SCHOTT
glass made of ideas

Optical Glass

Datasheets of Inquiry Glasses

Table of Content

Glass type

Explanations

Refractive indices

The refractive indices n are listed for a maximum of 23 wavelengths in the range between 248.2 nm and 2325.4 nm.

Constants of the dispersion formula

From the Sellmeier dispersion formula

$$n^2(\lambda) - 1 = \frac{B_1\,\lambda^2}{\lambda^2 - C_1} + \frac{B_2\,\lambda^2}{\lambda^2 - C_2} + \frac{B_3\,\lambda^2}{\lambda^2 - C_3}$$

the refractive indices for any wavelength within the range from the near UV to 2.3 µm can be calculated with the help of the constants B_1, B_2, B_3, and C_1,C_2,C_3.

Constants of the formula dn/dT

The temperature dependence of the refractive index can be calculated using the following formula:

$$\frac{dn_{abs}(\lambda, T)}{dT} = \frac{n^2(\lambda, T_0) - 1}{2\,n(\lambda, T_0)} \left(D_0 + 2\,D_1\,\Delta T + 3\,D_2\,\Delta T^2 + \frac{E_0 + 2\,E_1\,\Delta T}{\lambda^2 - \lambda^2_{TK}} \right)$$

The constants are valid for a temperature range from -100°C to +140°C and a wavelength range from 0.365 µm to 1.014 µm. The temperature coefficients in the data sheets are guideline values.

Temperature coefficient of refraction

$\Delta n_{rel} / \Delta T$ referring to air at normal pressure 1013.3 mbar
$\Delta n_{abs} / \Delta T$ referring to vacuum

Internal transmittance τ_i

The internal transmittance in the wavelength range between 250 nm and 2500 nm is listed for thickness of 10 and 25 mm. The internal transmittance and color code listed in the data sheet represent median values from several melts of one glass type. For HT and HTultra grade, the internal transmittance in the visible spectrum includes guaranteed minimum values.

Color code

The color code lists the wavelength λ_{80} and λ_5 at which the transmittance is 0.80 and 0.05 at 10 mm thickness. The values are rounded off to 10 nm and denoted by eliminating the first digit. For high index glass types with nd>1.83, the data of the color codes (marked by *) refers to the transmittance values 0.70 and 0.05 (λ_{70} and λ_5).

Relative partial dispersion

The relative partial dispersions P_{xy} and P'_{xy} for the wavelengths x and y are derived from the equations.

$$P_{xy} = \frac{n_x - n_y}{n_F - n_C} \text{ und } P'_{xy} = \frac{n_x - n_y}{n_{F'} - n_{C'}}$$

Deviation of the relative partial dispersion from the "normal line" ΔP

The term ΔP_{xy} quantitatively describes a deviation relation of the dispersion from the "normal glasses".

Other characteristics

$\alpha_{-30/+70}$	=	The coefficient of thermal expansion in the temperature range between – 30°C und + 70°C in 10^{-6}/K
$\alpha_{20/300}$	=	The coefficient of linear thermal expansion in the temperature range between + 20°C und + 300°C in 10^{-6}/K
Tg	=	Transformation temperature in °C
$T_{10^{13.0}}$	=	Temperature of the glass in °C at a viscosity of 10^{13} dPa·s
$T_{10^{7.6}}$	=	Temperature of the glass in °C at a viscosity of $10^{7.6}$ dPa·s
c_p	=	average specific heat capacity in J/(g·K)
λ	=	Thermal conductivity in W/(m·K)
AT*	=	Yield point/sag temperature in °C
ρ	=	Density in g/cm^3
E	=	Elasticity modulus in 10^3 N/mm^2
μ	=	Poisson's ratio
K	=	Stress optical coefficient in 10^{-6} mm^2/N
HK	=	Knoop hardness
HG	=	Grindability class (ISO 12844)
Abrasion Aa*	=	Grindability according to JOGIS**
CR	=	Climatic resistance Resistance to moisture in the air expressed in CR classes 1 (high) to 4 (low).
FR	=	Stain resistance Resistance to stain formation expressed in FR classes 0 (high) to 5 (low).
SR	=	Acid resistance Resistance to acid solutions expressed in SR classes 1 (high) to 4 (low) and 51 to 53 (very low).
AR	=	Alkali resistance Resistance to alkaline solutions expressed in AR classes 1 (high) to 4 (low).
PR	=	Phosphate resistance Resistance to alkaline phosphate containing solutions expressed in PR classes 1 (high) to 4 (low).
SR-J*	=	Acid resistance class according to JOGIS**
WR-J*	=	Water resistance class according to JOGIS**

* only precision molding glasses

** JOGIS = Japanese Optical Glass Industrial Standards

Datasheet

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BAFN6
589485.317

n_d = 1.58900	ν_d = 48.45	$n_F - n_C$ = 0.012158
n_e = 1.59189	ν_e = 48.16	$n_{F'} - n_{C'}$ = 0.012291

Refractive Indices

	λ [nm]	
$n_{2325.4}$	2325.4	1.55832
$n_{1970.1}$	1970.1	1.56349
$n_{1529.6}$	1529.6	1.56910
$n_{1060.0}$	1060.0	1.57522
n_t	1014.0	1.57596
n_s	852.1	1.57910
n_r	706.5	1.58332
n_C	656.3	1.58536
$n_{C'}$	643.8	1.58594
$n_{632.8}$	632.8	1.58647
n_D	589.3	1.58889
n_d	587.6	1.58900
n_e	546.1	1.59189
n_F	486.1	1.59752
$n_{F'}$	480.0	1.59823
n_g	435.8	1.60436
n_h	404.7	1.61017
n_i	365.0	1.62038
$n_{334.1}$	334.1	
$n_{312.6}$	312.6	
$n_{296.7}$	296.7	
$n_{280.4}$	280.4	
$n_{248.3}$	248.3	

Constants of Dispersion Formula

B_1	1.367192010
B_2	0.109079940
B_3	1.021080110
C_1	0.008828207
C_2	0.0438731646
C_3	113.58602000

Constants of Formula for dn/dT

D_0	1.34E-06
D_1	1.34E-08
D_2	-5.50E-11
E_0	4.95E-07
E_1	3.62E-10
λ_{TK} [µm]	0.265

Internal Transmittance τ_i

λ [nm]	τ_i [10mm]	τ_i [25mm]
2500		
2325	0.910	0.780
1970	0.976	0.940
1530	0.998	0.995
1060	0.998	0.995
700	0.999	0.997
660	0.998	0.995
620	0.998	0.994
580	0.998	0.994
546	0.996	0.991
500	0.994	0.986
460	0.990	0.975
436	0.985	0.963
420	0.981	0.954
405	0.976	0.940
400	0.971	0.930
390	0.954	0.890
380	0.920	0.810
370	0.850	0.670
365	0.790	0.560
350	0.430	0.120
334		
320		
310		
300		
290		
280		
270		
260		
250		

Color Code

λ80 / λ5	38/33

Remarks

inquiry glass, lead containing

Relative Partial Dispersion P

$P_{s,t}$	0.2580
$P_{C,s}$	0.5152
$P_{d,C}$	0.2993
$P_{e,d}$	0.2377
$P_{g,F}$	0.5625
$P_{i,h}$	0.8405

Relative Partial Dispersion P'

$P'_{s,t}$	0.2552
$P'_{C',s}$	0.5565
$P'_{d,C'}$	0.2492
$P'_{e,d}$	0.2351
$P'_{g,F'}$	0.4987
$P'_{i,h}$	0.8314

Deviation of Rel. Partial Disp. ΔP from the normal line

$\Delta P_{C,t}$	-0.0015
$\Delta P_{C,s}$	-0.0006
$\Delta P_{F,e}$	0.0001
$\Delta P_{g,F}$	0.0002
$\Delta P_{i,g}$	0.0002

Chemical Properties

CR	2
FR	0
SR	2
AR	2
PR	1

Other Properties

$\alpha_{-30/+70°C}$ [10^{-6}/K]	7.8
$\alpha_{+20/+300°C}$ [10^{-6}/K]	8.5
T_g [°C]	549
$T_{10^{13}}$ [°C]	
$T_{10^{7.6}}$ [°C]	
c_p [J/(g*K)]	
λ [W/(m•K)]	
ρ [g/cm³]	3.17
E [10^3 N/mm²]	77
µ	0.234
K [10^{-6} mm²/N]	2.50
$HK_{0.1/20}$	540

Temperature Coefficients of the Refractive Index

	$\Delta n_{rel}/\Delta T$ [10^{-6}/K]			$\Delta n_{abs}/\Delta T$ [10^{-6}/K]		
[°C]	1060.0	e	g	1060.0	e	g
-40/-20	2.1	2.9	3.9	0.0	0.8	1.7
+20/+40	2.3	3.2	4.3	1.0	1.8	2.8
+60/+80	2.4	3.3	4.4	1.3	2.2	3.3

Datasheet

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FK3
464658.227

n_d = 1.46450	ν_d = 65.77	$n_F - n_C$ = 0.007063
n_e = 1.46619	ν_e = 65.57	$n_{F'} - n_{C'}$ = 0.007110

Refractive Indices

	λ [nm]	
$n_{2325.4}$	2325.4	1.43972
$n_{1970.1}$	1970.1	1.44498
$n_{1529.6}$	1529.6	1.45039
$n_{1060.0}$	1060.0	1.45557
n_t	1014.0	1.45612
n_s	852.1	1.45834
n_r	706.5	1.46106
n_C	656.3	1.46232
$n_{C'}$	643.8	1.46267
$n_{632.8}$	632.8	1.46300
n_D	589.3	1.46444
n_d	587.6	1.46450
n_e	546.1	1.46619
n_F	486.1	1.46939
$n_{F'}$	480.0	1.46978
n_g	435.8	1.47315
n_h	404.7	1.47625
n_i	365.0	1.48149
$n_{334.1}$	334.1	1.48708
$n_{312.6}$	312.6	1.49217
$n_{296.7}$	296.7	
$n_{280.4}$	280.4	
$n_{248.3}$	248.3	

Constants of Dispersion Formula

B_1	0.973346627
B_2	0.146642231
B_3	0.679304225
C_1	0.006407955
C_2	0.0205652930
C_3	80.49653890

Constants of Formula for dn/dT

D_0	-4.90E-06
D_1	1.23E-08
D_2	-1.19E-10
E_0	3.45E-07
E_1	7.72E-10
λ_{TK} [µm]	0.180

Internal Transmittance τ_i

λ [nm]	τ_i [10mm]	τ_i [25mm]
2500	0.650	0.340
2325	0.810	0.590
1970	0.971	0.930
1530	0.988	0.970
1060	0.998	0.995
700	0.997	0.993
660	0.997	0.993
620	0.997	0.993
580	0.997	0.993
546	0.997	0.993
500	0.997	0.993
460	0.996	0.990
436	0.996	0.989
420	0.995	0.987
405	0.994	0.986
400	0.994	0.985
390	0.994	0.984
380	0.992	0.980
370	0.988	0.971
365	0.985	0.964
350	0.954	0.890
334	0.890	0.740
320	0.700	0.410
310	0.510	0.190
300	0.300	0.050
290		
280		
270		
260		
250		

Color Code

λ80 / λ5	33/30

Remarks

inquiry glass

Relative Partial Dispersion P

$P_{s,t}$	0.3133
$P_{C,s}$	0.5644
$P_{d,C}$	0.3083
$P_{e,d}$	0.2387
$P_{g,F}$	0.5329
$P_{i,h}$	0.7419

Relative Partial Dispersion P'

$P'_{s,t}$	0.3112
$P'_{C',s}$	0.6097
$P'_{d,C'}$	0.2571
$P'_{e,d}$	0.2371
$P'_{g,F'}$	0.4736
$P'_{i,h}$	0.7370

Deviation of Rel. Partial Disp. ΔP from the normal line

$\Delta P_{C,t}$	0.0207
$\Delta P_{C,s}$	0.0082
$\Delta P_{F,e}$	-0.0008
$\Delta P_{g,F}$	-0.0003
$\Delta P_{i,g}$	0.0079

Chemical Properties

CR	2
FR	3
SR	52.4
AR	2
PR	1

Other Properties

$\alpha_{-30/+70°C}$ [10^{-6}/K]	8.2
$\alpha_{+20/+300°C}$ [10^{-6}/K]	9.4
T_g [°C]	362
$T_{10^{13}}$ [°C]	369
$T_{10^{7.6}}$ [°C]	622
c_p [J/(g*K)]	0.840
λ [W/(m•K)]	0.900
ρ [g/cm³]	2.27
E [10^3 N/mm²]	46
µ	0.243
K [10^{-6} mm²/N]	3.71
$HK_{0.1/20}$	380

