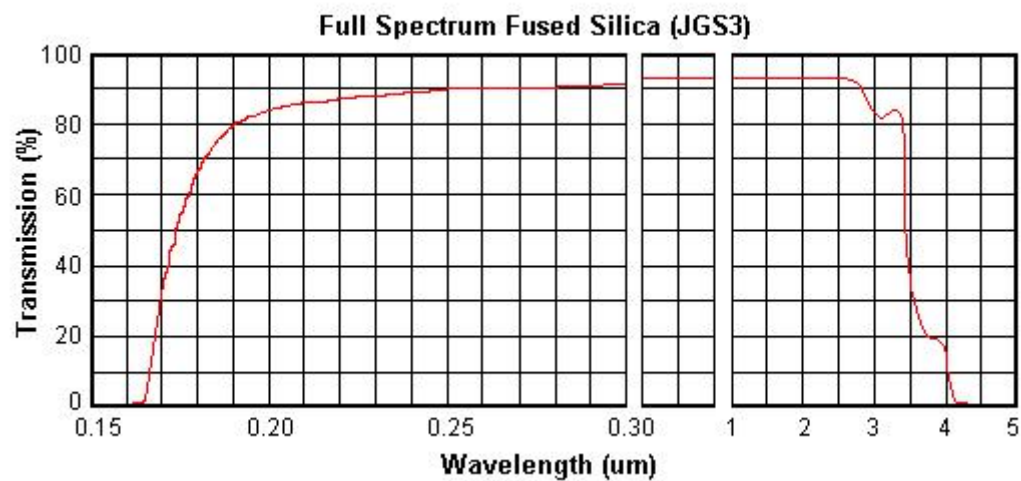
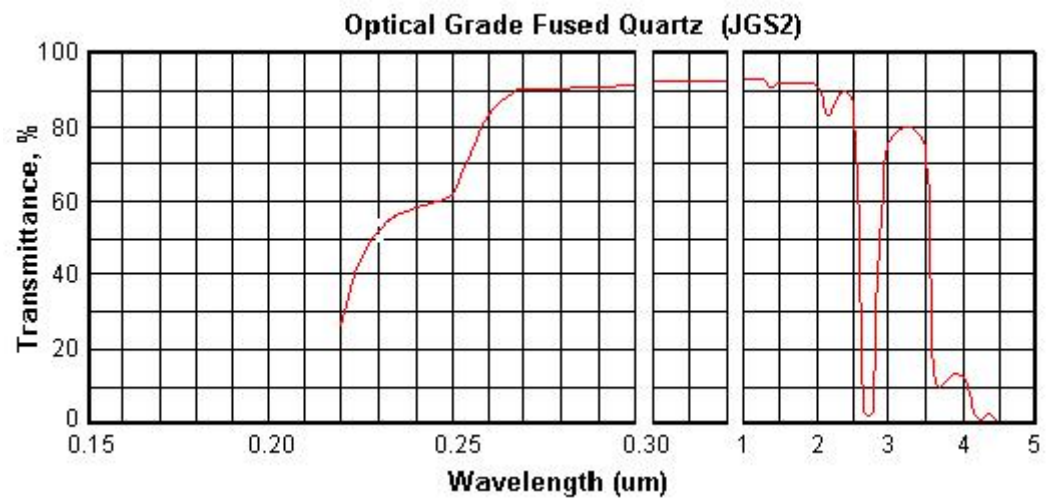
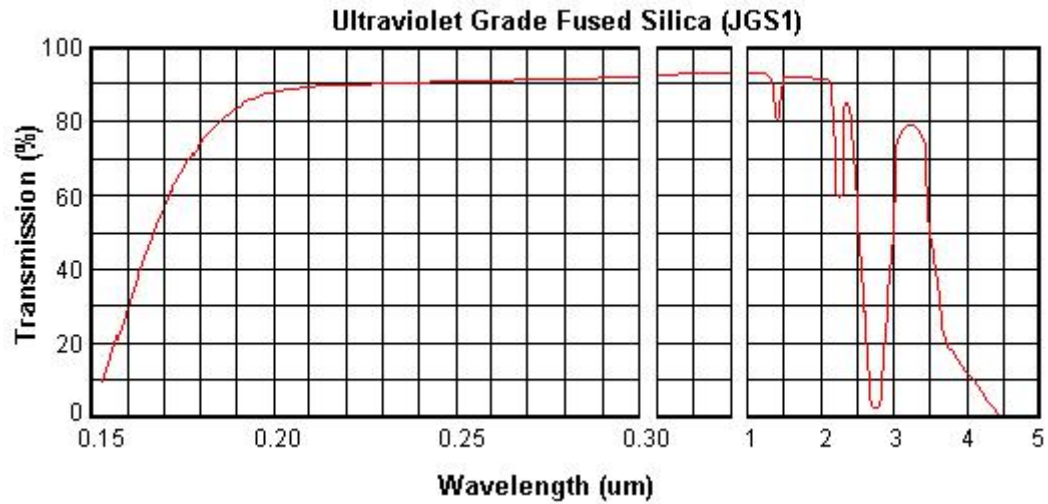


