

# Non-linear fibers

Non-linear photonic crystal fibers

# Single-mode, non-linear photonic crystal fibers

## Ideal for supercontinuum generation

These single-mode non-linear photonic crystal fibers combine a very small effective mode field area and low/zero-dispersion to allow efficient supercontinuum generation with 800 nm, 1050 nm and 1064 nm pump sources.

These fibers are ideal for applications like frequency comb generation.

**NL-PM-750**

**NL-PM-1050-NEG**

**SC-5.0-1040**

**SC-5.0-1040-PM**

## Optimized for supercontinuum generation

Optimized for supercontinuum generation and non-linear wavelength conversion, our non-linear photonic crystal fibers offers a unique combination of tailored dispersion profile and a very high non-linear coefficient.

## Features

Small mode-field area

High non-linear coefficient

Dispersion optimized for pump wavelength

# Non-linear fibers

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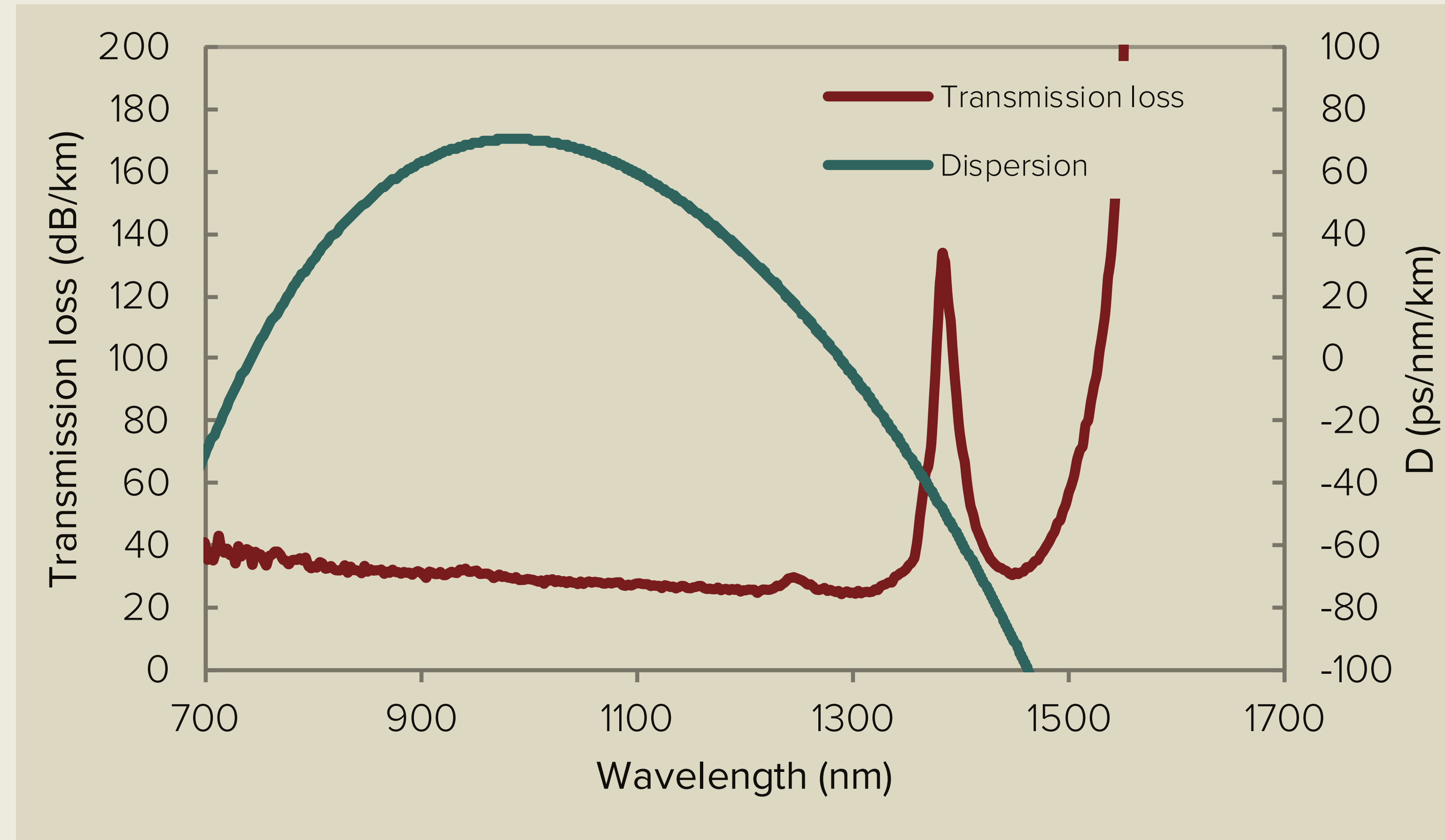
## Applications

