L-BAL35

Code(d) **589612**
Code(e) **591609**

Refractive Index	n_d	**1.58913** / 1.589130	Abbe Number	ν_d **61.15**	Dispersion	n_F-n_C **0.009634**
Refractive Index	n_e	1.591428	Abbe Number	ν_e 60.93	Dispersion	$n_{F'}$-$n_{C'}$ 0.009706

Refractive Indices		
λ(μm)		
n_{2325}	2.32542	1.55775
n_{1970}	1.97009	1.56407
n_{1530}	1.52958	1.57069
n_{1129}	1.12864	1.57622
n_t	1.01398	1.57795
n_s	0.85211	1.58085
$n_{A'}$	0.76819	1.58276
n_r	0.70652	1.58448
n_C	0.65627	1.58618
$n_{C'}$	0.64385	1.58665
n_{He-Ne}	0.6328	1.58709
n_D	0.58929	1.58904
n_d	0.58756	1.58913
n_e	0.54607	1.59143
n_F	0.48613	1.59581
$n_{F'}$	0.47999	1.59636
n_{He-Cd}	0.44157	1.60031
n_g	0.435835	1.60100
n_h	0.404656	1.60528
n_i	0.365015	1.61256

Constants of Dispersion Formula	
A_1	1.16262630E+00
A_2	3.25661051E-01
A_3	1.35132486E+00
B_1	1.25957437E-02
B_2	-3.26911050E-03
B_3	1.19214596E+02

Chemical Properties	
Water Resistance(Powder) Group RW(P)	2
Acid Resistance(Powder) Group RA(P)	4
Weathering Resistance(Surface) Group W(S)	3
Acid Resistance(Surface) Group SR	52.2
Phosphate Resistance PR	3.2

Mechanical Properties		
Young's Modulus E (GPa)	100.8	
Rigidity Modulus G (GPa)	40.3	
Poisson's Ratio σ	0.252	
Knoop Hardness Hk[Class]	640	6
Abrasion Aa	100	

Partial Dispersions	
n_C-n_t	0.008230
n_C-$n_{A'}$	0.003418
n_d-n_C	0.002952
n_e-n_C	0.005250
n_g-n_d	0.011867
n_g-n_F	0.005185
n_h-n_g	0.004288
n_i-n_g	0.011567
n_C-n_t	0.008702
n_e-$n_{C'}$	0.004778
$n_{F'}$-n_e	0.004928
n_i-$n_{F'}$	0.016208

Relative Partial Dispersions	
$\theta_{C,t}$	0.8543
$\theta_{C,A'}$	0.3548
$\theta_{d,C}$	0.3064
$\theta_{e,C}$	0.5449
$\theta_{g,d}$	1.2318
$\theta_{g,F}$	0.5382
$\theta_{h,g}$	0.4451
$\theta_{i,g}$	1.2006
$\theta'_{C',t}$	0.8966
$\theta'_{e,C'}$	0.4923
$\theta'_{F',e}$	0.5077
$\theta'_{i,F'}$	1.6699

Deviation of Relative Dispersions Δθfrom "Normal"	
$\Delta\theta_{C,t}$	0.0207
$\Delta\theta_{C,A'}$	0.0048
$\Delta\theta_{g,d}$	-0.0059
$\Delta\theta_{g,F}$	-0.0043
$\Delta\theta_{i,g}$	-0.0124

Thermal Properties		
Strain Point StP (℃)		489
Annealing Point AP (℃)		520
Transformation Temperature Tg (℃)		530 *
Yield Point At (℃)		573 *
Softening Point SP (℃)		619
Expansion Coefficients α (10^{-7} K^{-1})	(-30~+70℃)	66 *
	(+100~+300℃)	85 *
Thermal Conductivity λ W/(m·K)		1.13

Coloring			
λ_{80}	345	λ_5	295
λ_{70}			

Internal transmission			
$\lambda_{0.80}$	336	$\lambda_{0.05}$	300

CCI		
B	G	R
0.00	0.23	0.20

Internal Transmittance	
λ(nm)	τ 10mm
280	
290	
300	0.06
310	0.27
320	0.53
330	0.73
340	0.85
350	0.922
360	0.956
370	0.975
380	0.984
390	0.989
400	0.992
420	0.993
440	0.993
460	0.995
480	0.996
500	0.998
550	0.999
600	0.998
650	0.998
700	0.998
800	0.999
900	0.998
1000	0.997
1200	0.997
1400	0.991
1600	0.994
1800	0.989
2000	0.978
2200	0.934
2400	0.81

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	3.9	4.3	4.3	4.4	4.5	4.8	5.1
-20~ 0	3.9	4.3	4.3	4.5	4.6	4.9	5.2
0~20	4.0	4.4	4.4	4.5	4.7	5.0	5.3
20~40	4.0	4.4	4.5	4.6	4.7	5.1	5.4
40~60	4.1	4.5	4.5	4.7	4.8	5.2	5.5
60~80	4.1	4.5	4.6	4.8	4.9	5.2	5.6

Other Properties	
Photoelastic Constant β nm/(cm·10^5Pa)	2.29
Specific Gravity d	2.82
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.