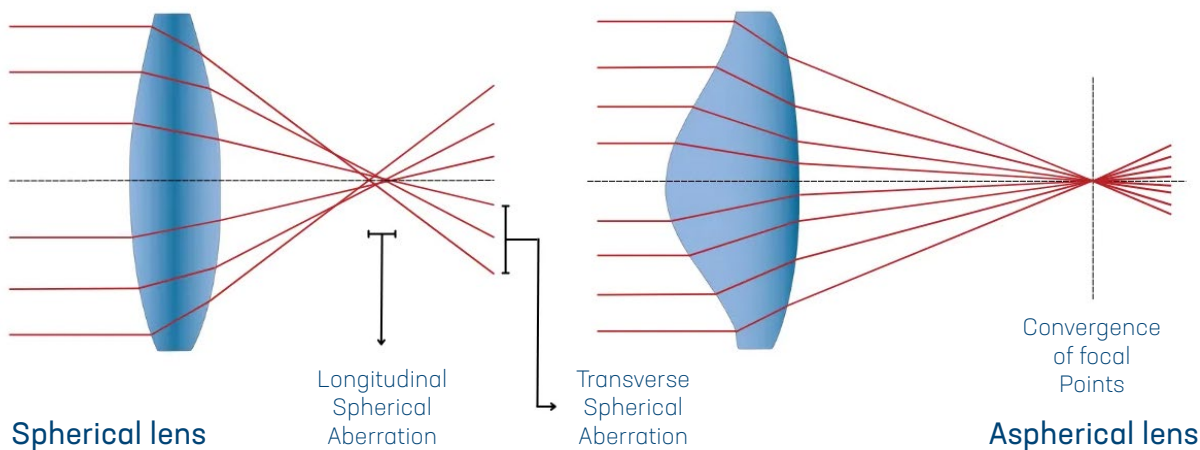


Aspheric Suprasil Lenses

CNC polished precision aspherical lenses are designed for diffraction-limited performance. We offer convex - aspherical lenses made of Suprasil specially designed to have the best performance and the highest laser induced damage threshold. The standard lenses can be supplied uncoated or anti-reflective coated at 1000-1080 nm. Other coating regions are available according the request.

- Spherical and Coma aberrations corrected
- Back reflected light is divergent
- Substrate material absorption: <3 ppm/cm at 1064nm
- Total metallic impurities: <1 ppm
- AR Coating absorption at 1070 nm: ~0.5 ppm



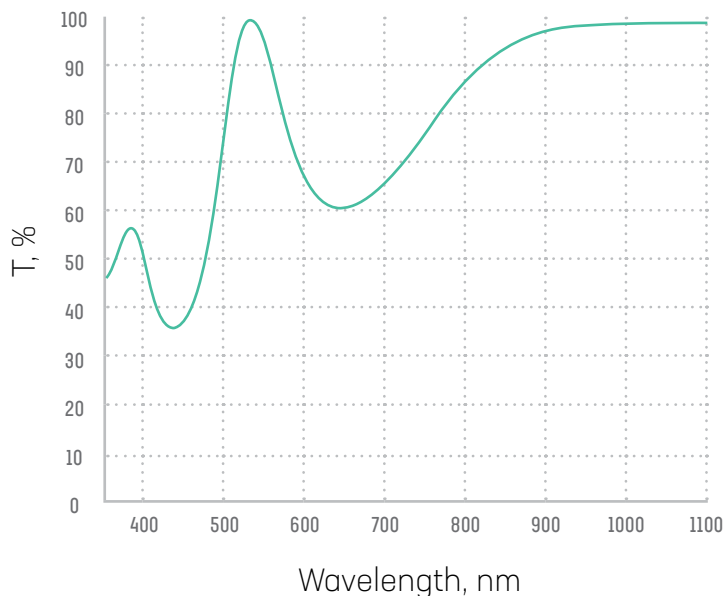
SPECIFICATIONS	
Refractive index	Suprasil - Nd=1.45846
Design wavelength	1030 nm (refractive index N=1.4496)
Surface quality	40-20 scratch & dig (uncoated)
Clear aperture	>85% of diameter
Diameter tolerance	+0.0, -0.05 mm
Bevel	0.3 mm max @ 45°
Center thickness tolerance	±0.05 mm
EFL tolerance	±0.1%
Asphere figure error P-V	±1 µm
Surface form deviation RMS	±0.3 µm
Slope error	<0.3 mrad/mm
Centration	<3 arc min

COATING	
Technology	Ion Beam Sputtering
Adhesion and Durability	Per MIL-C-675A. Insoluble in lab solvents
Clear Aperture	Exceeds central 85% of diameter
Reflectivity at 1000-1080nm	<0.1% at AOI=0-15° and <0.3% at AOI=15-33°
Damage Threshold	>560 mJ/cm², 200 fsec pulse, 200 Hz, 1030 nm >16MW/cm² CW at 1070nm, linear power density 172 kW/cm
Absorption in coating	<1 ppm at 1070nm
Angle of incidence	0-33°

