1550nm. Ideal For Erbium lasers.



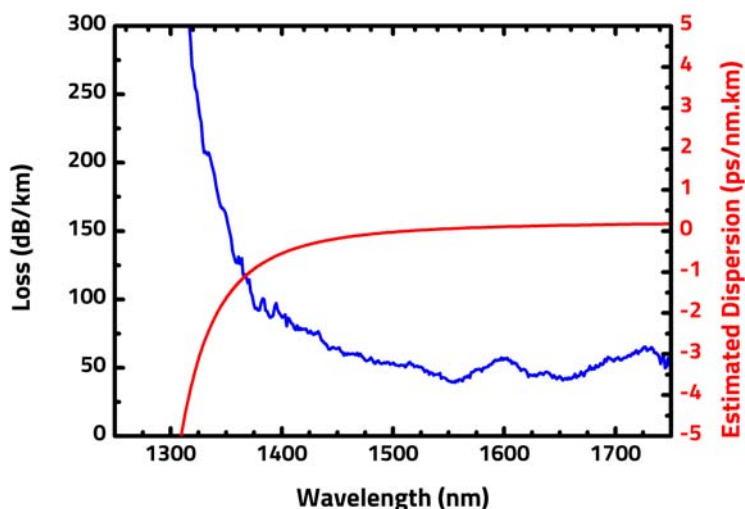
- Nearly single mode guidance
- Low dispersion, low loss
- High power and energy handling*
- Broad spectral coverage

Physical Properties

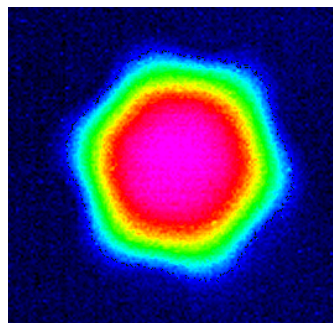
Core contour	Hypocycloid with negative curvature parameter $b=0.8^{**}$
Inner Core Diameter	$61 \mu\text{m} \pm 1$
Outer Fiber Diameter	$435 \mu\text{m} \pm 3\%$
Fiber Coating Layer	Primary polymer coating

Optical Properties

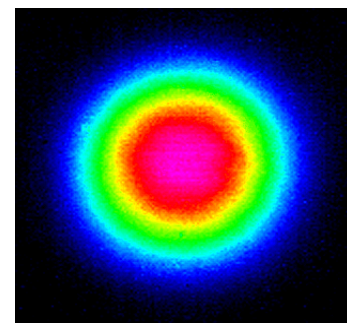
Center Wavelength	1550nm
Attenuation 1550 nm	$<50 \text{ dB/km}$
Dispersion @ 1550 nm	$1 \text{ ps/nm.km} \pm 0.5$
Transmission band** *Attenuation lower than 100 dB/km for the 1375-1750nm	400 nm
Mode Field Diameter ($1/e^2$)	$42 \mu\text{m} \pm 1$
3 dB bend loss radius	$5 \text{ cm} \pm 2$



Typical attenuation and dispersion



Output near field profile



Output far field profile

* See CLEO STh4L.7, 2015

** For b definition, see Opt. Exp. 21, no. 23, 28597, 2013

