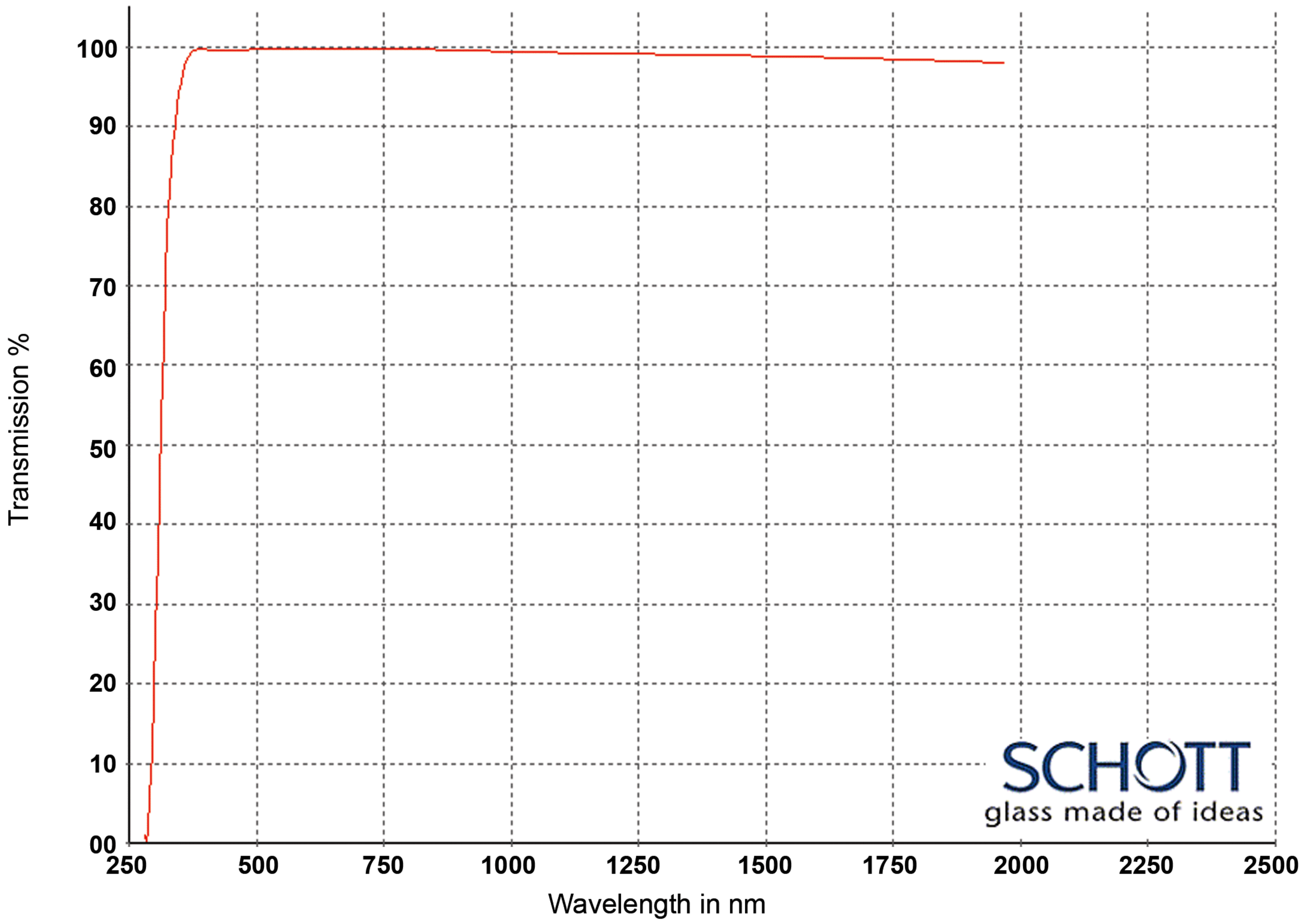




KNIGHT OPTICAL

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Title: Optical Glasses - 250-2500nm  
Material: SCHOTT N-PSK57 for 250nm - 2500 transmission  
Range: OPG - N-PSK57



Internal transmittance for 10mm thickness

WAVELENGTH	BASF51 (T%)
2500 nm	0.000
2325 nm	0.000
1970 nm	0.980
1530 nm	0.988
1060 nm	0.993
700 nm	0.998
660 nm	0.998
620 nm	0.998
580 nm	0.998
546 nm	0.998
500 nm	0.997
460 nm	0.996
436 nm	0.996
420 nm	0.996
405 nm	0.996
400 nm	0.997
390 nm	0.997
380 nm	0.996
370 nm	0.990
365 nm	0.986
350 nm	0.950
334 nm	0.860
320 nm	0.680
310 nm	0.440
300 nm	0.210
290 nm	0.040
280 nm	0.010
270 nm	0.000
260 nm	0.000
250 nm	0.000