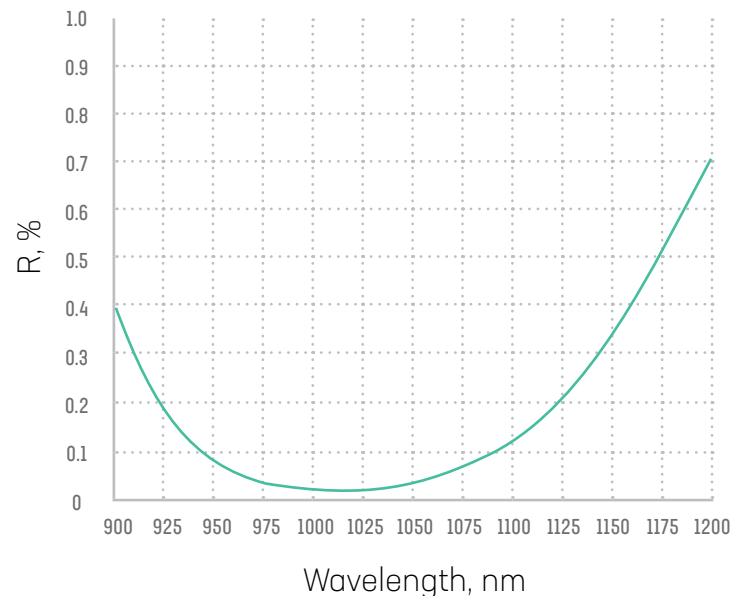
Convex - Aspheric Lenses Coated AR/AR @1000-1080nm

CODE	SUBSTRATE	DIAMETER	CT	EFL	PRICE
118-2535+AR1070	Suprasil	25.4 mm	7.33 mm	35 mm	450 €
118-2550+AR1070	Suprasil	25.4 mm	5.66 mm	50 mm	450 €
118-2575+AR1070	Suprasil	25.4 mm	4.41 mm	75 mm	450 €
118-2599+AR1070	Suprasil	25.4 mm	3.80 mm	100 mm	450 €
118-5075+AR1070	Suprasil	50.8 mm	12.89 mm	75 mm	850 €
118-5100+AR1070	Suprasil	50.8 mm	10.31 mm	100 mm	850 €
118-5150+AR1070	Suprasil	50.8 mm	7.83 mm	150 mm	850 €
118-5200+AR1070	Suprasil	50.8 mm	6.61 mm	200 mm	850 €

AR/AR@1000-1080 nm, AOI=0°



AR/AR@1000-1080 nm, AOI=25°



Convex - Aspheric Lenses uncoated

CODE	SUBSTRATE	DIAMETER	CT	EFL	PRICE
118-2535	Suprasil	25.4 mm	7.33 mm	35 mm	390 €
118-2550	Suprasil	25.4 mm	5.66 mm	50 mm	390 €
118-2575	Suprasil	25.4 mm	4.41 mm	75 mm	390 €
118-2599	Suprasil	25.4 mm	3.80 mm	100 mm	390 €
118-5075	Suprasil	50.8 mm	12.89 mm	75 mm	750 €
118-5100	Suprasil	50.8 mm	10.31 mm	100 mm	750 €
118-5150	Suprasil	50.8 mm	7.83 mm	150 mm	750 €
118-5200	Suprasil	50.8 mm	6.61 mm	200 mm	750 €

Longitudinal Scan (L-Scan) Results | Front Surface (S1)

Definitions and protocol description

Noise floor is evaluated as a median value of L-scan measurement

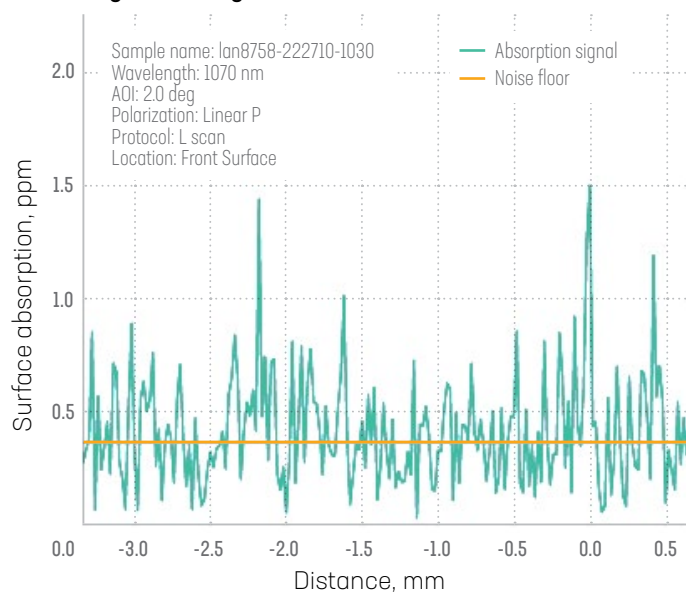
Scan parameters

Scanning axis	Longitudinal (from S1 to S2)
Scanning distance	4.0 mm
Scanning step	20 μ m
Pump laser power	(3.94553 $\pm$ 0.00036) W
Number of scans	1