Temperature Coefficients of the Refractive Index

	$\Delta n_{rel}/\Delta T$ [10^{-6}/K]			$\Delta n_{abs}/\Delta T$ [10^{-6}/K]		
[°C]	1060.0	e	g	1060.0	e	g
-40/-20	-0.7	-0.4	-0.1	-2.6	-2.4	-2.1
+20/+40	-0.4	0.0	0.3	-1.7	-1.3	-1.0
+60/+80	-0.6	-0.2	0.3	-1.6	-1.2	-0.8

Datasheet

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KZFS12
696363.384

n_d = 1.69600	ν_d = 36.29	$n_F - n_C$ = 0.019179
n_e = 1.70055	ν_e = 36.06	$n_{F'} - n_{C'}$ = 0.019425

Refractive Indices

	λ [nm]	
$n_{2325.4}$	2325.4	1.64970
$n_{1970.1}$	1970.1	1.65749
$n_{1529.6}$	1529.6	1.66580
$n_{1060.0}$	1060.0	1.67488
n_t	1014.0	1.67598
n_s	852.1	1.68071
n_r	706.5	1.68717
n_C	656.3	1.69033
$n_{C'}$	643.8	1.69122
$n_{632.8}$	632.8	1.69206
n_D	589.3	1.69583
n_d	587.6	1.69600
n_e	546.1	1.70055
n_F	486.1	1.70951
$n_{F'}$	480.0	1.71065
n_g	435.8	1.72059
n_h	404.7	1.73017
n_i	365.0	1.74746
$n_{334.1}$	334.1	
$n_{312.6}$	312.6	
$n_{296.7}$	296.7	
$n_{280.4}$	280.4	
$n_{248.3}$	248.3	

Constants of Dispersion Formula

B_1	1.556248730
B_2	0.239769276
B_3	0.947887658
C_1	0.010201274
C_2	0.0469277969
C_3	69.83707220

Constants of Formula for dn/dT

D_0	4.36E-06
D_1	1.32E-08
D_2	-1.81E-11
E_0	6.86E-07
E_1	6.81E-10
λ_{TK} [µm]	0.253

Internal Transmittance τ_i

λ [nm]	τ_i [10mm]	τ_i [25mm]
2500	0.280	0.040
2325	0.620	0.300
1970	0.920	0.810
1530	0.976	0.940
1060	0.998	0.994
700	0.997	0.993
660	0.997	0.992
620	0.997	0.992
580	0.996	0.991
546	0.996	0.991
500	0.994	0.986
460	0.988	0.971
436	0.977	0.940
420	0.963	0.910
405	0.930	0.840
400	0.920	0.810
390	0.880	0.720
380	0.800	0.580
370	0.680	0.380
365	0.570	0.250
350	0.110	0.000
334		
320		
310		
300		
290		
280		
270		
260		
250		

Color Code

λ80 / λ5	40/35

Remarks

inquiry glass, lead containing

Relative Partial Dispersion P

$P_{s,t}$	0.2468
$P_{C,s}$	0.5013
$P_{d,C}$	0.2957
$P_{e,d}$	0.2371
$P_{g,F}$	0.5778
$P_{i,h}$	0.9012

Relative Partial Dispersion P'

$P'_{s,t}$	0.2436
$P'_{C',s}$	0.5409
$P'_{d,C'}$	0.2460
$P'_{e,d}$	0.2341
$P'_{g,F'}$	0.5118
$P'_{i,h}$	0.8898

Deviation of Rel. Partial Disp. ΔP from the normal line

$\Delta P_{C,t}$	0.0309
$\Delta P_{C,s}$	0.0138
$\Delta P_{F,e}$	-0.0021
$\Delta P_{g,F}$	-0.0050
$\Delta P_{i,g}$	-0.0189

Chemical Properties

CR	4
FR	1
SR	53.3
AR	4.3
PR	4.3

Other Properties

$\alpha_{-30/+70°C}$ [10^{-6}/K]	5.2
$\alpha_{+20/+300°C}$ [10^{-6}/K]	6.2
T_g [°C]	492
$T_{10^{13}}$ [°C]	476
$T_{10^{7.6}}$ [°C]	549
c_p [J/(g*K)]	0.540
λ [W/(m•K)]	0.710
ρ [g/cm³]	3.84
E [10^3 N/mm²]	66
µ	0.279
K [10^{-6} mm²/N]	2.35
$HK_{0.1/20}$	440
HG	4

Temperature Coefficients of the Refractive Index

	$\Delta n_{rel}/\Delta T$ [10^{-6}/K]			$\Delta n_{abs}/\Delta T$ [10^{-6}/K]		
[°C]	1060.0	e	g	1060.0	e	g
-40/-20	4.1	5.4	6.8	1.9	3.1	4.4
+20/+40	4.3	5.7	7.3	2.8	4.2	5.8
+60/+80	4.5	6.0	7.8	3.4	4.9	6.6

Datasheet

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KZFSN5
654396.346

n_d = 1.65412	ν_d = 39.63	$n_F - n_C$ = 0.016507
n_e = 1.65803	ν_e = 39.40	$n_{F'} - n_{C'}$ = 0.016701

Refractive Indices

	λ [nm]	
$n_{2325.4}$	2325.4	1.61108
$n_{1970.1}$	1970.1	1.61880
$n_{1529.6}$	1529.6	1.62692
$n_{1060.0}$	1060.0	1.63548
n_t	1014.0	1.63649
n_s	852.1	1.64075
n_r	706.5	1.64644
n_C	656.3	1.64920
$n_{C'}$	643.8	1.64998
$n_{632.8}$	632.8	1.65070
n_D	589.3	1.65397
n_d	587.6	1.65412
n_e	546.1	1.65803
n_F	486.1	1.66571
$n_{F'}$	480.0	1.66668
n_g	435.8	1.67512
n_h	404.7	1.68319
n_i	365.0	1.69759
$n_{334.1}$	334.1	
$n_{312.6}$	312.6	
$n_{296.7}$	296.7	
$n_{280.4}$	280.4	
$n_{248.3}$	248.3	

Constants of Dispersion Formula

B_1	1.477278580
B_2	0.191686941
B_3	0.897333608
C_1	0.009754883
C_2	0.0450495404
C_3	67.87864950

Constants of Formula for dn/dT

D_0	5.51E-06
D_1	1.48E-08
D_2	-2.21E-11
E_0	6.22E-07
E_1	7.05E-10
λ_{TK} [µm]	0.230

Internal Transmittance τ_i

λ [nm]	τ_i [10mm]	τ_i [25mm]
2500	0.250	0.030
2325	0.570	0.240
1970	0.900	0.770
1530	0.967	0.920
1060	0.999	0.997
700	0.998	0.996
660	0.998	0.996
620	0.998	0.996
580	0.998	0.996
546	0.998	0.995
500	0.997	0.992
460	0.994	0.985
436	0.991	0.978
420	0.987	0.968
405	0.980	0.950
400	0.976	0.940
390	0.963	0.910
380	0.940	0.850
370	0.890	0.740
365	0.840	0.650
350	0.510	0.190
334	0.130	
320		
310		
300		
290		
280		
270		
260		
250		

Color Code

λ80 / λ5	37/34

Remarks

inquiry glass, lead containing

Relative Partial Dispersion P

$P_{s,t}$	0.2581
$P_{C,s}$	0.5120
$P_{d,C}$	0.2978
$P_{e,d}$	0.2374
$P_{g,F}$	0.5700
$P_{i,h}$	0.8727

Relative Partial Dispersion P'

$P'_{s,t}$	0.2551
$P'_{C',s}$	0.5525
$P'_{d,C'}$	0.2479
$P'_{e,d}$	0.2346
$P'_{g,F'}$	0.5053
$P'_{i,h}$	0.8625

Deviation of Rel. Partial Disp. ΔP from the normal line

$\Delta P_{C,t}$	0.0371
$\Delta P_{C,s}$	0.0167
$\Delta P_{F,e}$	-0.0027
$\Delta P_{g,F}$	-0.0071
$\Delta P_{i,g}$	-0.0302

Chemical Properties

CR	3
FR	2
SR	52.3
AR	4.3
PR	4.3

Other Properties

$\alpha_{-30/+70°C}$ [10^{-6}/K]	4.5
$\alpha_{+20/+300°C}$ [10^{-6}/K]	5.7
T_g [°C]	501
$T_{10^{13}}$ [°C]	479
$T_{10^{7.6}}$ [°C]	
c_p [J/(g*K)]	
λ [W/(m•K)]	
ρ [g/cm³]	3.46
E [10^3 N/mm²]	65
µ	0.275
K [10^{-6} mm²/N]	2.89
$HK_{0.1/20}$	460
HG	5

Temperature Coefficients of the Refractive Index

	$\Delta n_{rel}/\Delta T$ [10^{-6}/K]			$\Delta n_{abs}/\Delta T$ [10^{-6}/K]		
[°C]	1060.0	e	g	1060.0	e	g
-40/-20	4.4	5.5	6.6	2.2	3.2	4.3
+20/+40	4.7	5.9	7.1	3.3	4.4	5.6
+60/+80	4.9	6.2	7.6	3.8	5.1	6.4

Datasheet

SCHOTT
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LAFN7
750350.438

n_d = 1.74950	ν_d = 34.95	$n_F - n_C$ = 0.021445
n_e = 1.75458	ν_e = 34.72	$n_{F'} - n_{C'}$ = 0.021735

Refractive Indices

	λ [nm]	
$n_{2325.4}$	2325.4	1.70211
$n_{1970.1}$	1970.1	1.70934
$n_{1529.6}$	1529.6	1.71726
$n_{1060.0}$	1060.0	1.72642
n_t	1014.0	1.72758
n_s	852.1	1.73264
n_r	706.5	1.73970
n_C	656.3	1.74319
$n_{C'}$	643.8	1.74418
$n_{632.8}$	632.8	1.74511
n_D	589.3	1.74931
n_d	587.6	1.74950
n_e	546.1	1.75458
n_F	486.1	1.76464
$n_{F'}$	480.0	1.76592
n_g	435.8	1.77713
n_h	404.7	1.78798
n_i	365.0	1.80762
$n_{334.1}$	334.1	
$n_{312.6}$	312.6	
$n_{296.7}$	296.7	
$n_{280.4}$	280.4	
$n_{248.3}$	248.3	

Constants of Dispersion Formula

B_1	1.668426150
B_2	0.298512803
B_3	1.077437600
C_1	0.010316000
C_2	0.0469216348
C_3	82.50785090

Constants of Formula for dn/dT

D_0	7.27E-06
D_1	1.31E-08
D_2	-3.32E-11
E_0	8.88E-07
E_1	9.32E-10
λ_{TK} [µm]	0.248

Internal Transmittance τ_i

λ [nm]	τ_i [10mm]	τ_i [25mm]
2500	0.380	0.090
2325	0.700	0.410
1970	0.940	0.850
1530	0.984	0.960
1060	0.998	0.996
700	0.998	0.996
660	0.998	0.995
620	0.998	0.995
580	0.998	0.995
546	0.998	0.994
500	0.998	0.994
460	0.993	0.982
436	0.986	0.965
420	0.976	0.940
405	0.950	0.880
400	0.940	0.850
390	0.910	0.780
380	0.840	0.650
370	0.690	0.400
365	0.550	0.220
350	0.130	0.010
334		
320		
310		
300		
290		
280		
270		
260		
250		

Color Code

λ80 / λ5	40/35

Remarks

lead containing glass type

Relative Partial Dispersion P

$P_{s,t}$	0.2360
$P_{C,s}$	0.4921
$P_{d,C}$	0.2941
$P_{e,d}$	0.2369
$P_{g,F}$	0.5825
$P_{i,h}$	0.9160

Relative Partial Dispersion P'

$P'_{s,t}$	0.2329
$P'_{C',s}$	0.5311
$P'_{d,C'}$	0.2446
$P'_{e,d}$	0.2338
$P'_{g,F'}$	0.5158
$P'_{i,h}$	0.9037

