S-BAL14

Code(d) **569563**
Code(e) **571561**

Refractive Index	n_d	**1.56883** 1.568832	Abbe Number	ν_d **56.36**	Dispersion	n_F-n_C **0.010092**
Refractive Index	n_e	1.571237	Abbe Number	ν_e 56.09	Dispersion	$n_{F'}$-$n_{C'}$ 0.010185

Refractive Indices		
λ(μm)		
n_{2325}	2.32542	1.54050
n_{1970}	1.97009	1.54565
n_{1530}	1.52958	1.55116
n_{1129}	1.12864	1.55601
n_t	1.01398	1.55761
n_s	0.85211	1.56040
$n_{A'}$	0.76819	1.56230
n_r	0.70652	1.56404
n_C	0.65627	1.56577
$n_{C'}$	0.64385	1.56626
n_{He-Ne}	0.6328	1.56671
n_D	0.58929	1.56874
n_d	0.58756	1.56883
n_e	0.54607	1.57124
n_F	0.48613	1.57587
$n_{F'}$	0.47999	1.57645
n_{He-Cd}	0.44157	1.58067
n_g	0.435835	1.58141
n_h	0.404656	1.58604
n_i	0.365015	1.59400

Constants of Dispersion Formula	
A_1	1.27553696E+00
A_2	1.46083393E-01
A_3	1.16754699E+00
B_1	7.49692359E-03
B_2	3.10421530E-02
B_3	1.28947092E+02

Chemical Properties	
Water Resistance(Powder) Group RW(P)	2
Acid Resistance(Powder) Group RA(P)	1
Weathering Resistance(Surface) Group W(S)	2～3
Acid Resistance(Surface) Group SR	1.0
Phosphate Resistance PR	2.0

Mechanical Properties		
Young's Modulus E (GPa)	81.1	
Rigidity Modulus G (GPa)	32.7	
Poisson's Ratio σ	0.240	
Knoop Hardness Hk[Class]	570	6
Abrasion Aa	140	

Partial Dispersions	
n_C-n_t	0.008164
n_C-$n_{A'}$	0.003476
n_d-n_C	0.003057
n_e-n_C	0.005462
n_g-n_d	0.012574
n_g-n_F	0.005539
n_h-n_g	0.004629
n_i-n_g	0.012595
n_C-n_t	0.008650
n_e-$n_{C'}$	0.004976
$n_{F'}$-n_e	0.005209
n_i-$n_{F'}$	0.017555

Relative Partial Dispersions	
$\theta_{C,t}$	0.8090
$\theta_{C,A'}$	0.3444
$\theta_{d,C}$	0.3029
$\theta_{e,C}$	0.5412
$\theta_{g,d}$	1.2459
$\theta_{g,F}$	0.5489
$\theta_{h,g}$	0.4587
$\theta_{i,g}$	1.2480
$\theta'_{C',t}$	0.8493
$\theta'_{e,C'}$	0.4886
$\theta'_{F',e}$	0.5114
$\theta'_{i,F'}$	1.7236

Deviation of Relative Dispersions Δθfrom "Normal"	
$\Delta\theta_{C,t}$	-0.0021
$\Delta\theta_{C,A'}$	0.0002
$\Delta\theta_{g,d}$	-0.0018
$\Delta\theta_{g,F}$	-0.0014
$\Delta\theta_{i,g}$	-0.0051

Thermal Properties		
Strain Point StP (℃)		533
Annealing Point AP (℃)		562
Transformation Temperature Tg (℃)		580
Yield Point At (℃)		622
Softening Point SP (℃)		700
Expansion Coefficients α (10^{-7} K^{-1})	(-30~+70℃)	80
	(+100~+300℃)	93
Thermal Conductivity λ W/(m·K)		0.967

Coloring			
λ_{80}	360	λ_5	325
λ_{70}			

Internal transmission			
$\lambda_{0.80}$	354	$\lambda_{0.05}$	329

CCI		
B	G	R
0.00	0.26	0.24

Internal Transmittance	
λ(nm)	τ 10mm
280	
290	
300	
310	
320	
330	0.09
340	0.44
350	0.74
360	0.88
370	0.946
380	0.970
390	0.983
400	0.989
420	0.992
440	0.993
460	0.994
480	0.995
500	0.997
550	0.998
600	0.998
650	0.997
700	0.998
800	0.998
900	0.998
1000	0.997
1200	0.997
1400	0.989
1600	0.993
1800	0.983
2000	0.967
2200	0.914
2400	0.86

Temperature Coefficients of Refractive Index							
Range of Temperature (℃)	Δn/ΔT relative ($10^{-6}$$K^{-1}$)						
	t	C'	He-Ne	D	e	F'	g
-40~-20	1.2	1.5	1.5	1.6	1.8	2.1	2.4
-20~ 0	1.2	1.5	1.6	1.7	1.8	2.2	2.5
0~20	1.3	1.6	1.6	1.7	1.9	2.2	2.6
20~40	1.3	1.7	1.7	1.8	2.0	2.3	2.7
40~60	1.4	1.7	1.8	1.8	2.0	2.4	2.8
60~80	1.4	1.8	1.8	1.9	2.1	2.5	2.9

Other Properties	
Photoelastic Constant β nm/(cm·10^5Pa)	2.32
Specific Gravity d	2.89
Remarks	

OHARA 24-01

※The name of the glass type is the model number assigned based on the main components of the composition: large, medium, small refractive index and serial number.