

# S-TIL 6

Code(d) **532489**

Code(e) **534485**

Refractive Index	$n_d$	<b>1.53172</b> 1.531717	Abbe Number	$\nu_d$	<b>48.84</b>	Dispersion	$n_F-n_C$	<b>0.010887</b>
Refractive Index	$n_e$	1.534304	Abbe Number	$\nu_e$	48.55	Dispersion	$n_F-n_{C'}$	0.011006

Refractive Indices		
$\lambda(\mu\text{m})$		
$n_{2325}$	2.32542	1.50292
$n_{1970}$	1.97009	1.50797
$n_{1530}$	1.52958	1.51342
$n_{1129}$	1.12864	1.51829
$n_t$	1.01398	1.51993
$n_s$	0.85211	1.52280
$n_{A'}$	0.76819	1.52479
$n_r$	0.70652	1.52662
$n_C$	0.65627	1.52846
$n_{C'}$	0.64385	1.52897
$n_{\text{He-Ne}}$	0.6328	1.52946
$n_D$	0.58929	1.53162
$n_d$	0.58756	1.53172
$n_e$	0.54607	1.53430
$n_F$	0.48613	1.53934
$n_{F'}$	0.47999	1.53998
$n_{\text{He-Cd}}$	0.44157	1.54465
$n_g$	0.435835	1.54547
$n_h$	0.404656	1.55069
$n_i$	0.365015	1.55989

Constants of Dispersion Formula	
$A_1$	1.17701777E+00
$A_2$	1.27958030E-01
$A_3$	1.34740124E+00
$B_1$	7.71087686E-03
$B_2$	4.11325328E-02
$B_3$	1.54531692E+02

Chemical Properties	
Water Resistance(Powder) Group RW(P)	3
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	1.0

Mechanical Properties	
Young's Modulus E (GPa)	64.8
Rigidity Modulus G (GPa)	28.3
Poisson's Ratio $\sigma$	0.146
Knoop Hardness Hk(Class)	490   5
Abrasion Aa	121

Partial Dispersions	
$n_C-n_t$	0.008529
$n_C-n_{A'}$	0.003667
$n_d-n_C$	0.003261
$n_e-n_C$	0.005848
$n_g-n_d$	0.013756
$n_g-n_F$	0.006130
$n_h-n_g$	0.005216
$n_i-n_g$	0.014418
$n_C-n_t$	0.009045
$n_e-n_{C'}$	0.005332
$n_{F'}-n_e$	0.005674
$n_i-n_{F'}$	0.019913

Relative Partial Dispersions	
$\theta_{C,t}$	0.7834
$\theta_{C,A'}$	0.3368
$\theta_{d,C}$	0.2995
$\theta_{e,C}$	0.5372
$\theta_{g,d}$	1.2635
$\theta_{g,F}$	0.5631
$\theta_{h,g}$	0.4791
$\theta_{i,g}$	1.3243
$\theta'_{C,t}$	0.8218
$\theta'_{e,C'}$	0.4845
$\theta'_{F',e}$	0.5155
$\theta'_{i,F'}$	1.8093

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta\theta_{C,t}$	0.0076
$\Delta\theta_{C,A'}$	0.0017
$\Delta\theta_{g,d}$	0.0002
$\Delta\theta_{g,F}$	0.0007
$\Delta\theta_{i,g}$	0.0082

Thermal Properties	
Strain Point StP (°C)	438
Annealing Point AP (°C)	468
Transformation Temperature Tg (°C)	479
Yield Point At (°C)	528
Softening Point SP (°C)	648
Expansion Coefficients (-30~+70°C)	82
$\alpha$ ( $10^{-7} \text{K}^{-1}$ ) (+100~+300°C)	96
Thermal Conductivity $\lambda$ W/(m·K)	1.06

Coloring			
$\lambda_{80}$	365	$\lambda_5$	335
$\lambda_{70}$			

Internal transmission			
$\lambda_{0.80}$	364	$\lambda_{0.05}$	339

CCI		
B	G	R
0.00	0.28	0.24

Internal Transmittance	
$\lambda(\text{nm})$	$\tau$ 10mm
280	
290	
300	
310	
320	
330	
340	0.07
350	0.44
360	0.74
370	0.88
380	0.948
390	0.973
400	0.985
420	0.990
440	0.989
460	0.990
480	0.991
500	0.993
550	0.994
600	0.994
650	0.992
700	0.996
800	0.998
900	0.997
1000	0.997
1200	0.996
1400	0.995
1600	0.993
1800	0.977
2000	0.947
2200	0.89
2400	0.85

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	1.4	1.8	1.8	1.9	2.2	2.5	3.0
-20~ 0	1.4	1.8	1.8	1.9	2.2	2.6	3.0
0~20	1.4	1.8	1.8	1.9	2.2	2.6	3.1
20~40	1.4	1.8	1.8	1.9	2.2	2.7	3.1
40~60	1.4	1.8	1.9	1.9	2.2	2.7	3.2
60~80	1.4	1.8	1.9	1.9	2.2	2.7	3.3

Other Properties	
Photoelastic Constant $\beta$ nm/(cm $\cdot$ 10 $^5$ Pa)	2.81
Specific Gravity d	2.50
Remarks	

OHARA 24-01

OHARA Copyright© OHARA INC. All Rights Reserved.

※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.