Deviation of Rel. Partial Disp. ΔP from the normal line

$\Delta P_{C,t}$	0.0174
$\Delta P_{C,s}$	0.0078
$\Delta P_{F,e}$	-0.0011
$\Delta P_{g,F}$	-0.0025
$\Delta P_{i,g}$	-0.0093

Chemical Properties

CR	3
FR	1
SR	53.3
AR	2.2
PR	4.3

Other Properties

$\alpha_{-30/+70°C}$ [10^{-6}/K]	5.3
$\alpha_{+20/+300°C}$ [10^{-6}/K]	6.4
T_g [°C]	500
$T_{10^{13}}$ [°C]	481
$T_{10^{7.6}}$ [°C]	573
c_p [J/(g*K)]	
λ [W/(m•K)]	0.770
ρ [g/cm³]	4.38
E [10^3 N/mm²]	80
µ	0.280
K [10^{-6} mm²/N]	1.77
$HK_{0.1/20}$	520
HG	3

Temperature Coefficients of the Refractive Index

	$\Delta n_{rel}/\Delta T$ [10^{-6}/K]			$\Delta n_{abs}/\Delta T$ [10^{-6}/K]		
[°C]	1060.0	e	g	1060.0	e	g
-40/-20	6.0	7.8	9.7	3.7	5.4	7.2
+20/+40	6.3	8.3	10.4	4.8	6.7	8.9
+60/+80	6.5	8.6	10.9	5.3	7.4	9.7

Datasheet

SCHOTT
glass made of ideas

LF5G15
584408.322

$n_d = 1.58397$	$\nu_d = 40.83$	$n_F - n_C = 0.014301$
$n_e = 1.58736$	$\nu_e = 40.55$	$n_{F'} - n_{C'} = 0.014484$

Refractive Indices

	λ [nm]	
$n_{2325.4}$	2325.4	1.55252
$n_{1970.1}$	1970.1	1.55707
$n_{1529.6}$	1529.6	1.56225
$n_{1060.0}$	1060.0	1.56842
n_t	1014.0	1.56920
n_s	852.1	1.57263
n_r	706.5	1.57739
n_C	656.3	1.57974
$n_{C'}$	643.8	1.58041
$n_{632.8}$	632.8	1.58103
n_D	589.3	1.58384
n_d	587.6	1.58397
n_e	546.1	1.58736
n_F	486.1	1.59404
$n_{F'}$	480.0	1.59489
n_g	435.8	1.60228
n_h	404.7	
n_i	365.0	
$n_{334.1}$	334.1	
$n_{312.6}$	312.6	
$n_{296.7}$	296.7	
$n_{280.4}$	280.4	
$n_{248.3}$	248.3	

Constants of Dispersion Formula

B_1	1.288873310
B_2	0.162818811
B_3	10.557979200
C_1	0.009200157
C_2	0.0456954308
C_3	1275.44015000

Constants of Formula for dn/dT

D_0	
D_1	
D_2	
E_0	
E_1	
λ_{TK} [µm]	

Internal Transmittance τ_i

λ [nm]	τ_i [10mm]	τ_i [25mm]
2500	0.690	0.400
2325	0.770	0.520
1970	0.910	0.800
1530	0.994	0.985
1060	0.999	0.998
700	0.997	0.992
660	0.996	0.989
620	0.995	0.987
580	0.993	0.984
546	0.991	0.979
500	0.985	0.963
460	0.966	0.920
436	0.920	0.810
420	0.830	0.630
405	0.660	0.350
400	0.570	0.240
390	0.350	0.070
380	0.130	0.000
370	0.020	
365	0.000	
350		
334		
320		
310		
300		
290		
280		
270		
260		
250		

Color Code

λ80 / λ5	43/37

Remarks

radiation resistant glass

lead containing glass type

inquiry glass

Relative Partial Dispersion P

$P_{s,t}$	0.2397
$P_{C,s}$	0.4975
$P_{d,C}$	0.2957
$P_{e,d}$	0.2372
$P_{g,F}$	0.5759
$P_{i,h}$	

Relative Partial Dispersion P'

$P'_{s,t}$	0.2367
$P'_{C',s}$	0.5372
$P'_{d,C'}$	0.2460
$P'_{e,d}$	0.2342
$P'_{g,F'}$	0.5101
$P'_{i,h}$	

Deviation of Rel. Partial Disp. ΔP from the normal line

$\Delta P_{C,t}$	-0.0015
$\Delta P_{C,s}$	-0.0006
$\Delta P_{F,e}$	0.0002
$\Delta P_{g,F}$	0.0008
$\Delta P_{i,g}$	

Chemical Properties

CR	2
FR	0
SR	1
AR	1.3
PR	2.3

Other Properties

$\alpha_{-30/+70°C}$ [10^{-6}/K]	9.3
$\alpha_{+20/+300°C}$ [10^{-6}/K]	10.7
T_g [°C]	407
$T_{10^{13}}$ [°C]	412
$T_{10^{7.6}}$ [°C]	578
c_p [J/(g*K)]	0.600
λ [W/(m•K)]	0.860
ρ [g/cm³]	3.22
E [10^3 N/mm²]	60
µ	0.228
K [10^{-6} mm²/N]	2.77
$HK_{0.1/20}$	446

Temperature Coefficients of the Refractive Index

	$\Delta n_{rel}/\Delta T$ [10^{-6}/K]			$\Delta n_{abs}/\Delta T$ [10^{-6}/K]		
[°C]	1060.0	e	g	1060.0	e	g
-40/-20						
+20/+40						
+60/+80						

Datasheet

SCHOTT
glass made of ideas

N-BAF3
583466.279

n_d = 1.58272	ν_d = 46.64	$n_F - n_C$ = 0.012495
n_e = 1.58569	ν_e = 46.35	$n_{F'} - n_{C'}$ = 0.012637

Refractive Indices

	λ [nm]	
$n_{2325.4}$	2325.4	1.54998
$n_{1970.1}$	1970.1	1.55574
$n_{1529.6}$	1529.6	1.56192
$n_{1060.0}$	1060.0	1.56850
n_t	1014.0	1.56927
n_s	852.1	1.57254
n_r	706.5	1.57689
n_C	656.3	1.57899
$n_{C'}$	643.8	1.57958
$n_{632.8}$	632.8	1.58013
n_D	589.3	1.58261
n_d	587.6	1.58272
n_e	546.1	1.58569
n_F	486.1	1.59149
$n_{F'}$	480.0	1.59222
n_g	435.8	1.59857
n_h	404.7	1.60463
n_i	365.0	
$n_{334.1}$	334.1	
$n_{312.6}$	312.6	
$n_{296.7}$	296.7	
$n_{280.4}$	280.4	
$n_{248.3}$	248.3	

Constants of Dispersion Formula

B_1	1.348596340
B_2	0.107644240
B_3	1.132070840
C_1	0.008714929
C_2	0.0478406436
C_3	112.93611600

Constants of Formula for dn/dT

D_0	1.40E-06
D_1	1.24E-08
D_2	-9.39E-12
E_0	5.91E-07
E_1	7.44E-10
λ_{TK} [µm]	0.235

Internal Transmittance τ_i

λ [nm]	τ_i [10mm]	τ_i [25mm]
2500	0.730	0.460
2325	0.850	0.660
1970	0.954	0.890
1530	0.992	0.980
1060	0.997	0.993
700	0.998	0.994
660	0.997	0.992
620	0.996	0.991
580	0.997	0.993
546	0.996	0.991
500	0.994	0.985
460	0.990	0.975
436	0.986	0.965
420	0.981	0.952
405	0.967	0.920
400	0.959	0.900
390	0.920	0.820
380	0.850	0.670
370	0.690	0.400
365	0.570	0.240
350	0.060	
334		
320		
310		
300		
290		
280		
270		
260		
250		

Color Code

λ80 / λ5	39/35

Remarks

inquiry glass

Relative Partial Dispersion P

$P_{s,t}$	0.2616
$P_{C,s}$	0.5160
$P_{d,C}$	0.2987
$P_{e,d}$	0.2375
$P_{g,F}$	0.5669
$P_{i,h}$	

Relative Partial Dispersion P'

$P'_{s,t}$	0.2587
$P'_{C',s}$	0.5569
$P'_{d,C'}$	0.2487
$P'_{e,d}$	0.2348
$P'_{g,F'}$	0.5026
$P'_{i,h}$	

Deviation of Rel. Partial Disp. ΔP from the normal line

$\Delta P_{C,t}$	0.0114
$\Delta P_{C,s}$	0.0044
$\Delta P_{F,e}$	-0.0001
$\Delta P_{g,F}$	0.0015
$\Delta P_{i,g}$	

Chemical Properties

CR	1
FR	0
SR	1
AR	1
PR	1

Other Properties

$\alpha_{-30/+70°C}$ [10^{-6}/K]	7.2
$\alpha_{+20/+300°C}$ [10^{-6}/K]	8.2
T_g [°C]	583
$T_{10^{13}}$ [°C]	573
$T_{10^{7.6}}$ [°C]	714
c_p [J/(g*K)]	0.760
λ [W/(m•K)]	1.040
ρ [g/cm³]	2.79
E [10^3 N/mm²]	82
µ	0.226
K [10^{-6} mm²/N]	2.73
$HK_{0.1/20}$	560
HG	2

Temperature Coefficients of the Refractive Index

	$\Delta n_{rel}/\Delta T$ [10^{-6}/K]			$\Delta n_{abs}/\Delta T$ [10^{-6}/K]		
[°C]	1060.0	e	g	1060.0	e	g
-40/-20	2.4	3.2	4.1	0.3	1.1	1.9
+20/+40	2.4	3.4	4.4	1.0	2.0	3.0
+60/+80	2.5	3.6	4.8	1.5	2.5	3.7

Datasheet

SCHOTT
glass made of ideas

N-LAF3
717480.414

n_d = 1.71700	ν_d = 47.96	$n_F - n_C$ = 0.014950
n_e = 1.72055	ν_e = 47.68	$n_{F'} - n_{C'}$ = 0.015112

Refractive Indices

	λ [nm]	
$n_{2325.4}$	2325.4	1.68061
$n_{1970.1}$	1970.1	1.68653
$n_{1529.6}$	1529.6	1.69297
$n_{1060.0}$	1060.0	1.70017
n_t	1014.0	1.70105
n_s	852.1	1.70485
n_r	706.5	1.71001
n_C	656.3	1.71252
$n_{C'}$	643.8	1.71323
$n_{632.8}$	632.8	1.71389
n_D	589.3	1.71687
n_d	587.6	1.71700
n_e	546.1	1.72055
n_F	486.1	1.72747
$n_{F'}$	480.0	1.72834
n_g	435.8	1.73585
n_h	404.7	1.74293
n_i	365.0	1.75530
$n_{334.1}$	334.1	
$n_{312.6}$	312.6	
$n_{296.7}$	296.7	
$n_{280.4}$	280.4	
$n_{248.3}$	248.3	

Constants of Dispersion Formula

B_1	1.731558540
B_2	0.150874455
B_3	1.065865960
C_1	0.009538339
C_2	0.0407887211
C_3	98.07585450

Constants of Formula for dn/dT

D_0	-2.35E-06
D_1	1.07E-08
D_2	-9.38E-12
E_0	5.72E-07
E_1	6.01E-10
λ_{TK} [µm]	0.220

Internal Transmittance τ_i

λ [nm]	τ_i [10mm]	τ_i [25mm]
2500	0.630	0.310
2325	0.800	0.580
1970	0.950	0.880
1530	0.992	0.980
1060	0.997	0.993
700	0.997	0.993
660	0.997	0.993
620	0.997	0.993
580	0.997	0.993
546	0.997	0.993
500	0.994	0.985
460	0.987	0.968
436	0.982	0.955
420	0.976	0.940
405	0.963	0.910
400	0.954	0.890
390	0.930	0.830
380	0.880	0.720
370	0.780	0.540
365	0.710	0.420
350	0.310	0.060
334	0.010	
320		
310		
300		
290		
280		
270		
260		
250		

Color Code

λ80 / λ5	39/34

Remarks

inquiry glass

Relative Partial Dispersion P

$P_{s,t}$	0.2538
$P_{C,s}$	0.5132
$P_{d,C}$	0.2994
$P_{e,d}$	0.2379
$P_{g,F}$	0.5603
$P_{i,h}$	0.8274

Relative Partial Dispersion P'

$P'_{s,t}$	0.2511
$P'_{C',s}$	0.5545
$P'_{d,C'}$	0.2494
$P'_{e,d}$	0.2353
$P'_{g,F'}$	0.4967
$P'_{i,h}$	0.8185

