

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 $R_q = 0.8\mu\text{m}$.

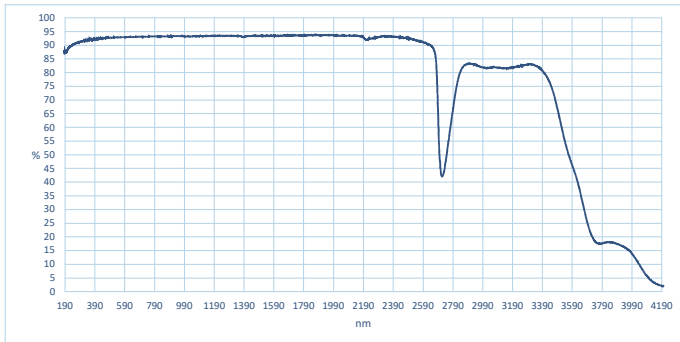
UVFS is the standard material with good transmission in UV and VIS.

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

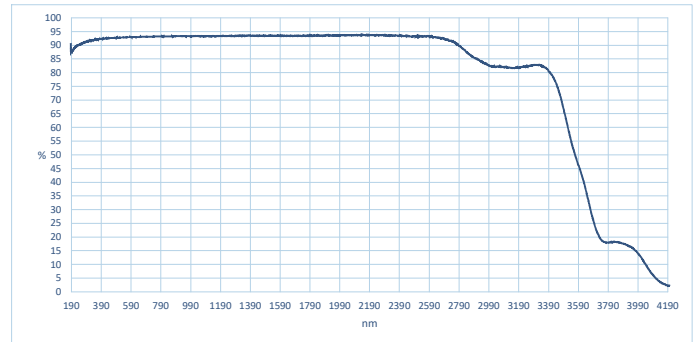
IRFS is the budget fused silica with good mechanical properties and good transmission in IR.

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

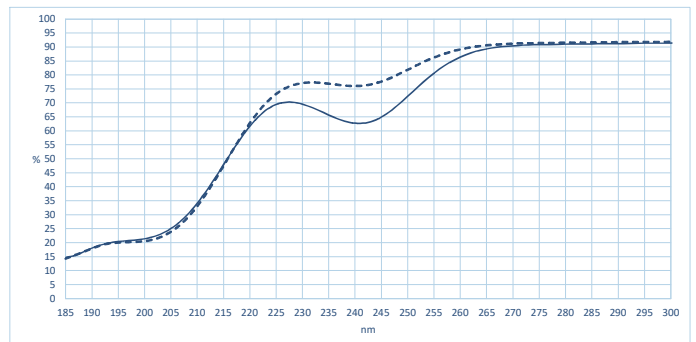
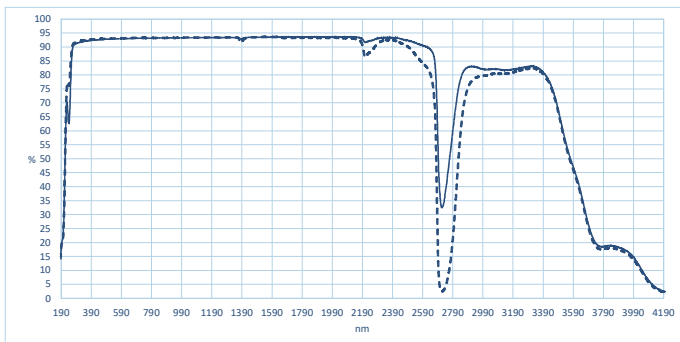
UVFS transmission per 10mm incl. Fresnel reflection



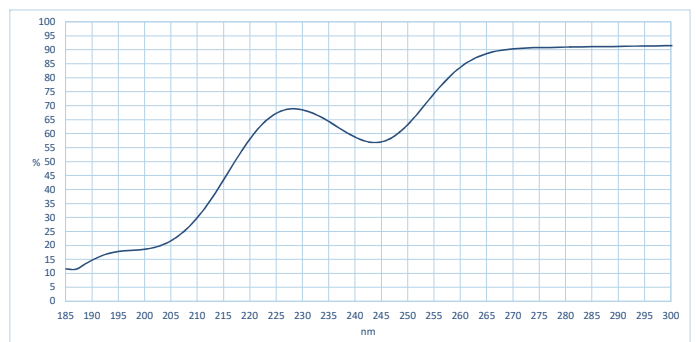
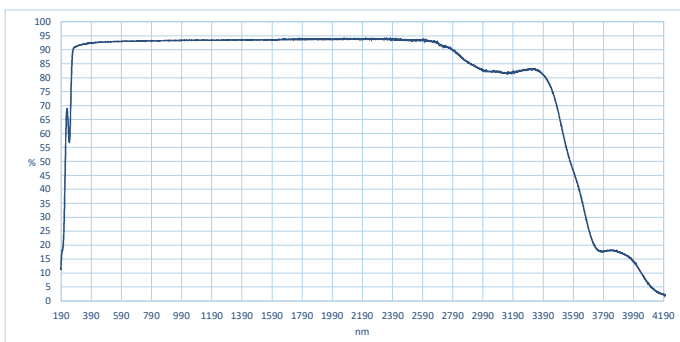
UVIFS transmission per 10mm incl. Fresnel reflection