Different Properties				
Parameter Value		JGS1	JGS2	JGS3
Maximum Size		<Φ200mm	<Φ300mm	<Φ200mm
Transmission Range (Medium transmission ratio)		0.17~2.10um (Tavg>90%)	0.26~2.10um (Tavg>85%)	0.185~3.50um (Tavg>85%)
OH- Content		1200 ppm	150 ppm	5 ppm
Fluorescence (ex 254nm)		Virtually Free	Strong v-b	Strong V-B
Impurity Content		5 ppm	20-40 ppm	40-50 ppm
Birefringence Constant		2-4 nm/cm	4-6 nm/cm	4-10 nm/cm
Melting Method		Synthetic CVD	Oxy-hydrogen melting	Electrical melting
Applications		Laser substrate: Window, lens, prism, mirror...	Semiconductor and high temperature window	IR & UV substrate
Same properties				
Density			2.20g/cm ³	
Abbe Constant			67.6	
Refractive Index (nd) at 588nm			1.4586	
Wavelength (um)		Refractive Index (n)	Wavelength (um)	Refractive Index (n)
0.200		1.55051	1.000	1.45042
0.220		1.52845	1.064	1.44962
0.250		1.50745	1.100	1.44920
0.300		1.48779	1.200	1.44805
0.320		1.48274	1.300	1.44692
0.360		1.47529	1.500	1.44462
0.400		1.47012	1.600	1.44342
0.450		1.46557	1.700	1.44217
0.488		1.46302	1.800	1.44087
0.500		1.46233	1.900	1.43951
0.550		1.46008	2.000	1.43809
0.588		1.45860	2.200	1.43501
0.600		1.45804	2.400	1.43163
0.633		1.45702	2.600	1.42789

0.650	1.45653	2.800	1.42377
0.700	1.45529	3.000	1.41925
0.750	1.45424	3.200	1.41427
0.800	1.45332	3.370	1.40990
0.850	1.45250	3.507	1.40566
0.900	1.45175	3.707	1.39936
Transmission Curve		See below	



Hardness	5.5 - 6.5 Mohs' Scale 570 KHN 100
Design Tensile Strength	4.8×10^7 Pa (N/mm ²) (7000

	psi)
Design Compressive Strength	Greater than 1.1×10^9 Pa (160,000 psi)
Bulk Modulus	3.7×10^{10} Pa (5.3×10^6 psi)
Rigidity Modulus	3.1×10^{10} Pa (4.5×10^6 psi)
Young's Modulus	7.2×10^{10} Pa (10.5×10^6 psi)
Poisson's Ratio	0.17
Coefficient of Thermal Expansion	5.5×10^{-7} cm/cm.°C (20°C-320°C)
Thermal Conductivity	1.4 W/m.°C
Specific Heat	670 J/kg.°C
Softening Point	1683°C
Annealing Point	1215°C
Strain Point	1120°C
Electrical Receptivity	7×10^7 ohm.cm (350°C)
Dielectric Properties (20°C and 1 MHz)	
Constant	3.75
Strength	5×10^7 V/m
Loss Factor	Less than 4×10^{-4}
Dissipation Factor	Less than 1×10^{-4}
Velocity of Sound-Shear Wave	3.75×10^3 m/s
Velocity of Sound/Compression Wave	5.90×10^3 m/s
Sonic Attenuation	Less than 11 db/m MHz
Permeability Constants ($\text{cm}^3\text{mm}/\text{cm}^2 \text{ sec cm of Hg}$)	(700°C)
Helium	210×10^{-10}
Hydrogen	21×10^{-10}
Deuterium	17×10^{-10}
Neon	9.5×10^{-17}
Chemical Stability (except hydrofluoric)	High resistance to water and acids