OHARA S-BSM22R 622532

Refractive Index	n_d	**1,62230** 1,622300	Abbe Number	ν_d **53,18**	Dispersion $n_F - n_C$ **0,01170** 0,011701
Refractive Index	n_e	1,625086	Abbe Number	ν_e 52,89	Dispersion $n_{F'} - n_{C'}$ 0,011818

Refractive Indices

	λ (μm)	
n_{2325}	2.32542	1,59302
n_{1970}	1.97009	1,59784
n_{1530}	1.52958	1,60309
n_{1129}	1.12864	1,60796
n_t	1.01398	1,60965
n_s	0.85211	1,61269
$n_{A'}$	0.76819	1,61482
n_r	0.70652	1,61679
n_C	0.65627	**1,61878**
$n_{C'}$	0.64385	1,61933
n_{He-Ne}	0.6328	1,61986
n_D	0.58929	1,62220
n_d	0.58756	**1,62230**
n_e	0.54607	1,62509
n_F	0.48613	**1,63048**
$n_{F'}$	0.47999	1,63115
n_{He-Cd}	0.44157	1,63609
n_g	0.435835	**1,63696**
n_h	0.404656	1,64239
n_i	0.365015	
n_{334}	0.334148	
n_{326}	0.326106	

Thermal Properties

Strain Point	**StP**	579
Annealing Point	**AP**	609
Transformation Temperature	**Tg**	619
Yield Point	**At**	683
Softening Point	**SP**	744
Expansion Coefficient (10^{-7} /°C)	α (-30~+70°C)	89
	α (+100~+300°C)	96
Thermal Conductivity (W/m·K)	**k**	0,870

Mechanical Properties

Young's Modulus (10^8N/m^2)	**E**	877
Rigidity Modulus (10^8N/m^2)	**G**	345
Poisson's Ratio	σ	0,271
Knoop Hardness	**Hk**	570 [6]
Abrasion	**Aa**	166
Photoelastic Constant (nm/cm/10^5 Pa)	β	2,03

Partial Dispersions

$n_C - n_t$	0,009123
$n_C - n_{A'}$	0,003957
$n_d - n_C$	0,003523
$n_e - n_C$	0,006309
$n_g - n_d$	0,014656
$n_g - n_F$	0,006478
$n_h - n_g$	0,005432
$n_i - n_g$	
$n_{C'} - n_t$	0,009681
$n_e - n_{C'}$	0,005751
$n_{F'} - n_e$	0,006067
$n_i - n_{F'}$	

Deviation of Relative Partial Dispersions

$\Delta\theta_{C,t}$	-0,0165
$\Delta\theta_{C,A'}$	-0,0021
$\Delta\theta_{g,d}$	-0,0018
$\Delta\theta_{g,F}$	-0,0018
$\Delta\theta_{i,g}$	

Constants of Dispersion Formula

326 ~ 1129 nm	
A_1	1,48053862
A_2	1,02502508 · 10^{-1}
A_3	1,10949686
B_1	8,92784117 · 10^{-3}
B_2	3,74827379 · 10^{-2}
B_3	1,29148740 · 10^{2}
1129 ~ 2325 nm	
A_1	
A_2	
A_3	
B_1	
B_2	
B_3	

Chemical Properties

Water Resistance (Powder) Group	**RW(P)**	1
Acid Resistance (Powder) Group	**RA(P)**	3
Weathering Resistance (Surface) Group	**W(S)**	2
Acid Resistance (Surface) Group	**SR**	52,2
Phosphate Resistance	**PR**	10,0

Relative Partial Dispersions

$\theta_{C,t}$	0,7797
$\theta_{C,A'}$	0,3382
$\theta_{d,C}$	0,3011
$\theta_{e,C}$	0,5392
$\theta_{g,d}$	1,2525
$\theta_{g,F}$	0,5536
$\theta_{h,g}$	0,4642
$\theta_{i,g}$	
$\theta'_{C',t}$	0,8192
$\theta'_{e,C'}$	0,4866
$\theta'_{F',e}$	0,5134
$\theta'_{i,F'}$	

Other Properties

Bubble Quality Group	**B**	
Specific Gravity	**d**	3,24
Coloring	λ_{80} / λ_{70}	485
	λ_5	410

Internal Transmittance

λ (nm)	τ i 10 mm	τ i 25 mm
280		
290		
300		
310		
320		
330		
340		
350		
360		
365		
370		
380		
390		
400		
420	0,275	
440	0,579	
460	0,797	
480	0,890	
500	0,926	
550	0,957	
600	0,970	
650	0,980	
700	0,987	
800	0,995	
900	0,997	
1000	0,998	
1200	0,999	
1400	0,997	
1600	0,997	
1800	0,990	
2000	0,979	
2200	0,950	
2400	0,872	

Temperature Coefficients of Refractive Index

Range of Temperature (°C)	dn / dt relative (10^6 /°C)							
	t	C'	He-Ne	D	e	F'	g	i
-40 ~ -20	1,6	2,0	2,1	2,2	2,4	2,8	3,2	
-20 ~ 0	1,5	1,9	2,0	2,1	2,3	2,7	3,2	
0 ~ 20	1,4	1,9	1,9	2,1	2,3	2,7	3,2	
20 ~ 40	1,4	1,9	1,9	2,1	2,3	2,7	3,2	
40 ~ 60	1,4	1,9	2,0	2,1	2,3	2,8	3,3	
60 ~ 80	1,5	2,1	2,1	2,3	2,5	3,0	3,5	