Deviation of Rel. Partial Disp. ΔP from the normal line

$\Delta P_{C,t}$	-0.0054
$\Delta P_{C,s}$	-0.0015
$\Delta P_{F,e}$	-0.0005
$\Delta P_{g,F}$	-0.0028
$\Delta P_{i,g}$	-0.0210

Chemical Properties

CR	2
FR	3
SR	52.3
AR	1.2
PR	3.3

Other Properties

$\alpha_{-30/+70°C}$ [10^{-6}/K]	7.6
$\alpha_{+20/+300°C}$ [10^{-6}/K]	8.7
T_g [°C]	646
$T_{10^{13}}$ [°C]	640
$T_{10^{7.6}}$ [°C]	740
c_p [J/(g*K)]	
λ [W/(m•K)]	
ρ [g/cm³]	4.14
E [10^3 N/mm²]	95
µ	0.286
K [10^{-6} mm²/N]	1.53
$HK_{0.1/20}$	580
HG	5

Temperature Coefficients of the Refractive Index

	$\Delta n_{rel}/\Delta T$ [10^{-6}/K]			$\Delta n_{abs}/\Delta T$ [10^{-6}/K]		
[°C]	1060.0	e	g	1060.0	e	g
-40/-20	0.6	1.5	2.5	-1.7	-0.8	0.1
+20/+40	0.6	1.6	2.7	-0.9	0.1	1.2
+60/+80	0.7	1.8	3.0	-0.4	0.7	1.8

Datasheet

SCHOTT
glass made of ideas

N-LAF35
743494.412

n_d = 1.74330	ν_d = 49.40	$n_F - n_C$ = 0.015047
n_e = 1.74688	ν_e = 49.16	$n_{F'} - n_{C'}$ = 0.015194

Refractive Indices

	λ [nm]	
$n_{2325.4}$	2325.4	
$n_{1970.1}$	1970.1	
$n_{1529.6}$	1529.6	
$n_{1060.0}$	1060.0	1.72588
n_t	1014.0	1.72683
n_s	852.1	1.73086
n_r	706.5	1.73620
n_C	656.3	1.73876
$n_{C'}$	643.8	1.73948
$n_{632.8}$	632.8	1.74015
n_D	589.3	1.74317
n_d	587.6	1.74330
n_e	546.1	1.74688
n_F	486.1	1.75381
$n_{F'}$	480.0	1.75467
n_g	435.8	1.76212
n_h	404.7	1.76908
n_i	365.0	
$n_{334.1}$	334.1	
$n_{312.6}$	312.6	
$n_{296.7}$	296.7	
$n_{280.4}$	280.4	
$n_{248.3}$	248.3	

Constants of Dispersion Formula

B_1	1.516974360
B_2	0.455875464
B_3	1.074692420
C_1	0.007509432
C_2	0.0260046715
C_3	80.59451590

Constants of Formula for dn/dT

D_0	8.98E-06
D_1	1.26E-08
D_2	-1.23E-11
E_0	6.24E-07
E_1	6.86E-10
λ_{TK} [µm]	0.194

Internal Transmittance τ_i

λ [nm]	τ_i [10mm]	τ_i [25mm]
2500	0.400	0.100
2325	0.710	0.430
1970	0.940	0.850
1530	0.988	0.970
1060	0.998	0.995
700	0.998	0.996
660	0.998	0.996
620	0.998	0.994
580	0.998	0.994
546	0.998	0.995
500	0.997	0.992
460	0.994	0.985
436	0.990	0.976
420	0.987	0.967
405	0.980	0.950
400	0.976	0.940
390	0.966	0.920
380	0.950	0.880
370	0.920	0.810
365	0.900	0.760
350	0.790	0.550
334	0.590	0.270
320	0.350	0.200
310	0.150	0.080
300	0.030	
290		
280		
270		
260		
250		

Color Code

λ80 / λ5	38/30

Remarks

Relative Partial Dispersion P

$P_{s,t}$	0.2674
$P_{C,s}$	0.5253
$P_{d,C}$	0.3017
$P_{e,d}$	0.2381
$P_{g,F}$	0.5523
$P_{i,h}$	

Relative Partial Dispersion P'

$P'_{s,t}$	0.2648
$P'_{C',s}$	0.5676
$P'_{d,C'}$	0.2514
$P'_{e,d}$	0.2358
$P'_{g,F'}$	0.4899
$P'_{i,h}$	

Deviation of Rel. Partial Disp. ΔP from the normal line

$\Delta P_{C,t}$	0.0134
$\Delta P_{C,s}$	0.0072
$\Delta P_{F,e}$	-0.0022
$\Delta P_{g,F}$	-0.0084
$\Delta P_{i,g}$	

Chemical Properties

CR	2
FR	1
SR	52.3
AR	1
PR	3.3

Other Properties

$\alpha_{-30/+70°C}$ [10^{-6}/K]	5.3
$\alpha_{+20/+300°C}$ [10^{-6}/K]	6.4
T_g [°C]	589
$T_{10^{13}}$ [°C]	585
$T_{10^{7.6}}$ [°C]	669
c_p [J/(g*K)]	0.570
λ [W/(m•K)]	0.800
ρ [g/cm³]	4.12
E [10^3 N/mm²]	109
µ	0.301
K [10^{-6} mm²/N]	2.29
$HK_{0.1/20}$	660
HG	2

Temperature Coefficients of the Refractive Index

	$\Delta n_{rel}/\Delta T$ [10^{-6}/K]			$\Delta n_{abs}/\Delta T$ [10^{-6}/K]		
[°C]	1060.0	e	g	1060.0	e	g
-40/-20	7.0	8.1	9.2	4.7	5.7	6.7
+20/+40	7.1	8.4	9.6	5.6	6.9	8.0
+60/+80	7.3	8.7	10.0	6.2	7.5	8.8

Datasheet

SCHOTT
glass made of ideas

N-LAF36
800424.443

n_d = 1.79952	ν_d = 42.37	$n_F - n_C$ = 0.018871
n_e = 1.80400	ν_e = 42.12	$n_{F'} - n_{C'}$ = 0.019090

Refractive Indices

	λ [nm]	
$n_{2325.4}$	2325.4	1.75555
$n_{1970.1}$	1970.1	1.76246
$n_{1529.6}$	1529.6	1.77001
$n_{1060.0}$	1060.0	1.77862
n_t	1014.0	1.77969
n_s	852.1	1.78435
n_r	706.5	1.79076
n_C	656.3	1.79390
$n_{C'}$	643.8	1.79478
$n_{632.8}$	632.8	1.79561
n_D	589.3	1.79935
n_d	587.6	1.79952
n_e	546.1	1.80400
n_F	486.1	1.81277
$n_{F'}$	480.0	1.81387
n_g	435.8	1.82345
n_h	404.7	1.83252
n_i	365.0	1.84848
$n_{334.1}$	334.1	
$n_{312.6}$	312.6	
$n_{296.7}$	296.7	
$n_{280.4}$	280.4	
$n_{248.3}$	248.3	

Constants of Dispersion Formula

B_1	1.857442280
B_2	0.294098729
B_3	1.166154170
C_1	0.009823972
C_2	0.0384309138
C_3	89.39846340

Constants of Formula for dn/dT

D_0	8.72E-06
D_1	1.12E-08
D_2	-1.38E-11
E_0	7.81E-07
E_1	9.48E-10
λ_{TK} [µm]	0.212

Internal Transmittance τ_i

λ [nm]	τ_i [10mm]	τ_i [25mm]
2500	0.480	0.160
2325	0.770	0.520
1970	0.950	0.880
1530	0.992	0.980
1060	0.998	0.994
700	0.998	0.994
660	0.998	0.994
620	0.997	0.992
580	0.997	0.992
546	0.996	0.990
500	0.992	0.980
460	0.985	0.962
436	0.976	0.940
420	0.967	0.920
405	0.954	0.890
400	0.950	0.870
390	0.920	0.810
380	0.870	0.710
370	0.790	0.560
365	0.730	0.460
350	0.460	0.140
334	0.070	
320		
310		
300		
290		
280		
270		
260		
250		

Color Code

λ80 / λ5	40/33

Remarks

inquiry glass

Relative Partial Dispersion P

$P_{s,t}$	0.2467
$P_{C,s}$	0.5059
$P_{d,C}$	0.2979
$P_{e,d}$	0.2377
$P_{g,F}$	0.5659
$P_{i,h}$	0.8455

Relative Partial Dispersion P'

$P'_{s,t}$	0.2439
$P'_{C',s}$	0.5465
$P'_{d,C'}$	0.2480
$P'_{e,d}$	0.2349
$P'_{g,F'}$	0.5014
$P'_{i,h}$	0.8358

Deviation of Rel. Partial Disp. ΔP from the normal line

$\Delta P_{C,t}$	0.0067
$\Delta P_{C,s}$	0.0043
$\Delta P_{F,e}$	-0.0016
$\Delta P_{g,F}$	-0.0067
$\Delta P_{i,g}$	-0.0424

Chemical Properties

CR	1
FR	2
SR	52.3
AR	1
PR	3.3

Other Properties

$\alpha_{-30/+70°C}$ [10^{-6}/K]	5.7
$\alpha_{+20/+300°C}$ [10^{-6}/K]	6.8
T_g [°C]	579
$T_{10^{13}}$ [°C]	582
$T_{10^{7.6}}$ [°C]	670
c_p [J/(g*K)]	0.540
λ [W/(m•K)]	0.790
ρ [g/cm³]	4.43
E [10^3 N/mm²]	110
µ	0.305
K [10^{-6} mm²/N]	2.25
$HK_{0.1/20}$	680
HG	1

Temperature Coefficients of the Refractive Index

	$\Delta n_{rel}/\Delta T$ [10^{-6}/K]			$\Delta n_{abs}/\Delta T$ [10^{-6}/K]		
[°C]	1060.0	e	g	1060.0	e	g
-40/-20	7.3	8.8	10.3	4.9	6.4	7.8
+20/+40	7.4	9.1	10.8	5.9	7.6	9.2
+60/+80	7.6	9.5	11.3	6.4	8.2	10.1

Datasheet

SCHOTT
glass made of ideas

N-LAK33A
754523.422

n_d = 1.75393	ν_d = 52.27	$n_F - n_C$ = 0.014424
n_e = 1.75737	ν_e = 52.04	$n_{F'} - n_{C'}$ = 0.014554

Refractive Indices

	λ [nm]	
$n_{2325.4}$	2325.4	1.71278
$n_{1970.1}$	1970.1	1.72047
$n_{1529.6}$	1529.6	1.72855
$n_{1060.0}$	1060.0	1.73690
n_t	1014.0	1.73786
n_s	852.1	1.74186
n_r	706.5	1.74707
n_C	656.3	1.74956
$n_{C'}$	643.8	1.75025
$n_{632.8}$	632.8	1.75090
n_D	589.3	1.75380
n_d	587.6	1.75393
n_e	546.1	1.75737
n_F	486.1	1.76398
$n_{F'}$	480.0	1.76481
n_g	435.8	1.77187
n_h	404.7	1.77845
n_i	365.0	1.78972
$n_{334.1}$	334.1	1.80195
$n_{312.6}$	312.6	1.81325
$n_{296.7}$	296.7	1.82361
$n_{280.4}$	280.4	
$n_{248.3}$	248.3	

Constants of Dispersion Formula

B_1	1.441169990
B_2	0.571749501
B_3	1.166052260
C_1	0.006809339
C_2	0.0222291824
C_3	80.93795550

Constants of Formula for dn/dT

D_0	2.63E-06
D_1	1.11E-08
D_2	-3.92E-12
E_0	5.02E-07
E_1	5.08E-10
λ_{TK} [µm]	0.188

Internal Transmittance τ_i

λ [nm]	τ_i [10mm]	τ_i [25mm]
2500	0.400	0.100
2325	0.690	0.390
1970	0.940	0.850
1530	0.990	0.975
1060	0.998	0.995
700	0.998	0.996
660	0.998	0.995
620	0.998	0.994
580	0.998	0.995
546	0.998	0.996
500	0.998	0.994
460	0.994	0.986
436	0.991	0.978
420	0.988	0.970
405	0.981	0.953
400	0.976	0.940
390	0.967	0.920
380	0.950	0.880
370	0.920	0.820
365	0.910	0.780
350	0.800	0.580
334	0.600	0.280
320	0.340	0.060
310	0.160	
300	0.050	
290		
280		
270		
260		
250		

