Fused Silica UVFS, VISFS, IRFS, UVIFS



We offer grinded blanks from different types of fused silica with different forms and sizes from ca. 2mm up to ca. 700mm. The surface roughness is about Rq = 0.8µm.

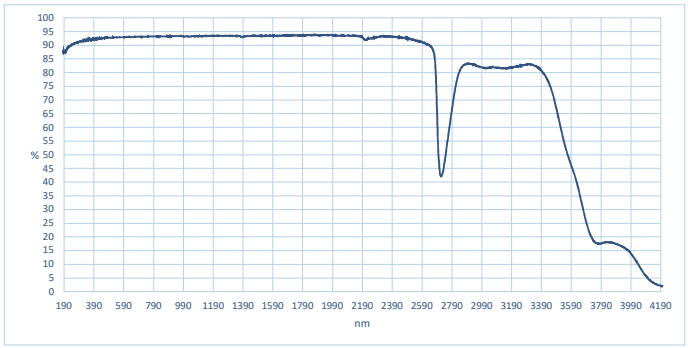
UVFS is the standard material with good transmission in UV and VIS.

VISFS is the budget material with good mechanical properties and good transmission in VIS and near IR.

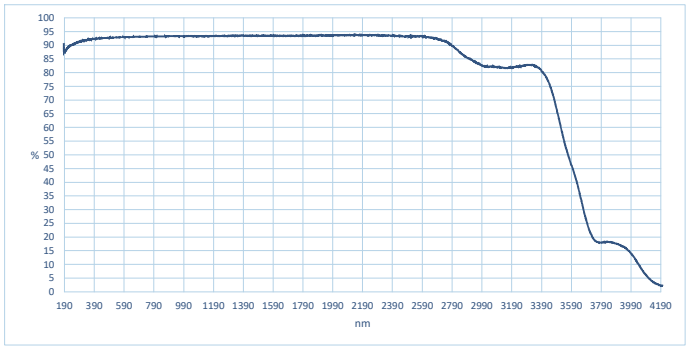
IRFS is the budget fused silica with good mechanical properties and good transmission in IR.

UVIFS is the high quality material with good transmission in full wavelength range and is suitable for high power laser applications.

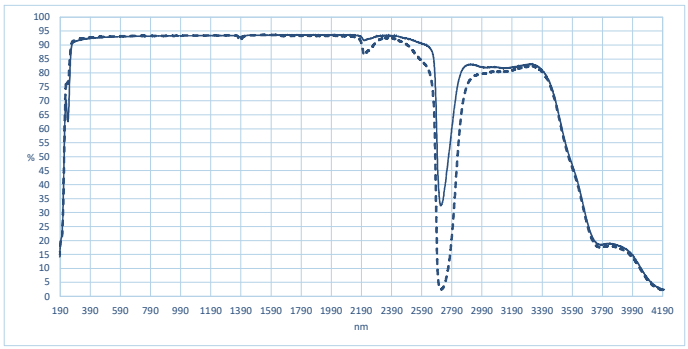
UVFS transmission per 10mm incl. Fresnel reflection

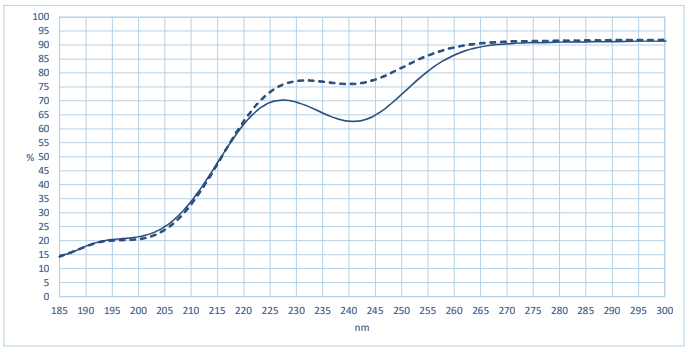


UVIFS transmission per 10mm incl. Fresnel reflection

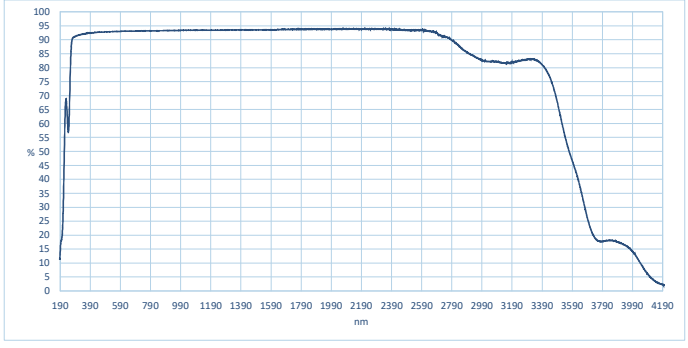


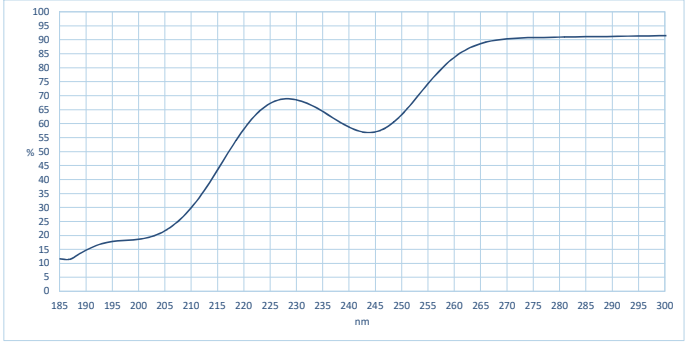
VISFS Type I and **VISFS Type II (dashed)** transmission per 10mm incl. Fresnel reflection





