

# S-TIL26

Code(d) **567428**

Code(e) **570425**

Refractive Index $n_d$	<b>1.56732</b>	Abbe Number $\nu_d$	<b>42.82</b>	Dispersion $n_F-n_C$	<b>0.013250</b>
	1.567322				
Refractive Index $n_e$	1.570466	Abbe Number $\nu_e$	42.54	Dispersion $n_F-n_C'$	0.013411

Refractive Indices		
$\lambda(\mu\text{m})$		
$n_{2325}$	2.32542	1.53493
$n_{1970}$	1.97009	1.54028
$n_{1530}$	1.52958	1.54611
$n_{1129}$	1.12864	1.55148
$n_t$	1.01398	1.55333
$n_s$	0.85211	1.55667
$n_{A'}$	0.76819	1.55901
$n_f$	0.70652	1.56119
$n_C$	0.65627	1.56339
$n_{C'}$	0.64385	1.56401
$n_{\text{He-Ne}}$	0.6328	1.56459
$n_D$	0.58929	1.56721
$n_d$	0.58756	1.56732
$n_e$	0.54607	1.57047
$n_F$	0.48613	1.57664
$n_{F'}$	0.47999	1.57742
$n_{\text{He-Cd}}$	0.44157	1.58321
$n_g$	0.435835	1.58423
$n_h$	0.404656	1.59077
$n_i$	0.365015	1.60256

Constants of Dispersion Formula	
$A_1$	1.31066488E+00
$A_2$	9.41903094E-02
$A_3$	1.23292644E+00
$B_1$	9.68897812E-03
$B_2$	5.27763106E-02
$B_3$	1.33296422E+02

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

Mechanical Properties	
Young's Modulus E (GPa)	73.9
Rigidity Modulus G (GPa)	30.2
Poisson's Ratio $\sigma$	0.222
Knoop Hardness Hk(Class)	500   5
Abrasion Aa	120

Partial Dispersions	
$n_C-n_t$	0.010055
$n_C-n_{A'}$	0.004379
$n_d-n_C$	0.003936
$n_e-n_C$	0.007080
$n_g-n_d$	0.016907
$n_g-n_F$	0.007593
$n_h-n_g$	0.006546
$n_i-n_g$	0.018329
$n_C-n_t$	0.010676
$n_e-n_{C'}$	0.006459
$n_{F'}-n_e$	0.006952
$n_i-n_{F'}$	0.025140

Relative Partial Dispersions	
$\theta_{C,t}$	0.7589
$\theta_{C,A'}$	0.3305
$\theta_{d,C}$	0.2971
$\theta_{e,C}$	0.5343
$\theta_{g,d}$	1.2760
$\theta_{g,F}$	0.5731
$\theta_{h,g}$	0.4940
$\theta_{i,g}$	1.3833
$\theta'_{C,t}$	0.7961
$\theta'_{e,C}$	0.4816
$\theta'_{F',e}$	0.5184
$\theta'_{i,F'}$	1.8746

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta \theta_{C,t}$	0.0113
$\Delta \theta_{C,A'}$	0.0027
$\Delta \theta_{g,d}$	0.0002
$\Delta \theta_{g,F}$	0.0009
$\Delta \theta_{i,g}$	0.0168

Thermal Properties	
Strain Point StP (°C)	495
Annealing Point AP (°C)	533
Transformation Temperature Tg (°C)	552
Yield Point At (°C)	599
Softening Point SP (°C)	694
Expansion Coefficients (-30~+70°C)	79
$\alpha$ ( $10^{-7} \text{K}^{-1}$ ) (+100~+300°C)	90
Thermal Conductivity $\lambda$ W/(m·K)	1.05

Coloring			
$\lambda_{80}$	380	$\lambda_5$	345
$\lambda_{70}$			

Internal transmission			
$\lambda_{0.80}$	374	$\lambda_{0.05}$	349

CCI		
B	G	R
0.00	0.56	0.54

Internal Transmittance	
$\lambda(\text{nm})$	$\tau$ 10mm
280	
290	
300	
310	
320	
330	
340	
350	0.07
360	0.44
370	0.74
380	0.88
390	0.945
400	0.971
420	0.989
440	0.993
460	0.995
480	0.995
500	0.997
550	0.998
600	0.998
650	0.997
700	0.998
800	0.999
900	0.998
1000	0.998
1200	0.998
1400	0.995
1600	0.993
1800	0.977
2000	0.950
2200	0.89
2400	0.86

Temperature Coefficients of Refractive Index							
Range of Temperature (°C)	$\Delta n/\Delta T$ relative ( $10^{-6}\text{K}^{-1}$ )						
	t	C'	He-Ne	D	e	F'	g
-40~-20	2.0	2.4	2.4	2.6	2.8	3.3	3.9
-20~ 0	2.0	2.5	2.5	2.7	2.9	3.4	4.0
0~20	2.0	2.6	2.6	2.8	3.0	3.5	4.2
20~40	2.0	2.6	2.7	2.8	3.1	3.6	4.3
40~60	2.1	2.7	2.7	2.9	3.2	3.7	4.4
60~80	2.2	2.8	2.8	3.0	3.3	3.8	4.6

Other Properties	
Photoelastic Constant $\beta$ nm/(cm·10 <sup>5</sup> Pa)	2.75
Specific Gravity d	2.57
Remarks	

OHARA 23-05

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※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.