Color Code

λ80 / λ5	38/30

Remarks

inquiry glass

Relative Partial Dispersion P

$P_{s,t}$	0.2770
$P_{C,s}$	0.5338
$P_{d,C}$	0.3032
$P_{e,d}$	0.2383
$P_{g,F}$	0.5473
$P_{i,h}$	0.7814

Relative Partial Dispersion P'

$P'_{s,t}$	0.2746
$P'_{C',s}$	0.5769
$P'_{d,C'}$	0.2527
$P'_{e,d}$	0.2362
$P'_{g,F'}$	0.4857
$P'_{i,h}$	0.7744

Deviation of Rel. Partial Disp. ΔP from the normal line

$\Delta P_{C,t}$	0.0180
$\Delta P_{C,s}$	0.0091
$\Delta P_{F,e}$	-0.0024
$\Delta P_{g,F}$	-0.0086
$\Delta P_{i,g}$	-0.0484

Chemical Properties

CR	1
FR	1
SR	51
AR	1
PR	2

Other Properties

$\alpha_{-30/+70°C}$ [10^{-6}/K]	5.8
$\alpha_{+20/+300°C}$ [10^{-6}/K]	7.0
T_g [°C]	669
$T_{10^{13}}$ [°C]	667
$T_{10^{7.6}}$ [°C]	744
c_p [J/(g*K)]	0.550
λ [W/(m•K)]	0.810
ρ [g/cm³]	4.22
E [10^3 N/mm²]	121
µ	0.292
K [10^{-6} mm²/N]	1.49
$HK_{0.1/20}$	740
HG	2

Temperature Coefficients of the Refractive Index

	$\Delta n_{rel}/\Delta T$ [10^{-6}/K]			$\Delta n_{abs}/\Delta T$ [10^{-6}/K]		
[°C]	1060.0	e	g	1060.0	e	g
-40/-20	3.4	4.3	5.1	1.1	1.9	2.7
+20/+40	3.4	4.4	5.3	1.9	2.9	3.7
+60/+80	3.6	4.7	5.6	2.4	3.5	4.4

Datasheet

SCHOTT
glass made of ideas

N-PSK53
620635.360

n_d = 1.62014	ν_d = 63.48	$n_F - n_C$ = 0.009769
n_e = 1.62247	ν_e = 63.19	$n_{F'} - n_{C'}$ = 0.009851

Refractive Indices

	λ [nm]	
$n_{2325.4}$	2325.4	1.59216
$n_{1970.1}$	1970.1	1.59732
$n_{1529.6}$	1529.6	1.60280
$n_{1060.0}$	1060.0	1.60851
n_t	1014.0	1.60917
n_s	852.1	1.61191
n_r	706.5	1.61547
n_C	656.3	1.61717
$n_{C'}$	643.8	1.61764
$n_{632.8}$	632.8	1.61808
n_D	589.3	1.62005
n_d	587.6	1.62014
n_e	546.1	1.62247
n_F	486.1	1.62694
$n_{F'}$	480.0	1.62749
n_g	435.8	1.63223
n_h	404.7	1.63662
n_i	365.0	1.64409
$n_{334.1}$	334.1	1.65211
$n_{312.6}$	312.6	
$n_{296.7}$	296.7	
$n_{280.4}$	280.4	
$n_{248.3}$	248.3	

Constants of Dispersion Formula

B_1	1.343408700
B_2	0.241417935
B_3	0.952896897
C_1	0.006750743
C_2	0.0219910513
C_3	103.55145700

Constants of Formula for dn/dT

D_0	-9.29E-06
D_1	5.78E-09
D_2	8.87E-13
E_0	4.59E-07
E_1	5.86E-10
λ_{TK} [µm]	0.155

Internal Transmittance τ_i

λ [nm]	τ_i [10mm]	τ_i [25mm]
2500	0.610	0.290
2325	0.760	0.510
1970	0.920	0.800
1530	0.982	0.956
1060	0.998	0.994
700	0.998	0.994
660	0.997	0.993
620	0.997	0.992
580	0.998	0.994
546	0.998	0.995
500	0.997	0.992
460	0.994	0.986
436	0.993	0.982
420	0.992	0.979
405	0.988	0.970
400	0.985	0.964
390	0.976	0.940
380	0.959	0.900
370	0.930	0.830
365	0.910	0.780
350	0.780	0.530
334	0.530	0.200
320	0.230	0.030
310	0.060	0.000
300	0.000	
290		
280		
270		
260		
250		

Color Code

λ80 / λ5	36/31

Remarks

inquiry glass

Relative Partial Dispersion P

$P_{s,t}$	0.2803
$P_{C,s}$	0.5384
$P_{d,C}$	0.3045
$P_{e,d}$	0.2385
$P_{g,F}$	0.5423
$P_{i,h}$	0.7641

Relative Partial Dispersion P'

$P'_{s,t}$	0.2779
$P'_{C',s}$	0.5820
$P'_{d,C'}$	0.2538
$P'_{e,d}$	0.2365
$P'_{g,F'}$	0.4814
$P'_{i,h}$	0.7577

Deviation of Rel. Partial Disp. ΔP from the normal line

$\Delta P_{C,t}$	-0.0274
$\Delta P_{C,s}$	-0.0125
$\Delta P_{F,e}$	0.0020
$\Delta P_{g,F}$	0.0053
$\Delta P_{i,g}$	0.0214

Chemical Properties

CR	2
FR	1
SR	52.3
AR	1.2
PR	4.3

Other Properties

$\alpha_{-30/+70°C}$ [10^{-6}/K]	9.4
$\alpha_{+20/+300°C}$ [10^{-6}/K]	10.9
T_g [°C]	618
$T_{10^{13}}$ [°C]	606
$T_{10^{7.6}}$ [°C]	709
c_p [J/(g*K)]	
λ [W/(m•K)]	
ρ [g/cm³]	3.60
E [10^3 N/mm²]	78
µ	0.288
K [10^{-6} mm²/N]	1.16
$HK_{0.1/20}$	440
HG	6

Temperature Coefficients of the Refractive Index

	$\Delta n_{rel}/\Delta T$ [10^{-6}/K]			$\Delta n_{abs}/\Delta T$ [10^{-6}/K]		
[°C]	1060.0	e	g	1060.0	e	g
-40/-20	-2.5	-2.0	-1.5	-4.7	-4.2	-3.8
+20/+40	-2.9	-2.3	-1.8	-4.3	-3.8	-3.2
+60/+80	-3.0	-2.3	-1.7	-4.1	-3.4	-2.8

Datasheet

SCHOTT
glass made of ideas

N-SF19
667331.290

n_d = 1.66679	ν_d = 33.12	$n_F - n_C$ = 0.020131
n_e = 1.67154	ν_e = 32.86	$n_{F'} - n_{C'}$ = 0.020435

Refractive Indices

	λ [nm]	
$n_{2325.4}$	2325.4	1.62384
$n_{1970.1}$	1970.1	1.63018
$n_{1529.6}$	1529.6	1.63723
$n_{1060.0}$	1060.0	1.64552
n_t	1014.0	1.64657
n_s	852.1	1.65120
n_r	706.5	1.65769
n_C	656.3	1.66092
$n_{C'}$	643.8	1.66184
$n_{632.8}$	632.8	1.66271
n_D	589.3	1.66661
n_d	587.6	1.66679
n_e	546.1	1.67154
n_F	486.1	1.68106
$n_{F'}$	480.0	1.68228
n_g	435.8	1.69309
n_h	404.7	1.70377
n_i	365.0	
$n_{334.1}$	334.1	
$n_{312.6}$	312.6	
$n_{296.7}$	296.7	
$n_{280.4}$	280.4	
$n_{248.3}$	248.3	

Constants of Dispersion Formula

B_1	1.520054440
B_2	0.175739470
B_3	1.436234240
C_1	0.010961440
C_2	0.0593248486
C_3	126.79515100

Constants of Formula for dn/dT

D_0	1.32E-06
D_1	1.22E-08
D_2	-1.36E-11
E_0	7.64E-07
E_1	1.09E-09
λ_{TK} [µm]	0.279

Internal Transmittance τ_i

λ [nm]	τ_i [10mm]	τ_i [25mm]
2500	0.720	0.440
2325	0.830	0.620
1970	0.954	0.890
1530	0.988	0.970
1060	0.996	0.989
700	0.994	0.985
660	0.992	0.980
620	0.991	0.978
580	0.992	0.980
546	0.991	0.977
500	0.984	0.960
460	0.974	0.940
436	0.965	0.920
420	0.950	0.880
405	0.920	0.810
400	0.900	0.770
390	0.830	0.620
380	0.640	0.330
370	0.300	0.050
365	0.130	
350		
334		
320		
310		
300		
290		
280		
270		
260		
250		

Color Code

λ80 / λ5	40/36

Remarks

inquiry glass

Relative Partial Dispersion P

$P_{s,t}$	0.2299
$P_{C,s}$	0.4831
$P_{d,C}$	0.2913
$P_{e,d}$	0.2362
$P_{g,F}$	0.5976
$P_{i,h}$	

Relative Partial Dispersion P'

$P'_{s,t}$	0.2265
$P'_{C',s}$	0.5208
$P'_{d,C'}$	0.2421
$P'_{e,d}$	0.2327
$P'_{g,F'}$	0.5289
$P'_{i,h}$	

Deviation of Rel. Partial Disp. ΔP from the normal line

$\Delta P_{C,t}$	0.0109
$\Delta P_{C,s}$	0.0030
$\Delta P_{F,e}$	0.0015
$\Delta P_{g,F}$	0.0095
$\Delta P_{i,g}$	

Chemical Properties

CR	1
FR	0
SR	1
AR	1.2
PR	1

Other Properties

$\alpha_{-30/+70°C}$ [10^{-6}/K]	7.2
$\alpha_{+20/+300°C}$ [10^{-6}/K]	8.3
T_g [°C]	598
$T_{10^{13}}$ [°C]	585
$T_{10^{7.6}}$ [°C]	707
c_p [J/(g*K)]	0.750
λ [W/(m•K)]	1.020
ρ [g/cm³]	2.90
E [10^3 N/mm²]	88
µ	0.231
K [10^{-6} mm²/N]	2.93
$HK_{0.1/20}$	630
HG	3

Temperature Coefficients of the Refractive Index

	$\Delta n_{rel}/\Delta T$ [10^{-6}/K]			$\Delta n_{abs}/\Delta T$ [10^{-6}/K]		
[°C]	1060.0	e	g	1060.0	e	g
-40/-20	2.5	3.9	5.5	0.3	1.6	3.2
+20/+40	2.6	4.2	6.2	1.2	2.7	4.7
+60/+80	2.8	4.6	6.8	1.7	3.4	5.6

Datasheet

SCHOTT
glass made of ideas

N-SF56
785261.328

n_d = 1.78470	ν_d = 26.10	$n_F - n_C$ = 0.030071
n_e = 1.79179	ν_e = 25.89	$n_{F'} - n_{C'}$ = 0.030587

Refractive Indices

	λ [nm]	
$n_{2325.4}$	2325.4	1.73010
$n_{1970.1}$	1970.1	1.73664
$n_{1529.6}$	1529.6	1.74431
$n_{1060.0}$	1060.0	1.75442
n_t	1014.0	1.75581
n_s	852.1	1.76213
n_r	706.5	1.77137
n_C	656.3	1.77607
$n_{C'}$	643.8	1.77741
$n_{632.8}$	632.8	1.77868
n_D	589.3	1.78444
n_d	587.6	1.78470
n_e	546.1	1.79179
n_F	486.1	1.80614
$n_{F'}$	480.0	1.80800
n_g	435.8	1.82460
n_h	404.7	1.84126
n_i	365.0	
$n_{334.1}$	334.1	
$n_{312.6}$	312.6	
$n_{296.7}$	296.7	
$n_{280.4}$	280.4	
$n_{248.3}$	248.3	

Constants of Dispersion Formula

B_1	1.735620850
B_2	0.317487012
B_3	1.953982030
C_1	0.012962474
C_2	0.0612884288
C_3	161.55944100

Constants of Formula for dn/dT

D_0	-4.13E-06
D_1	7.65E-09
D_2	-1.12E-11
E_0	9.90E-07
E_1	1.57E-09
λ_{TK} [µm]	0.287