**Supercontinuum generation**

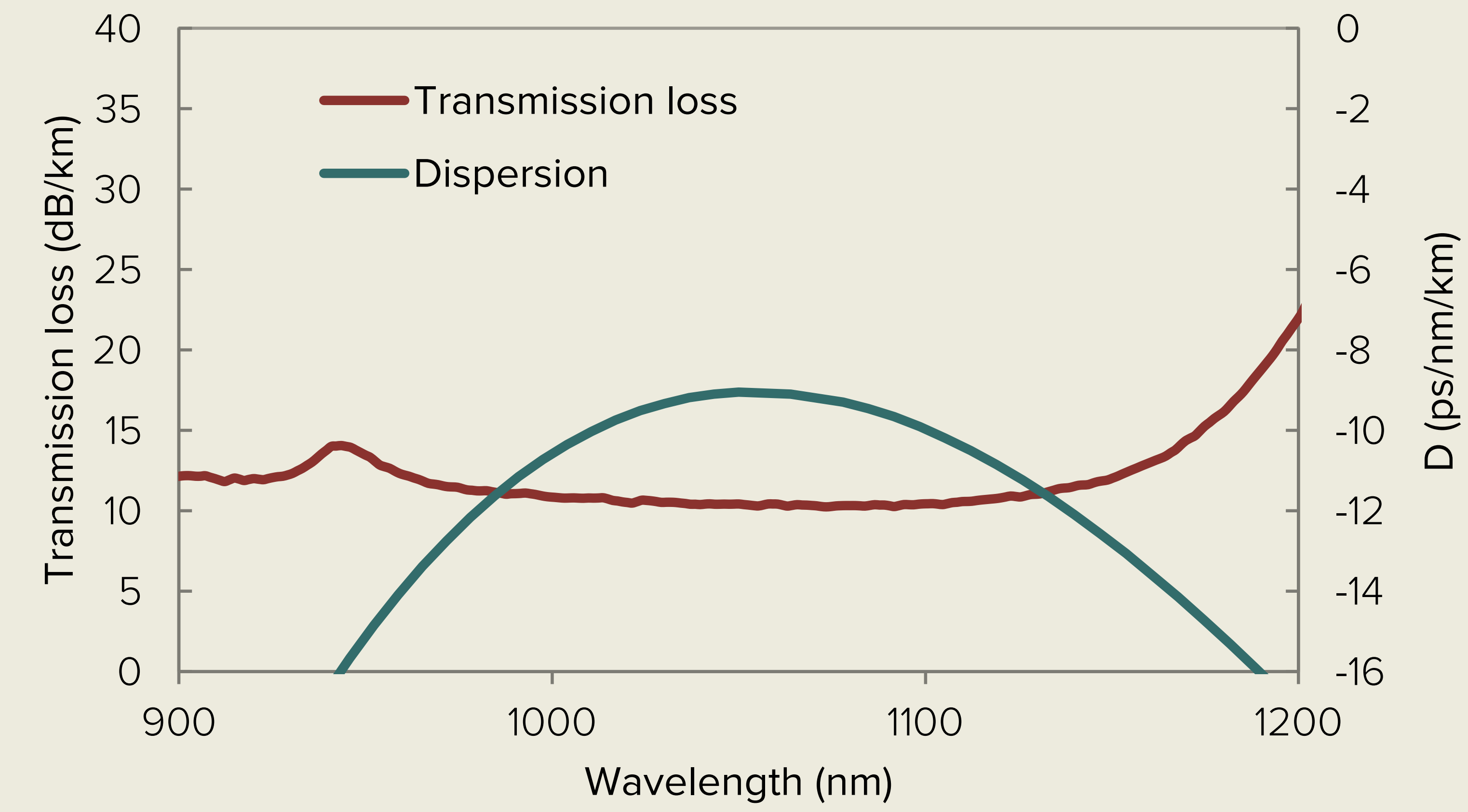
**Frequency comb generation**

# Non-linear fibers

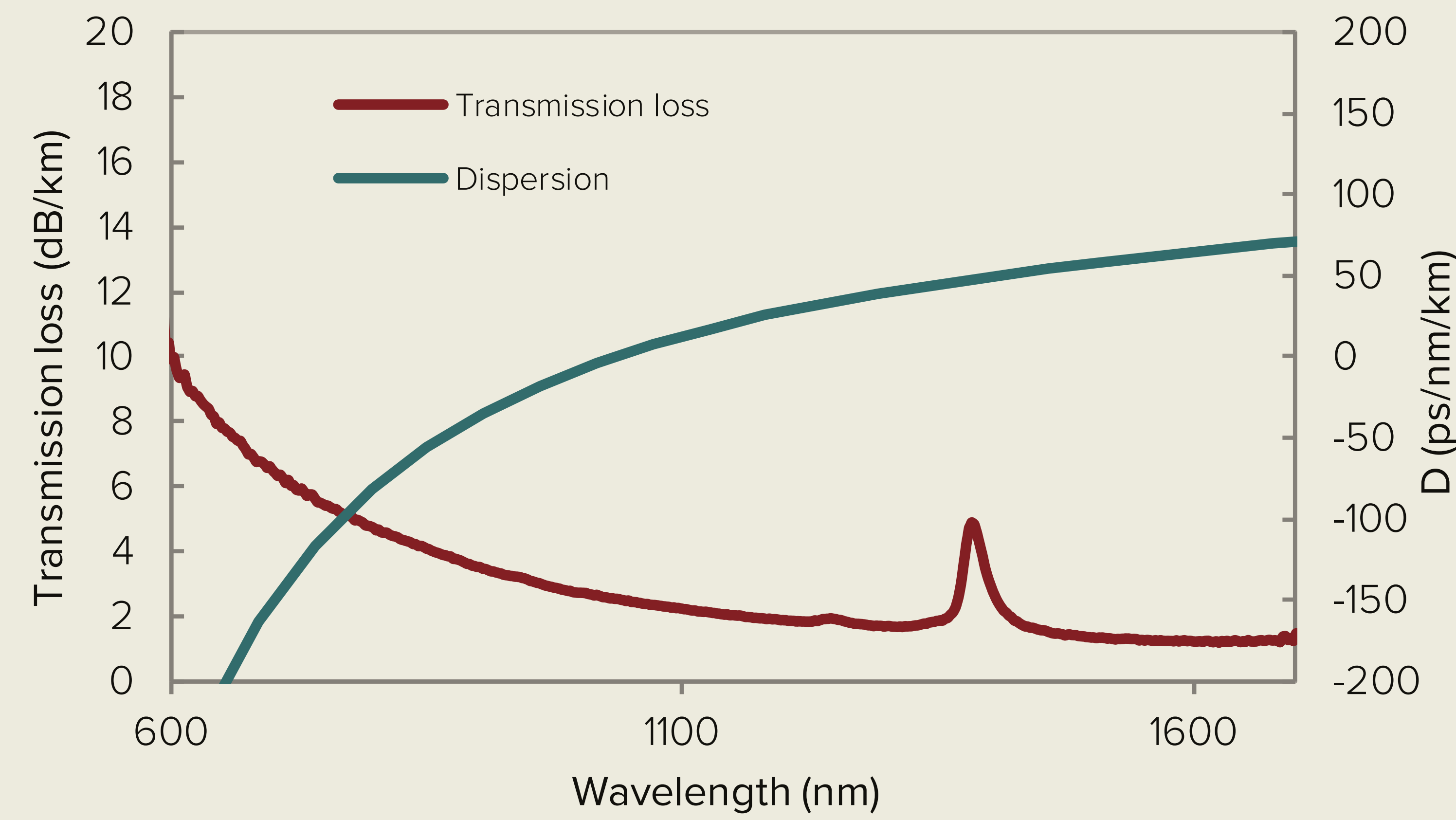
Typical measurements for NL-PM-750



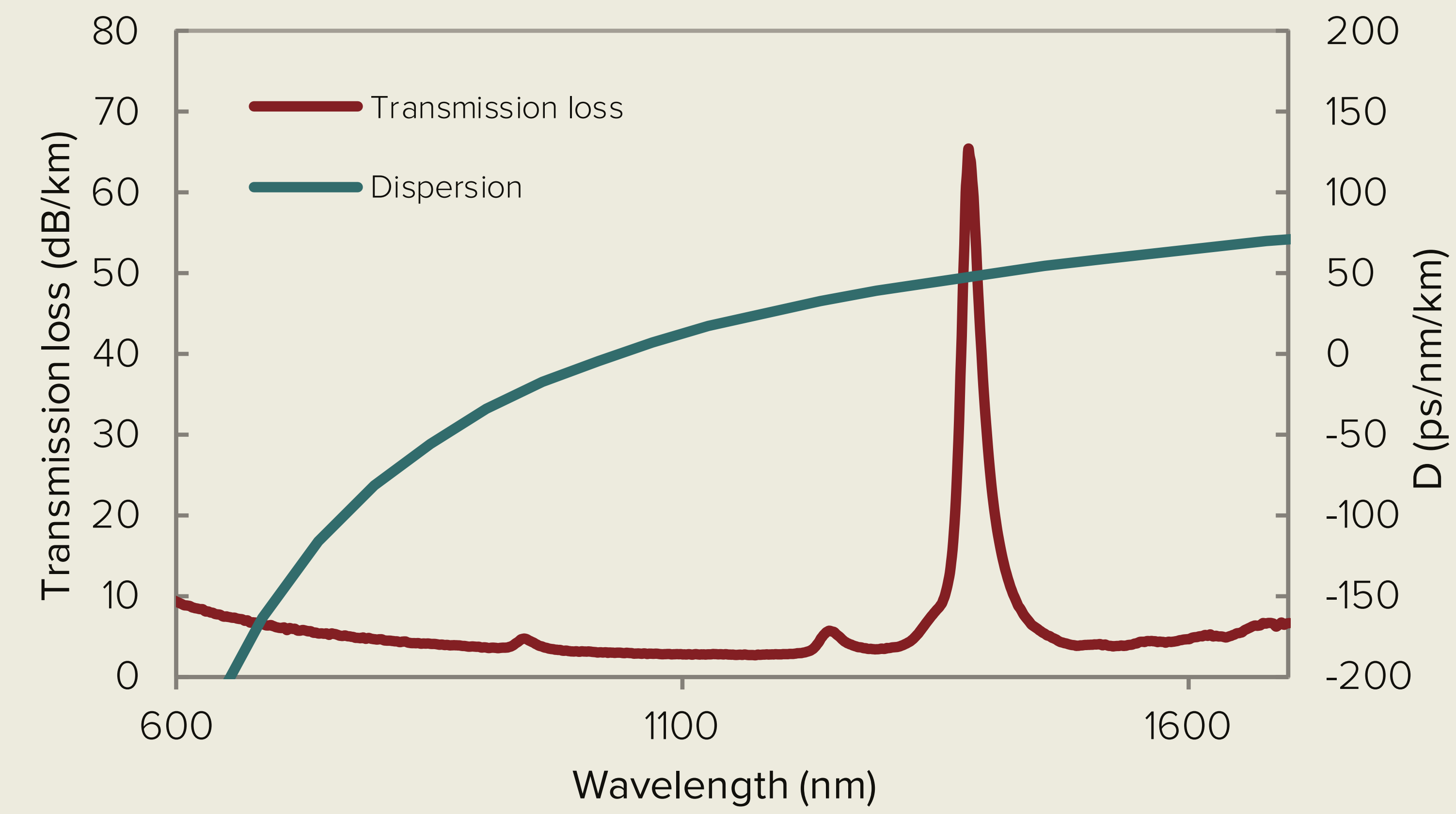
Typical measurements for NL-PM-1050-NEG



Typical measurements for SC-5.0-1040



Typical measurements for SC-5.0-1040-PM



# Specifications

## Non-linear fibers

### Optical

Model	NL-PM-750	NL-PM-1050-NEG	SC-5.0-1040	SC-5.0-1040-PM
Short zero-dispersion wavelength [nm]	750 ± 15	-	1040 ± 15	1040 ± 15
Long zero-dispersion wavelength [nm]	1270 ± 30	-	NA	NA