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	properties	UVFS	UVIFS	VIS/IRFS
170.0	1.615	1.615		density, g/cm ³	2.2	2.2	2.2
185.0	1.57502	1.57509		Young module, kg/mm ²	7,28	7,16	7,20
194.2	1.55892	1.55899		Poisson ratio	0.17	0.17	0.17
214.4	1.53372	1.53379		compression strength, kg/mm ²	120	110	115
280.3	1.49404	1.49409	1.4944	bending strength, kg/mm ²	7.0	6.9	7.0
302.2	1.48719	1.48724	1.4880	tensile strength, kg/mm ²	5.6	5.5	5.5
365.0	1.47454	1.47460	1.4746	torsional rigidity, kg/mm ²	3,15	3,14	3,10
404.7	1.46962	1.46967	1.4698	Vicker hardness, kg/mm ²	950	940	940
435.8	1.46662	1.46675	1.4668	Knoop hardness, kg/mm ²	680	680	620
546.1	1.46008	1.46014	1.4602	CTE, 1/K	5.5x10 ⁻⁷	5.5x10 ⁻⁷	5.5x10 ⁻⁷
587.6	1.45846	1.45852	1.4586	softening point, °C	1,700	1,700	1,730
589.3	1.45840	1.45847	1.4586	annealing point, °C	1,160	1,160	1,180
643.8	1.45670	1.45676		strain point, °C	1,060	1,060	1,080
656.3	1.45637	1.45643	1.4565	specific heat at 20°C, kJ/kg x K	0.74	0.74	0.74
706.5	1.45515	1.45521		thermal conductivity, W/m x K	1.1	1.1	1.4
852.1	1.45247	1.45253	1.4526	metal impurities, ppm	<0.01	<0.01	0.1-20
1014.0	1.45024	1.45030		Cl, ppm	<5	<2000	-
1083.0	1.44941	1.44947	1.4497	OH, ppm	<200	<1	<50 (KV) <5 (KI)
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					

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

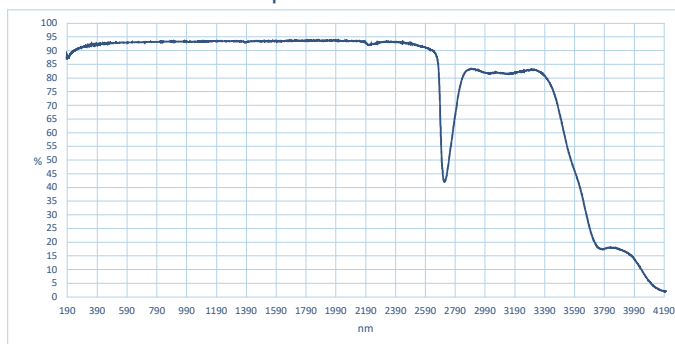
λ [nm]	$v(\lambda)$
e-line 546.2	67.7
d-line 587.7	67.8

Raw Substrates from Fused Silica UVFS

prices (EUR/pc) for substrates from stock (1-20pcs)

sizes, mm	price, EUR	sizes, mm	price, EUR	rejected wafers, occasional items	
				sizes, mm	price, EUR
dia 12.5 x 2.8	0.66	50.0 x 50.0 x 6.3	21.36		
dia 22.35 x 4.3	2.31	50.0 x 50.0 x 8.3	27.93	127 x 127 x 2.3	23.00
dia 25.0 x 2.3	1.62	80.0 x 80.0 x 1.0	11.47	152 x 152 x 2.3	28.00
dia 25.0 x 3.3	2.27	80.0 x 80.0 x 2.0	20.44	152 x 152 x 3.0	29.00
dia 25.0 x 5.3	3.56	80.0 x 80.0 x 3.0	29.02	152 x 152 x 6.35	45.00
dia 25.0 x 6.3	4.15	80.0 x 80.0 x 4.0	36.29	dia 184 x 3.8	35.00
dia 30.0 x 5.3	5.17	80.0 x 80.0 x 5.0	46.76		
dia 34.0 x 5.3	6.63	80.0 x 80.0 x 6.0	56.03		
dia 36.0 x 5.3	7.39	80.0 x 80.0 x 7.0	64.30		
dia 37.0 x 7.3	10.77	80.0 x 80.0 x 8.0	71.78		
dia 38.0 x 2.3	4.57	80.0 x 80.0 x 9.0	79.25		
dia 38.1 x 2.3	4.60	80.0 x 80.0 x 10.0	86.72		
dia 38.1 x 3.3	5.68				
dia 38.1 x 6.7	10.58				
dia 38.1 x 10.1	15.74				
dia 48.0 x 7.3	17.86				
dia 50.0 x 6.3	16.65				
dia 50.0 x 8.3	22.02				
dia 50.8 x 9.8	26.94				
dia 55.0 x 2.3	9.53				
dia 62.0 x 9.8	39.86				
dia 63.5 x 6.3	27.01				
dia 63.5 x 8.3	35.33				
dia 63.5 x 10.3	43.64				
dia 76.2 x 10.3	62.85				

UVFS transmission per 10mm incl. Fresnel reflection



size tolerance +/-0.1mm
 thickness tolerance +/-0.1mm
 other sizes are possible by request
 prices for charges above 20pcs are calculated by request