Internal Transmittance τ_i

λ [nm]	τ_i [10mm]	τ_i [25mm]
2500	0.810	0.590
2325	0.860	0.680
1970	0.959	0.900
1530	0.992	0.981
1060	0.998	0.996
700	0.994	0.986
660	0.992	0.981
620	0.992	0.981
580	0.993	0.983
546	0.990	0.976
500	0.980	0.950
460	0.963	0.910
436	0.940	0.860
420	0.910	0.780
405	0.840	0.640
400	0.800	0.570
390	0.670	0.370
380	0.440	0.130
370	0.110	
365	0.020	
350		
334		
320		
310		
300		
290		
280		
270		
260		
250		

Color Code

λ80 / λ5	44/37

Remarks

inquiry glass

Relative Partial Dispersion P

$P_{s,t}$	0.2101
$P_{C,s}$	0.4635
$P_{d,C}$	0.2872
$P_{e,d}$	0.2356
$P_{g,F}$	0.6139
$P_{i,h}$	

Relative Partial Dispersion P'

$P'_{s,t}$	0.2065
$P'_{C',s}$	0.4996
$P'_{d,C'}$	0.2384
$P'_{e,d}$	0.2316
$P'_{g,F'}$	0.5427
$P'_{i,h}$	

Deviation of Rel. Partial Disp. ΔP from the normal line

$\Delta P_{C,t}$	0.0048
$\Delta P_{C,s}$	-0.0002
$\Delta P_{F,e}$	0.0026
$\Delta P_{g,F}$	0.0140
$\Delta P_{i,g}$	

Chemical Properties

CR	1
FR	0
SR	1
AR	1.3
PR	1

Other Properties

$\alpha_{-30/+70°C}$ [10^{-6}/K]	8.7
$\alpha_{+20/+300°C}$ [10^{-6}/K]	10.0
T_g [°C]	592
$T_{10^{13}}$ [°C]	585
$T_{10^{7.6}}$ [°C]	691
c_p [J/(g*K)]	0.700
λ [W/(m•K)]	0.940
ρ [g/cm³]	3.28
E [10^3 N/mm²]	91
µ	0.255
K [10^{-6} mm²/N]	2.87
$HK_{0.1/20}$	560
HG	5

Temperature Coefficients of the Refractive Index

	$\Delta n_{rel}/\Delta T$ [10^{-6}/K]			$\Delta n_{abs}/\Delta T$ [10^{-6}/K]		
[°C]	1060.0	e	g	1060.0	e	g
-40/-20	-0.1	1.7	4.3	-2.5	-0.7	1.8
+20/+40	-0.3	2.0	5.1	-1.8	0.5	3.5
+60/+80	-0.2	2.4	5.9	-1.4	1.2	4.6

Datasheet

SCHOTT
glass made of ideas

N-SF64
706302.299

n_d = 1.70591	ν_d = 30.23	$n_F - n_C$ = 0.023350
n_e = 1.71142	ν_e = 29.99	$n_{F'} - n_{C'}$ = 0.023720

Refractive Indices

	λ [nm]	
$n_{2325.4}$	2325.4	1.65993
$n_{1970.1}$	1970.1	1.66607
$n_{1529.6}$	1529.6	1.67306
$n_{1060.0}$	1060.0	1.68176
n_t	1014.0	1.68291
n_s	852.1	1.68806
n_r	706.5	1.69544
n_C	656.3	1.69914
$n_{C'}$	643.8	1.70020
$n_{632.8}$	632.8	1.70119
n_D	589.3	1.70571
n_d	587.6	1.70591
n_e	546.1	1.71142
n_F	486.1	1.72249
$n_{F'}$	480.0	1.72392
n_g	435.8	1.73657
n_h	404.7	1.74912
n_i	365.0	
$n_{334.1}$	334.1	
$n_{312.6}$	312.6	
$n_{296.7}$	296.7	
$n_{280.4}$	280.4	
$n_{248.3}$	248.3	

Constants of Dispersion Formula

B_1	1.591637620
B_2	0.219908428
B_3	1.469293150
C_1	0.011862343
C_2	0.0594585499
C_3	133.31076200

Constants of Formula for dn/dT

D_0	-2.06E-06
D_1	9.78E-09
D_2	-1.67E-11
E_0	8.67E-07
E_1	1.23E-09
λ_{TK} [µm]	0.279

Internal Transmittance τ_i

λ [nm]	τ_i [10mm]	τ_i [25mm]
2500	0.770	0.520
2325	0.840	0.640
1970	0.950	0.880
1530	0.992	0.979
1060	0.998	0.996
700	0.994	0.985
660	0.992	0.980
620	0.992	0.981
580	0.994	0.984
546	0.993	0.982
500	0.984	0.961
460	0.971	0.930
436	0.957	0.900
420	0.930	0.840
405	0.880	0.730
400	0.850	0.670
390	0.750	0.480
380	0.550	0.220
370	0.210	0.020
365	0.080	
350		
334		
320		
310		
300		
290		
280		
270		
260		
250		

Color Code

λ80 / λ5	42/37

Remarks

inquiry glass

Relative Partial Dispersion P

$P_{s,t}$	0.2204
$P_{C,s}$	0.4746
$P_{d,C}$	0.2898
$P_{e,d}$	0.2361
$P_{g,F}$	0.6028
$P_{i,h}$	

Relative Partial Dispersion P'

$P'_{s,t}$	0.2169
$P'_{C',s}$	0.5117
$P'_{d,C'}$	0.2407
$P'_{e,d}$	0.2324
$P'_{g,F'}$	0.5333
$P'_{i,h}$	

Deviation of Rel. Partial Disp. ΔP from the normal line

$\Delta P_{C,t}$	0.0066
$\Delta P_{C,s}$	0.0012
$\Delta P_{F,e}$	0.0017
$\Delta P_{g,F}$	0.0099
$\Delta P_{i,g}$	

Chemical Properties

CR	1
FR	0
SR	1
AR	1.2
PR	1

Other Properties

$\alpha_{-30/+70°C}$ [10^{-6}/K]	8.5
$\alpha_{+20/+300°C}$ [10^{-6}/K]	9.8
T_g [°C]	572
$T_{10^{13}}$ [°C]	577
$T_{10^{7.6}}$ [°C]	685
c_p [J/(g*K)]	0.750
λ [W/(m•K)]	0.980
ρ [g/cm³]	2.99
E [10^3 N/mm²]	88
µ	0.245
K [10^{-6} mm²/N]	2.95
$HK_{0.1/20}$	620
HG	4

Temperature Coefficients of the Refractive Index

	$\Delta n_{rel}/\Delta T$ [10^{-6}/K]			$\Delta n_{abs}/\Delta T$ [10^{-6}/K]		
[°C]	1060.0	e	g	1060.0	e	g
-40/-20	0.9	2.4	4.4	-1.3	0.1	2.0
+20/+40	0.9	2.7	5.1	-0.6	1.2	3.5
+60/+80	1.0	3.0	5.6	-0.1	1.9	4.4

Datasheet

SCHOTT
glass made of ideas

N-SK10
623570.364

n_d = 1.62278	ν_d = 56.98	$n_F - n_C$ = 0.010929
n_e = 1.62539	ν_e = 56.70	$n_{F'} - n_{C'}$ = 0.011029

Refractive Indices

	λ [nm]	
$n_{2325.4}$	2325.4	1.59310
$n_{1970.1}$	1970.1	1.59837
$n_{1529.6}$	1529.6	1.60400
$n_{1060.0}$	1060.0	1.61000
n_t	1014.0	1.61071
n_s	852.1	1.61367
n_r	706.5	1.61759
n_C	656.3	1.61947
$n_{C'}$	643.8	1.62000
$n_{632.8}$	632.8	1.62049
n_D	589.3	1.62268
n_d	587.6	1.62278
n_e	546.1	1.62539
n_F	486.1	1.63040
$n_{F'}$	480.0	1.63102
n_g	435.8	1.63638
n_h	404.7	1.64137
n_i	365.0	1.64989
$n_{334.1}$	334.1	
$n_{312.6}$	312.6	
$n_{296.7}$	296.7	
$n_{280.4}$	280.4	
$n_{248.3}$	248.3	

Constants of Dispersion Formula

B_1	1.349720930
B_2	0.238587973
B_3	0.966733600
C_1	0.007362723
C_2	0.0253765327
C_3	103.50290900

Constants of Formula for dn/dT

D_0	5.05E-07
D_1	1.16E-08
D_2	-1.53E-11
E_0	4.90E-07
E_1	5.10E-10
λ_{TK} [µm]	0.183

Internal Transmittance τ_i

λ [nm]	τ_i [10mm]	τ_i [25mm]
2500	0.730	0.460
2325	0.850	0.670
1970	0.967	0.920
1530	0.992	0.980
1060	0.998	0.994
700	0.998	0.995
660	0.997	0.993
620	0.998	0.994
580	0.998	0.996
546	0.998	0.996
500	0.998	0.995
460	0.996	0.990
436	0.995	0.987
420	0.994	0.985
405	0.990	0.975
400	0.988	0.970
390	0.980	0.950
380	0.963	0.910
370	0.930	0.840
365	0.910	0.790
350	0.770	0.520
334	0.410	0.110
320	0.070	
310		
300		
290		
280		
270		
260		
250		

Color Code

λ80 / λ5	36/32

Remarks

inquiry glass

Relative Partial Dispersion P

$P_{s,t}$	0.2714
$P_{C,s}$	0.5302
$P_{d,C}$	0.3029
$P_{e,d}$	0.2384
$P_{g,F}$	0.5474
$P_{i,h}$	0.7803

Relative Partial Dispersion P'

$P'_{s,t}$	0.2689
$P'_{C',s}$	0.5731
$P'_{d,C'}$	0.2525
$P'_{e,d}$	0.2362
$P'_{g,F'}$	0.4857
$P'_{i,h}$	0.7732

Deviation of Rel. Partial Disp. ΔP from the normal line

$\Delta P_{C,t}$	-0.0137
$\Delta P_{C,s}$	-0.0055
$\Delta P_{F,e}$	0.0003
$\Delta P_{g,F}$	-0.0005
$\Delta P_{i,g}$	-0.0103

Chemical Properties

CR	3
FR	3
SR	52.2
AR	2
PR	2.2

Other Properties

$\alpha_{-30/+70°C}$ [10^{-6}/K]	6.8
$\alpha_{+20/+300°C}$ [10^{-6}/K]	7.8
T_g [°C]	633
$T_{10^{13}}$ [°C]	635
$T_{10^{7.6}}$ [°C]	758
c_p [J/(g*K)]	0.540
λ [W/(m•K)]	0.770
ρ [g/cm³]	3.64
E [10^3 N/mm²]	81
µ	0.266
K [10^{-6} mm²/N]	2.25
$HK_{0.1/20}$	550
HG	3

Temperature Coefficients of the Refractive Index

	$\Delta n_{rel}/\Delta T$ [10^{-6}/K]			$\Delta n_{abs}/\Delta T$ [10^{-6}/K]		
[°C]	1060.0	e	g	1060.0	e	g
-40/-20	2.0	2.7	3.3	-0.2	0.4	1.0
+20/+40	2.0	2.7	3.5	0.6	1.3	2.0
+60/+80	2.1	2.9	3.7	1.0	1.8	2.6

Datasheet

SCHOTT
glass made of ideas

N-SK15
623580.362

n_d = 1.62296	ν_d = 58.02	$n_F - n_C$ = 0.010737
n_e = 1.62552	ν_e = 57.75	$n_{F'} - n_{C'}$ = 0.010832

Refractive Indices

	λ [nm]	
$n_{2325.4}$	2325.4	1.59268
$n_{1970.1}$	1970.1	1.59822
$n_{1529.6}$	1529.6	1.60411
$n_{1060.0}$	1060.0	1.61027
n_t	1014.0	1.61098
n_s	852.1	1.61396
n_r	706.5	1.61785
n_C	656.3	1.61970
$n_{C'}$	643.8	1.62022
$n_{632.8}$	632.8	1.62070
n_D	589.3	1.62286
n_d	587.6	1.62296
n_e	546.1	1.62552
n_F	486.1	1.63044
$n_{F'}$	480.0	1.63105
n_g	435.8	1.63629
n_h	404.7	1.64116
n_i	365.0	1.64947
$n_{334.1}$	334.1	1.65846
$n_{312.6}$	312.6	
$n_{296.7}$	296.7	
$n_{280.4}$	280.4	
$n_{248.3}$	248.3	