IRFS transmission per 10mm incl. Fresnel reflection





Fused Silica UVFS, VISFS, IRFS, UVIFS

refraction

λ [nm]	UVFS	UVIFS	VIS/IRFS
170.0	1.615	1.615	
185.0	1.57502	1.57509	
194.2	1.55892	1.55899	
214.4	1.53372	1.53379	
280.3	1.49404	1.49409	1.4944
302.2	1.48719	1.48724	1.4880
365.0	1.47454	1.47460	1.4746
404.7	1.46962	1.46967	1.4698
435.8	1.46662	1.46675	1.4668
546.1	1.46008	1.46014	1.4602
587.6	1.45846	1.45852	1.4586
589.3	1.45840	1.45847	1.4586
643.8	1.45670	1.45676	
656.3	1.45637	1.45643	1.4565
706.5	1.45515	1.45521	
852.1	1.45247	1.45253	1.4526
1014.0	1.45024	1.45030	
1083.0	1.44941	1.44947	1.4497
1128.7	1.44887	1.44893	1.4487
1395.1	1.44584	1.44590	1.4459
1709.1	1.44208	1.44214	
1813.1	1.44070	1.44076	1.4410
2058.1	1.43722	1.43730	1.4382
2437.4	1.43095	1.43102	1.4318
2500.0			
2720.0			
2800.0			1.4239
2900.0			
3000.0			1.4194
3100.0			
3243.9	1.41312	1.41319	1.4144
3302.6	1.41154	1.41162	
3507.0	1.40568	1.40575	1.4090
3706.7	1.39929	1.39937	

properties	UVFS	UVISFS	VIS/IRFS
density, g/cm^3	2.2	2.2	2.2
Young module, kg/mm^2	7,28	7,16	7,20
Poisson ratio	0.17	0.17	0.17
compression strength, kg/mm^2	120	110	115
bending strength, kg/mm^2	7.0	6.9	7.0
tensile strength, kg/mm^2	5.6	5.5	5.5
torsional rigidity, kg/mm^2	3,15	3,14	3,10
Vicker hardness, kg/mm^2	950	940	940
Knoop hardness, kg/mm^2	680	680	620
CTE, 1/K	5.5x10^{-7}	5.5x10^{-7}	5.5x10^{-7}
softening point, °C	1,700	1,700	1,730
annealing point, °C	1,160	1,160	1,180
strain point, °C	1,060	1,060	1,080
specific heat at 20°C, kJ/kg x K	0.74	0.74	0.74
thermal condustivity, W/m x K	1.1	1.1	1.4
metal impurities, ppm	<0.01	<0.01	0.1-20
Cl, ppm	<5	<2000	-
OH, ppm	<200	<1	<50 (KV) <5 (KI)

Note
UVIFS is the broad band fused silica with good transmission between 2µm and 3.5µm and the rest absorption below 1ppm/cm at 1000...1100nm. It is suitable for high power laser applications.

dispersion

λ [nm]	ν(λ)
e-line 546.2	67.7
d-line 587.7	67.8

Fused Silica UVFS, VISFS, IRFS, UVIFS

prices (EUR/pc) for non-polished substrates from UVFS (1-20pcs)

size	EUR/pc	size	EUR/pc
dia 12.5 x 1.4mm	1.05	dia 38.1 x 3.4mm	5.60
dia 12.5 x 2.4mm	1.40	dia 38.1 x 4.4mm	6.90
dia 12.5 x 3.4mm	1.80	dia 38.1 x 5.4mm	8.05
dia 12.5 x 4.4mm	1.95	dia 38.1 x 6.4mm	9.20
dia 12.5 x 5.4mm	2.15	dia 50.0 x 3.4mm	7.40
dia 25.0 x 1.4mm	2.10	dia 50.0 x 4.4mm	8.25
dia 25.0 x 2.4mm	2.30	dia 50.0 x 5.4mm	9.50
dia 25.0 x 3.4mm	2.75	dia 50.0 x 6.4mm	10.75
dia 25.0 x 4.4mm	3.40	dia 50.0 x 7.4mm	12.30
dia 25.0 x 5.4mm	4.15	dia 50.0 x 8.4mm	12.90
dia 25.0 x 6.4mm	4.85	dia 50.0 x 9.4mm	15.05
dia 38.1 x 2.4mm	4.20	dia 50.0 x 10.4mm	16.00

size	EUR/pc
127 x 127 x 2.3mm	23.00
152 x 152 x 2.3mm	28.00
152 x 152 x 3.0mm	29.00
152 x 152 x 3.5mm	31.00
152 x 152 x 6.0mm	45.00
dia 184 x 3.8mm with cuts	35.00