Scan results

Absorption	< 0.369 ppm
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Figure 1. Longitudinal scan



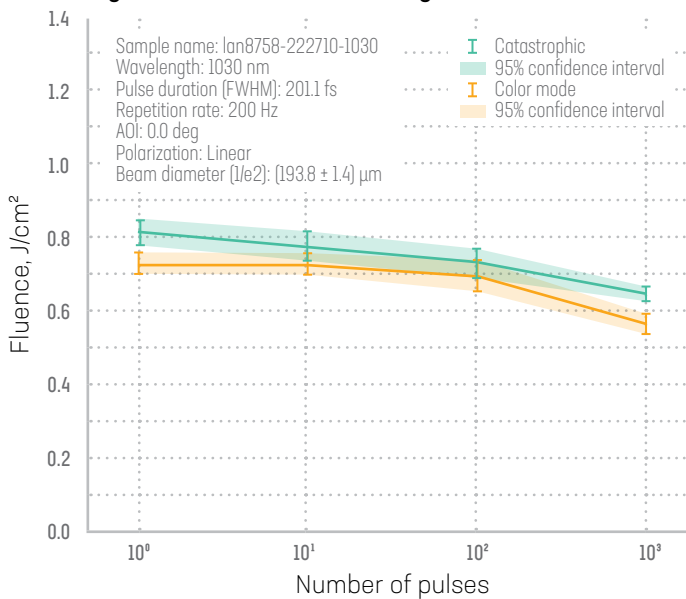
LIDT Test Results

LIDT Value

10^3 -on-1	0.566	+0.027 -0.026 J/cm ²
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Test mode	Threshold (Catastrophic)		Threshold (Color mode)	
1-on-1	0.819	+0.034 -0.033 J/cm ²	0.731	+0.030 -0.029 J/cm ²
10-on-1	0.781	+0.041 -0.040 J/cm ²	0.729	+0.032 -0.031 J/cm ²
10^2 -on-1	0.735	+0.038 -0.037 J/cm ²	0.699	+0.044 -0.042 J/cm ²
10^3 -on-1	0.648	+0.020 -0.020 J/cm ²	0.566	+0.027 -0.026 J/cm ²

Figure 2. Characteristic damage curve



LIDT Test Results

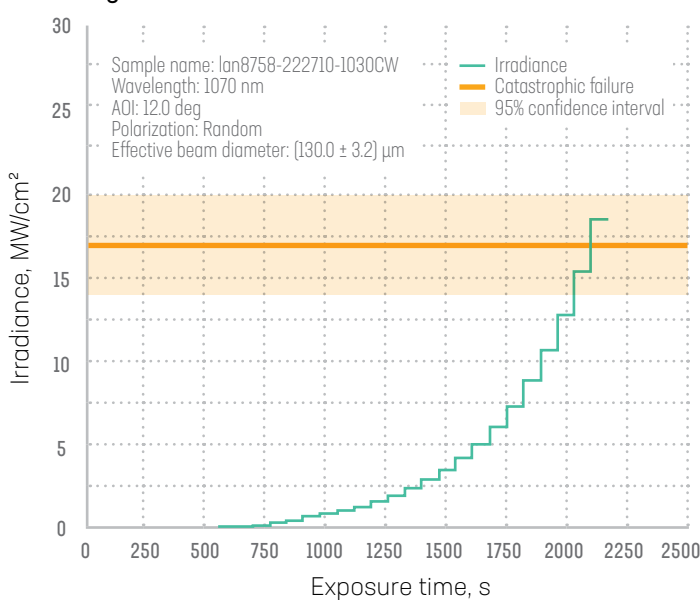
LIDT Value

	Irradiance		Linear power density	
Lidaris' Raster Scan	16.8	+3.3 -3.0 MW/cm ²	172	+34 -31 kW/cm

Table 1: Evaluated Lidaris' Raster scan LIDT for sample lan8758-222710-1030CW

Analysed Threshold type	Threshold (Irradiance)		Catastrophic failure	
10^3 -on-1	16.8	+3.3 -3.0 MW/cm ²	172	+34 -31 kW/cm

Figure 3. Raster scan test results





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OPOLレーザー

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