Constants of Dispersion Formula

B_1	1.304177860
B_2	0.285841160
B_3	0.974781572
C_1	0.006950513
C_2	0.0232023703
C_3	99.01688400

Constants of Formula for dn/dT

D_0	4.92E-07
D_1	1.20E-08
D_2	-2.96E-12
E_0	4.66E-07
E_1	5.16E-10
λ_{TK} [µm]	0.179

Internal Transmittance τ_i

λ [nm]	τ_i [10mm]	τ_i [25mm]
2500	0.670	0.370
2325	0.830	0.620
1970	0.959	0.900
1530	0.990	0.975
1060	0.996	0.991
700	0.998	0.994
660	0.997	0.992
620	0.997	0.992
580	0.997	0.993
546	0.997	0.993
500	0.996	0.990
460	0.993	0.982
436	0.991	0.978
420	0.990	0.974
405	0.986	0.966
400	0.984	0.960
390	0.976	0.940
380	0.963	0.910
370	0.940	0.850
365	0.920	0.800
350	0.800	0.560
334	0.500	0.180
320	0.140	
310	0.010	
300		
290		
280		
270		
260		
250		

Color Code

λ80 / λ5	36/31

Remarks

inquiry glass

Relative Partial Dispersion P

$P_{s,t}$	0.2770
$P_{C,s}$	0.5348
$P_{d,C}$	0.3036
$P_{e,d}$	0.2384
$P_{g,F}$	0.5453
$P_{i,h}$	0.7742

Relative Partial Dispersion P'

$P'_{s,t}$	0.2746
$P'_{C',s}$	0.5780
$P'_{d,C'}$	0.2531
$P'_{e,d}$	0.2363
$P'_{g,F'}$	0.4840
$P'_{i,h}$	0.7674

Deviation of Rel. Partial Disp. ΔP from the normal line

$\Delta P_{C,t}$	-0.0084
$\Delta P_{C,s}$	-0.0033
$\Delta P_{F,e}$	0.0001
$\Delta P_{g,F}$	-0.0009
$\Delta P_{i,g}$	-0.0102

Chemical Properties

CR	3
FR	3
SR	52.2
AR	2
PR	3.2

Other Properties

$\alpha_{-30/+70°C}$ [10^{-6}/K]	6.7
$\alpha_{+20/+300°C}$ [10^{-6}/K]	7.6
T_g [°C]	641
$T_{10^{13}}$ [°C]	634
$T_{10^{7.6}}$ [°C]	752
c_p [J/(g*K)]	0.570
λ [W/(m•K)]	0.770
ρ [g/cm³]	3.62
E [10^3 N/mm²]	84
µ	0.265
K [10^{-6} mm²/N]	1.93
$HK_{0.1/20}$	620
HG	3

Temperature Coefficients of the Refractive Index

	$\Delta n_{rel}/\Delta T$ [10^{-6}/K]			$\Delta n_{abs}/\Delta T$ [10^{-6}/K]		
[°C]	1060.0	e	g	1060.0	e	g
-40/-20	2.0	2.6	3.2	-0.2	0.4	1.0
+20/+40	2.0	2.7	3.4	0.6	1.3	1.9
+60/+80	2.1	2.9	3.7	1.1	1.8	2.5

Datasheet

SCHOTT
glass made of ideas

P-PK53
527662.283

n_d = 1.52690	ν_d = 66.22	$n_F - n_C$ = 0.007957
n_e = 1.52880	ν_e = 65.92	$n_{F'} - n_{C'}$ = 0.008022

Refractive Indices

	λ [nm]	
$n_{2325.4}$	2325.4	
$n_{1970.1}$	1970.1	1.50808
$n_{1529.6}$	1529.6	1.51265
$n_{1060.0}$	1060.0	1.51738
n_t	1014.0	1.51792
n_s	852.1	1.52017
n_r	706.5	1.52309
n_C	656.3	1.52447
$n_{C'}$	643.8	1.52486
$n_{632.8}$	632.8	1.52522
n_D	589.3	1.52683
n_d	587.6	1.52690
n_e	546.1	1.52880
n_F	486.1	1.53243
$n_{F'}$	480.0	1.53288
n_g	435.8	1.53673
n_h	404.7	1.54029
n_i	365.0	1.54633
$n_{334.1}$	334.1	1.55280
$n_{312.6}$	312.6	
$n_{296.7}$	296.7	
$n_{280.4}$	280.4	
$n_{248.3}$	248.3	

Constants of Dispersion Formula

B_1	0.960316767
B_2	0.340437227
B_3	0.777865595
C_1	0.005310330
C_2	0.0175073434
C_3	106.87533000

Constants of Formula for dn/dT

D_0	-1.65E-05
D_1	-5.14E-10
D_2	-2.02E-11
E_0	4.11E-07
E_1	4.17E-10
λ_{TK} [µm]	0.208

Internal Transmittance τ_i

λ [nm]	τ_i [10mm]	τ_i [25mm]
2500	0.470	0.150
2325	0.570	0.250
1970	0.790	0.550
1530	0.981	0.954
1060	0.998	0.994
700	0.997	0.992
660	0.997	0.992
620	0.998	0.994
580	0.998	0.996
546	0.999	0.997
500	0.998	0.995
460	0.996	0.990
436	0.995	0.987
420	0.994	0.985
405	0.994	0.985
400	0.994	0.985
390	0.990	0.976
380	0.980	0.950
370	0.959	0.900
365	0.940	0.860
350	0.820	0.600
334	0.520	0.190
320	0.180	0.010
310	0.040	0.000
300	0.000	
290	0.000	
280		
270		
260		
250		

Color Code

λ80 / λ5	36/31

Remarks

inquiry glass

suitable for precision molding

Relative Partial Dispersion P

$P_{s,t}$	0.2829
$P_{C,s}$	0.5408
$P_{d,C}$	0.3049
$P_{e,d}$	0.2386
$P_{g,F}$	0.5408
$P_{i,h}$	0.7592

Relative Partial Dispersion P'

$P'_{s,t}$	0.2806
$P'_{C',s}$	0.5846
$P'_{d,C'}$	0.2542
$P'_{e,d}$	0.2366
$P'_{g,F'}$	0.4802
$P'_{i,h}$	0.7530

Deviation of Rel. Partial Disp. ΔP from the normal line

$\Delta P_{C,t}$	-0.0354
$\Delta P_{C,s}$	-0.0165
$\Delta P_{F,e}$	0.0030
$\Delta P_{g,F}$	0.0084
$\Delta P_{i,g}$	0.0375

Chemical Properties

CR	2
FR	1
SR	51
AR	4.3
PR	4.3
SR-J	3
WR-J	1

Other Properties

$\alpha_{-30/+70°C}$ [10^{-6}/K]	13.3
$\alpha_{+20/+300°C}$ [10^{-6}/K]	16.0
T_g [°C]	383
$T_{10^{13}}$ [°C]	390
$T_{10^{7.6}}$ [°C]	453
c_p [J/(g*K)]	0.770
λ [W/(m•K)]	0.640
AT [°C]	418
ρ [g/cm³]	2.83
E [10^3 N/mm²]	59
µ	0.271
K [10^{-6} mm²/N]	2.06
$HK_{0.1/20}$	335
HG	6
Abrasion Aa	977

Temperature Coefficients of the Refractive Index

	$\Delta n_{rel}/\Delta T$ [10^{-6}/K]			$\Delta n_{abs}/\Delta T$ [10^{-6}/K]		
[°C]	1060.0	e	g	1060.0	e	g
-40/-20	-4.9	-4.5	-4.1	-7.0	-6.6	-6.2
+20/+40	-5.6	-5.2	-4.7	-6.9	-6.5	-6.1
+60/+80	-6.0	-5.5	-5.0	-7.0	-6.5	-6.0

Datasheet

SCHOTT
glass made of ideas

P-SF67
907214.424

n_d = 1.90680	ν_d = 21.40	$n_F - n_C$ = 0.042374
n_e = 1.91675	ν_e = 21.23	$n_{F'} - n_{C'}$ = 0.043191

Refractive Indices

	λ [nm]	
$n_{2325.4}$	2325.4	1.83479
$n_{1970.1}$	1970.1	1.84280
$n_{1529.6}$	1529.6	1.85235
$n_{1060.0}$	1060.0	1.86543
n_t	1014.0	1.86727
n_s	852.1	1.87574
n_r	706.5	1.88833
n_C	656.3	1.89480
$n_{C'}$	643.8	1.89666
$n_{632.8}$	632.8	1.89841
n_D	589.3	1.90644
n_d	587.6	1.90680
n_e	546.1	1.91675
n_F	486.1	1.93717
$n_{F'}$	480.0	1.93985
n_g	435.8	1.96401
n_h	404.7	
n_i	365.0	
$n_{334.1}$	334.1	
$n_{312.6}$	312.6	
$n_{296.7}$	296.7	
$n_{280.4}$	280.4	
$n_{248.3}$	248.3	

Constants of Dispersion Formula

B_1	1.974642250
B_2	0.467095921
B_3	2.431542090
C_1	0.014577232
C_2	0.0669790359
C_3	157.44489500

Constants of Formula for dn/dT

D_0	4.82E-07
D_1	1.15E-08
D_2	-9.95E-12
E_0	1.15E-06
E_1	1.65E-09
λ_{TK} [µm]	0.315

Internal Transmittance τ_i

λ [nm]	τ_i [10mm]	τ_i [25mm]
2500	0.930	0.840
2325	0.950	0.870
1970	0.984	0.960
1530	0.994	0.985
1060	0.994	0.985
700	0.983	0.958
660	0.981	0.952
620	0.978	0.950
580	0.971	0.930
546	0.954	0.890
500	0.900	0.770
460	0.810	0.590
436	0.710	0.420
420	0.570	0.250
405	0.360	0.080
400	0.280	0.040
390	0.090	0.000
380	0.010	
370	0.000	
365		
350		
334		
320		
310		
300		
290		
280		
270		
260		
250		

Color Code

λ70 /λ5	48/39

Remarks

inquiry glass

suitable for precision molding

Relative Partial Dispersion P

$P_{s,t}$	0.1998
$P_{C,s}$	0.4498
$P_{d,C}$	0.2832
$P_{e,d}$	0.2348
$P_{g,F}$	0.6334
$P_{i,h}$	

Relative Partial Dispersion P'

$P'_{s,t}$	0.1960
$P'_{C',s}$	0.4843
$P'_{d,C'}$	0.2349
$P'_{e,d}$	0.2303
$P'_{g,F'}$	0.5595
$P'_{i,h}$	

Deviation of Rel. Partial Disp. ΔP from the normal line

$\Delta P_{C,t}$	0.0031
$\Delta P_{C,s}$	-0.0030
$\Delta P_{F,e}$	0.0049
$\Delta P_{g,F}$	0.0256
$\Delta P_{i,g}$	

Chemical Properties

CR	1
FR	0
SR	1
AR	1.3
PR	1
SR-J	1
WR-J	1

Other Properties

$\alpha_{-30/+70°C}$ [10^{-6}/K]	6.2
$\alpha_{+20/+300°C}$ [10^{-6}/K]	7.4
T_g [°C]	539
$T_{10^{13}}$ [°C]	546
$T_{10^{7.6}}$ [°C]	663
c_p [J/(g*K)]	0.530
λ [W/(m•K)]	0.790
AT [°C]	601
ρ [g/cm^3]	4.24
E [10^3 N/mm^2]	90
µ	0.248
K [10^{-6} mm^2/N]	2.96
$HK_{0.1/20}$	440
HG	3
Abrasion Aa	309

Temperature Coefficients of the Refractive Index

	$\Delta n_{rel}/\Delta T$ [10^{-6}/K]			$\Delta n_{abs}/\Delta T$ [10^{-6}/K]		
[°C]	1060.0	e	g	1060.0	e	g
-40/-20	2.6	5.5	10.1	0.1	2.9	7.4
+20/+40	2.8	6.3	11.7	1.2	4.6	10.0
+60/+80	3.1	7.0	13.0	1.9	5.7	11.7

Datasheet

SCHOTT
glass made of ideas

SF57HT
847238.551

n_d = 1.84666	ν_d = 23.83	$n_F - n_C$ = 0.035536
n_e = 1.85504	ν_e = 23.64	$n_{F'} - n_{C'}$ = 0.036166