### Refractive Indices

	$\lambda$ [nm]	
$n_{2325.4}$	2325.4	1.57122
$n_{1970.1}$	1970.1	1.57457
$n_{1529.6}$	1529.6	1.57827
$n_{1060.0}$	1060.0	1.58248
$n_t$	1014.0	1.58300
$n_s$	852.1	1.58525
$n_r$	706.5	1.58830
$n_C$	656.3	1.58978
$n_{C'}$	643.8	1.59019
$n_{632.8}$	632.8	1.59058
$n_D$	589.3	1.59232
$n_d$	587.6	1.59240
$n_e$	546.1	1.59447
$n_F$	486.1	1.59844
$n_{F'}$	480.0	1.59894
$n_g$	435.8	1.60317
$n_h$	404.7	1.60708
$n_i$	365.0	1.61374
$n_{334.1}$	334.1	1.62086
$n_{312.6}$	312.6	
$n_{296.7}$	296.7	
$n_{280.4}$	280.4	
$n_{248.3}$	248.3	

### Internal Transmittance $\tau_i$

$\lambda$ [nm]	$\tau_i$ [10 mm]	$\tau_i$ [25 mm]
2500		
2325		
1970	0.980	0.950
1530	0.988	0.970
1060	0.993	0.982
700	0.998	0.996
660	0.998	0.996
620	0.998	0.996
580	0.998	0.996
546	0.998	0.996
500	0.997	0.992
460	0.996	0.991
436	0.996	0.991
420	0.996	0.991
405	0.996	0.991
400	0.997	0.992
390	0.997	0.992
380	0.996	0.989
370	0.990	0.975
365	0.986	0.965
350	0.950	0.88
334	0.86	0.68
320	0.68	0.38
310	0.44	0.13
300	0.21	0.02
290	0.04	
280	0.01	
270		
260		
250		

### Relative Partial Dispersion

$P_{s,t}$	0.2594
$P_{C,s}$	0.5230
$P_{d,C}$	0.3025
$P_{e,d}$	0.2386
$P_{g,F}$	0.5458
$P_{i,h}$	0.7679
$P'_{s,t}$	0.2570
$P'_{C's}$	0.5658
$P'_{d,C'}$	0.2522
$P'_{e,d}$	0.2364
$P'_{g,F'}$	0.4841
$P'_{i,h}$	0.7609

### Deviation of Rel. Partial Dispersion

#### $\Delta P$ from "Normal Line"

$\Delta P_{C,t}$	-0.0870
$\Delta P_{C,s}$	-0.0393
$\Delta P_{F,e}$	0.0065
$\Delta P_{g,F}$	0.0171
$\Delta P_{i,g}$	0.0694

### Constants of Dispersion Formula

$B_1$	$9.88511414 \cdot 10^{-01}$
$B_2$	$5.10855261 \cdot 10^{-01}$
$B_3$	$7.58837122 \cdot 10^{-01}$
$C_1$	$4.78397680 \cdot 10^{-03}$
$C_2$	$1.58020289 \cdot 10^{-02}$
$C_3$	$1.29709222 \cdot 10^{+02}$

### Constants of Formula $dn/dT$

$D_0$	
$D_1$	
$D_2$	
$E_0$	
$E_1$	
$\lambda_{TK}[\mu m]$	

### Color Code

$\lambda_{80}/\lambda_5$	34/29
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### Remarks


### Other Properties

$\alpha_{-30/+70^\circ C}[10^{-6}/K]$	13.2
$\alpha_{+20/+300^\circ C}[10^{-6}/K]$	14.8
$T_g[^\circ C]$	497
$T_{10}^{13.0}[^\circ C]$	499
$T_{10}^{7.6}[^\circ C]$	
$c_p[J/(g \cdot K)]$	0.490
$\lambda[W/(m \cdot K)]$	0.560
$\rho[g/cm^3]$	4.48
$E[10^3 N/mm^2]$	69
$\mu$	0.298
$K[10^{-6} mm^2/N]$	0.13
$HK_{0.1/20}$	370
HG	
B	1
CR	1
FR	0
SR	51.3
AR	1.2
PR	4.3

### Temperature Coefficients of Refractive Index

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