Attenuation [db/km]				
@ 780 nm	< 50	-	-	-
@ 1064 nm	-	< 30	< 3	< 3
Mode-field diameter, $1/e^2$ [μm]				
@ 780 nm	1.6 ± 0.3	-	-	-
@ 1064 nm	-	2.6 ± 0.5	4.2 ± 0.2	4.3 ± 0.2
NA (5%)				
@ 780 nm	0.38 ± 0.05	-	-	-
@ 1064 nm	-	-	0.20 ± 0.05	0.20 ± 0.05
Polarization maintaining	Yes	Yes	No	Yes
Birefringence [nm]				
@ 780 nm	$> 3 \cdot 10^{-4}$	-	NA	-
@ 1060	-	$> 1.7 \cdot 10^{-4}$	NA	$> 1.7 \cdot 10^{-4}$

# Specifications

## Optical

Model	NL-PM-750	NL-PM-1050-NEG	SC-5.0-1040	SC-5.0-1040-PM
HOM cut-off wavelength [nm]	< 650	-	< 1000	< 1000
Typical max. GVD wavelength [nm]	-	1050	-	-
Max. GVD [ps/nm/km]	-	- 8 ± 6	-	-

## Mechanical

Model	NL-PM-750	NL-PM-1050-NEG	SC-5.0-1040	SC-5.0-1040-PM
Outer cladding diameter [μm]	120 ± 5	200 ± 10	125 ± 3	125 ± 3
Coating diameter [μm]	240 ± 10	320 ± 20	244 ± 10	244 ± 10
Core and cladding material	Pure silica	Pure silica	Pure silica	Pure silica
Coating material, single-layer	Acrylate	Acrylate	Acrylate	Acrylate

## Non-linear fibers

All NKT Photonics products are produced under our quality management system certified in accordance with the ISO 9001:2015 standard.



# SOLUTIONS FOR INNOVATORS