Refractive Indices

	λ [nm]	
$n_{2325.4}$	2325.4	1.79026
$n_{1970.1}$	1970.1	1.79539
$n_{1529.6}$	1529.6	1.80187
$n_{1060.0}$	1060.0	1.81185
n_t	1014.0	1.81335
n_s	852.1	1.82038
n_r	706.5	1.83102
n_C	656.3	1.83650
$n_{C'}$	643.8	1.83808
$n_{632.8}$	632.8	1.83957
n_D	589.3	1.84636
n_d	587.6	1.84666
n_e	546.1	1.85504
n_F	486.1	1.87204
$n_{F'}$	480.0	1.87425
n_g	435.8	1.89393
n_h	404.7	1.91366
n_i	365.0	
$n_{334.1}$	334.1	
$n_{312.6}$	312.6	
$n_{296.7}$	296.7	
$n_{280.4}$	280.4	
$n_{248.3}$	248.3	

Constants of Dispersion Formula

B_1	1.816513710
B_2	0.428893641
B_3	1.071862780
C_1	0.014370420
C_2	0.0592801172
C_3	121.41994200

Constants of Formula for dn/dT

D_0	7.26E-06
D_1	1.88E-08
D_2	-5.14E-11
E_0	1.96E-06
E_1	1.79E-09
λ_{TK} [µm]	0.276

Internal Transmittance τ_i

λ [nm]	τ_i [10mm]	τ_i [25mm]
2500	0.910	0.790
2325	0.930	0.830
1970	0.979	0.950
1530	0.998	0.994
1060	0.999	0.999
700	0.999	0.997
660	0.999	0.997
620	0.999	0.997
580	0.999	0.997
546	0.998	0.996
500	0.996	0.990
460	0.990	0.976
436	0.981	0.954
420	0.964	0.910
405	0.920	0.810
400	0.900	0.760
390	0.790	0.550
380	0.580	0.250
370	0.230	0.030
365	0.080	
350		
334		
320		
310		
300		
290		
280		
270		
260		
250		

Color Code

λ70 /λ5	40/36

Remarks

inquiry glass, lead containing

Relative Partial Dispersion P

$P_{s,t}$	0.1976
$P_{C,s}$	0.4539
$P_{d,C}$	0.2859
$P_{e,d}$	0.2356
$P_{g,F}$	0.6160
$P_{i,h}$	

Relative Partial Dispersion P'

$P'_{s,t}$	0.1942
$P'_{C',s}$	0.4895
$P'_{d,C'}$	0.2373
$P'_{e,d}$	0.2315
$P'_{g,F'}$	0.5443
$P'_{i,h}$	

Deviation of Rel. Partial Disp. ΔP from the normal line

$\Delta P_{C,t}$	-0.0065
$\Delta P_{C,s}$	-0.0046
$\Delta P_{F,e}$	0.0026
$\Delta P_{g,F}$	0.0123
$\Delta P_{i,g}$	

Chemical Properties

CR	2
FR	5
SR	52.3
AR	2.3
PR	4.3
SR-J	6
WR-J	1

Other Properties

$\alpha_{-30/+70°C}$ [10^{-6}/K]	8.3
$\alpha_{+20/+300°C}$ [10^{-6}/K]	9.2
T_g [°C]	414
$T_{10^{13}}$ [°C]	414
$T_{10^{7.6}}$ [°C]	507
c_p [J/(g*K)]	0.360
λ [W/(m•K)]	0.620
AT [°C]	449
ρ [g/cm³]	5.51
E [10^3 N/mm²]	54
µ	0.248
K [10^{-6} mm²/N]	0.02
$HK_{0.1/20}$	350
HG	1
Abrasion Aa	344

Temperature Coefficients of the Refractive Index

	$\Delta n_{rel}/\Delta T$ [10^{-6}/K]			$\Delta n_{abs}/\Delta T$ [10^{-6}/K]		
[°C]	1060.0	e	g	1060.0	e	g
-40/-20	6.6	11.1	16.7	4.2	8.6	14.1
+20/+40	7.6	12.5	18.9	6.0	10.9	17.2
+60/+80	8.0	13.4	20.1	6.8	12.1	18.8

Datasheet

SCHOTT
glass made of ideas

SFL6
805254.337

$n_d = 1.80518$	$\nu_d = 25.39$	$n_F - n_C = 0.031708$
$n_e = 1.81265$	$\nu_e = 25.19$	$n_{F'} - n_{C'} = 0.032260$

Refractive Indices

	λ [nm]	
$n_{2325.4}$	2325.4	1.74897
$n_{1970.1}$	1970.1	1.75544
$n_{1529.6}$	1529.6	1.76311
$n_{1060.0}$	1060.0	1.77345
n_t	1014.0	1.77489
n_s	852.1	1.78147
n_r	706.5	1.79116
n_C	656.3	1.79609
$n_{C'}$	643.8	1.79751
$n_{632.8}$	632.8	1.79884
n_D	589.3	1.80491
n_d	587.6	1.80518
n_e	546.1	1.81265
n_F	486.1	1.82780
$n_{F'}$	480.0	1.82977
n_g	435.8	1.84733
n_h	404.7	1.86500
n_i	365.0	
$n_{334.1}$	334.1	
$n_{312.6}$	312.6	
$n_{296.7}$	296.7	
$n_{280.4}$	280.4	
$n_{248.3}$	248.3	

Constants of Dispersion Formula

B_1	1.789220560
B_2	0.328427448
B_3	2.016394410
C_1	0.013516354
C_2	0.0622729599
C_3	168.01471300

Constants of Formula for dn/dT

D_0	-5.26E-06
D_1	7.41E-09
D_2	-1.89E-11
E_0	1.02E-06
E_1	1.62E-09
λ_{TK} [µm]	0.288

Internal Transmittance τ_i

λ [nm]	τ_i [10mm]	τ_i [25mm]
2500		
2325	0.930	0.840
1970	0.980	0.950
1530	0.998	0.995
1060	0.995	0.988
700	0.996	0.989
660	0.995	0.988
620	0.993	0.983
580	0.992	0.980
546	0.988	0.970
500	0.976	0.940
460	0.959	0.900
436	0.940	0.860
420	0.920	0.810
405	0.880	0.720
400	0.850	0.670
390	0.770	0.520
380	0.570	0.250
370	0.210	0.020
365		
350		
334		
320		
310		
300		
290		
280		
270		
260		
250		

Color Code

λ80 / λ5	45/37

Remarks

inquiry glass

Relative Partial Dispersion P

$P_{s,t}$	0.2075
$P_{C,s}$	0.4611
$P_{d,C}$	0.2867
$P_{e,d}$	0.2355
$P_{g,F}$	0.6159
$P_{i,h}$	

Relative Partial Dispersion P'

$P'_{s,t}$	0.2040
$P'_{C',s}$	0.4970
$P'_{d,C'}$	0.2380
$P'_{e,d}$	0.2315
$P'_{g,F'}$	0.5444
$P'_{i,h}$	

Deviation of Rel. Partial Disp. ΔP from the normal line

$\Delta P_{C,t}$	0.0032
$\Delta P_{C,s}$	-0.0010
$\Delta P_{F,e}$	0.0027
$\Delta P_{g,F}$	0.0148
$\Delta P_{i,g}$	

Chemical Properties

CR	1
FR	0
SR	2
AR	1
PR	1

Other Properties

$\alpha_{-30/+70°C}$ [10^{-6}/K]	9.0
$\alpha_{+20/+300°C}$ [10^{-6}/K]	10.3
T_g [°C]	585
$T_{10^{13}}$ [°C]	592
$T_{10^{7.6}}$ [°C]	
c_p [J/(g*K)]	
λ [W/(m•K)]	
ρ [g/cm³]	3.37
E [10^3 N/mm²]	93
µ	0.260
K [10^{-6} mm²/N]	2.79
$HK_{0.1/20}$	570

Temperature Coefficients of the Refractive Index

	$\Delta n_{rel}/\Delta T$ [10^{-6}/K]			$\Delta n_{abs}/\Delta T$ [10^{-6}/K]		
[°C]	1060.0	e	g	1060.0	e	g
-40/-20	-0.8	1.1	3.8	-3.2	-1.4	1.2
+20/+40	-1.0	1.4	4.7	-2.5	-0.1	3.1
+60/+80	-0.9	1.8	5.4	-2.1	0.5	4.2

Datasheet

SCHOTT
glass made of ideas

SFL57
847236.355

n_d = 1.84666	ν_d = 23.62	$n_F - n_C$ = 0.035841
n_e = 1.85510	ν_e = 23.43	$n_{F'} - n_{C'}$ = 0.036489

Refractive Indices

	λ [nm]	
$n_{2325.4}$	2325.4	1.78487
$n_{1970.1}$	1970.1	1.79171
$n_{1529.6}$	1529.6	1.79989
$n_{1060.0}$	1060.0	1.81117
n_t	1014.0	1.81276
n_s	852.1	1.82007
n_r	706.5	1.83089
n_C	656.3	1.83643
$n_{C'}$	643.8	1.83802
$n_{632.8}$	632.8	1.83952
n_D	589.3	1.84635
n_d	587.6	1.84666
n_e	546.1	1.85510
n_F	486.1	1.87227
$n_{F'}$	480.0	1.87451
n_g	435.8	1.89456
n_h	404.7	1.91488
n_i	365.0	
$n_{334.1}$	334.1	
$n_{312.6}$	312.6	
$n_{296.7}$	296.7	
$n_{280.4}$	280.4	
$n_{248.3}$	248.3	

Constants of Dispersion Formula

B_1	1.887423260
B_2	0.360534025
B_3	2.261893130
C_1	0.014593934
C_2	0.0648198946
C_3	176.06221100

Constants of Formula for dn/dT

D_0	-3.63E-06
D_1	8.61E-09
D_2	-9.98E-12
E_0	1.10E-06
E_1	1.69E-09
λ_{TK} [µm]	0.293

Internal Transmittance τ_i

λ [nm]	τ_i [10mm]	τ_i [25mm]
2500	0.880	0.730
2325	0.910	0.790
1970	0.984	0.960
1530	0.996	0.990
1060	0.996	0.991
700	0.990	0.976
660	0.987	0.969
620	0.988	0.971
580	0.988	0.971
546	0.982	0.955
500	0.954	0.890
460	0.910	0.800
436	0.850	0.670
420	0.770	0.520
405	0.610	0.290
400	0.530	0.200
390	0.260	0.030
380	0.050	
370		
365		
350		
334		
320		
310		
300		
290		
280		
270		
260		
250		

Color Code

λ70 /λ5	44/38

Remarks

inquiry glass, lead containing

Relative Partial Dispersion P

$P_{s,t}$	0.2038
$P_{C,s}$	0.4566
$P_{d,C}$	0.2855
$P_{e,d}$	0.2353
$P_{g,F}$	0.6218
$P_{i,h}$	

Relative Partial Dispersion P'

$P'_{s,t}$	0.2002
$P'_{C',s}$	0.4920
$P'_{d,C'}$	0.2369
$P'_{e,d}$	0.2311
$P'_{g,F'}$	0.5495
$P'_{i,h}$	

Deviation of Rel. Partial Disp. ΔP from the normal line

$\Delta P_{C,t}$	0.0034
$\Delta P_{C,s}$	-0.0014
$\Delta P_{F,e}$	0.0033
$\Delta P_{g,F}$	0.0177
$\Delta P_{i,g}$	

Chemical Properties

CR	1
FR	0
SR	1.3
AR	1
PR	1.3

Other Properties

$\alpha_{-30/+70°C}$ [10^{-6}/K]	8.7
$\alpha_{+20/+300°C}$ [10^{-6}/K]	10.0
T_g [°C]	598
$T_{10^{13}}$ [°C]	
$T_{10^{7.6}}$ [°C]	700
c_p [J/(g*K)]	0.670
λ [W/(m•K)]	0.997
ρ [g/cm³]	3.55
E [10^3 N/mm²]	97
µ	0.261
K [10^{-6} mm²/N]	2.73
$HK_{0.1/20}$	580
HG	3

Temperature Coefficients of the Refractive Index

	$\Delta n_{rel}/\Delta T$ [10^{-6}/K]			$\Delta n_{abs}/\Delta T$ [10^{-6}/K]		
[°C]	1060.0	e	g	1060.0	e	g
-40/-20	0.1	2.4	5.6	-2.3	-0.1	3.0
+20/+40	0.1	2.9	6.8	-1.5	1.2	5.1
+60/+80	0.2	3.3	7.7	-1.0	2.1	6.4

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