

S-LAM54

Code(d) **757478**

Code(e) **761476**

Refractive Index n_d	1.75700 1.756998	Abbe Number ν_d	47.82	Dispersion n_F-n_C	0.015830
Refractive Index n_e	1.760765	Abbe Number ν_e	47.57	Dispersion n_F-n_C'	0.015991

Refractive Indices		
$\lambda(\mu\text{m})$		
n_{2325}	2.32542	1.71415
n_{1970}	1.97009	1.72188
n_{1530}	1.52958	1.73007
n_{1129}	1.12864	1.73729
n_t	1.01398	1.73970
n_s	0.85211	1.74394
$n_{A'}$	0.76819	1.74686
n_r	0.70652	1.74954
n_C	0.65627	1.75223
$n_{C'}$	0.64385	1.75299
$n_{\text{He-Ne}}$	0.6328	1.75370
n_D	0.58929	1.75686
n_d	0.58756	1.75700
n_e	0.54607	1.76076
n_F	0.48613	1.76806
$n_{F'}$	0.47999	1.76898
$n_{\text{He-Cd}}$	0.44157	1.77570
n_g	0.435835	1.77687
n_h	0.404656	1.78431
n_i	0.365015	1.79726

Constants of Dispersion Formula	
A_1	1.84213306E+00
A_2	1.75468631E-01
A_3	1.25750878E+00
B_1	9.43993220E-03
B_2	3.95281122E-02
B_3	8.65463013E+01

Chemical Properties	
Water Resistance(Powder) Group RW(P)	1
Acid Resistance(Powder) Group RA(P)	4
Weathering Resistance(Surface) Group W(S)	1~2
Acid Resistance(Surface) Group SR	51.0
Phosphate Resistance PR	2.0

Mechanical Properties	
Young's Modulus E (10^9N/m^2)	1172
Rigidity Modulus G (10^8N/m^2)	454
Poisson's Ratio σ	0.292
Knoop Hardness Hk[Class]	700 7
Abrasion Aa	62
Photoelastic Constant β (nm/cm/ 10^9Pa)	1.70

Temperature Coefficients of Refractive Index							
Range of Temperature (°C)	dn/dT relative ($10^{-6}/^\circ\text{C}$)						
	t	C'	He-Ne	D	e	F'	g
-40~-20	3.8	4.2	4.3	4.4	4.7	5.1	5.6
-20~ 0	4.0	4.4	4.5	4.7	4.9	5.4	5.9
0~20	4.2	4.7	4.7	4.9	5.1	5.6	6.2
20~40	4.4	4.9	4.9	5.1	5.3	5.9	6.4
40~60	4.5	5.1	5.1	5.3	5.6	6.1	6.7
60~80	4.7	5.3	5.3	5.5	5.8	6.4	7.0

Partial Dispersions	
n_C-n_t	0.012530
$n_C-n_{A'}$	0.005376
n_d-n_C	0.004764
n_e-n_C	0.008531
n_g-n_d	0.019876
n_g-n_F	0.008810
n_h-n_g	0.007433
n_i-n_g	0.020388
n_C-n_t	0.013285
$n_e-n_{C'}$	0.007776
n_F-n_e	0.008215
$n_i-n_{F'}$	0.028282

Relative Partial Dispersions	
$\theta_{C,t}$	0.7915
$\theta_{C,A'}$	0.3396
$\theta_{d,C}$	0.3009
$\theta_{e,C}$	0.5389
$\theta_{g,d}$	1.2556
$\theta_{g,F}$	0.5565
$\theta_{h,g}$	0.4696
$\theta_{i,g}$	1.2879
$\theta'_{C,t}$	0.8308
$\theta'_{e,C'}$	0.4863
$\theta'_{F,e}$	0.5137
$\theta'_{i,F'}$	1.7686

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta\theta_{C,t}$	0.0205
$\Delta\theta_{C,A'}$	0.0058
$\Delta\theta_{g,d}$	-0.0098
$\Delta\theta_{g,F}$	-0.0076
$\Delta\theta_{i,g}$	-0.0367

Thermal Properties	
Strain Point StP (°C)	614
Annealing Point AP (°C)	637
Transformation Temperature Tg (°C)	664
Yield Point At (°C)	687
Softening Point SP (°C)	721
Expansion Coefficients (-30~+70°C)	57
α ($10^{-7}/^\circ\text{C}$) (+100~+300°C)	69
Thermal Conductivity k (W/m·K)	0.891

Coloring			
λ_{80}	390	λ_5	340
λ_{70}			

Internal transmission			
$\lambda_{0.80}$	369	$\lambda_{0.05}$	340

CCI		
B	G	R
0.00	0.75	0.80

Internal Transmittance	
$\lambda(\text{nm})$	τ 10mm
280	
290	
300	
310	
320	
330	
340	0.05
350	0.33
360	0.65
370	0.82
380	0.909
390	0.945
400	0.963
420	0.979
440	0.985
460	0.990
480	0.993
500	0.995
550	0.997
600	0.997
650	0.998
700	0.998
800	0.999
900	0.998
1000	0.997
1200	0.997
1400	0.991
1600	0.991
1800	0.981
2000	0.954
2200	0.87
2400	0.62

Other Properties	
Bubble Quality Group B	
Specific Gravity d	4.08
Remarks	

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