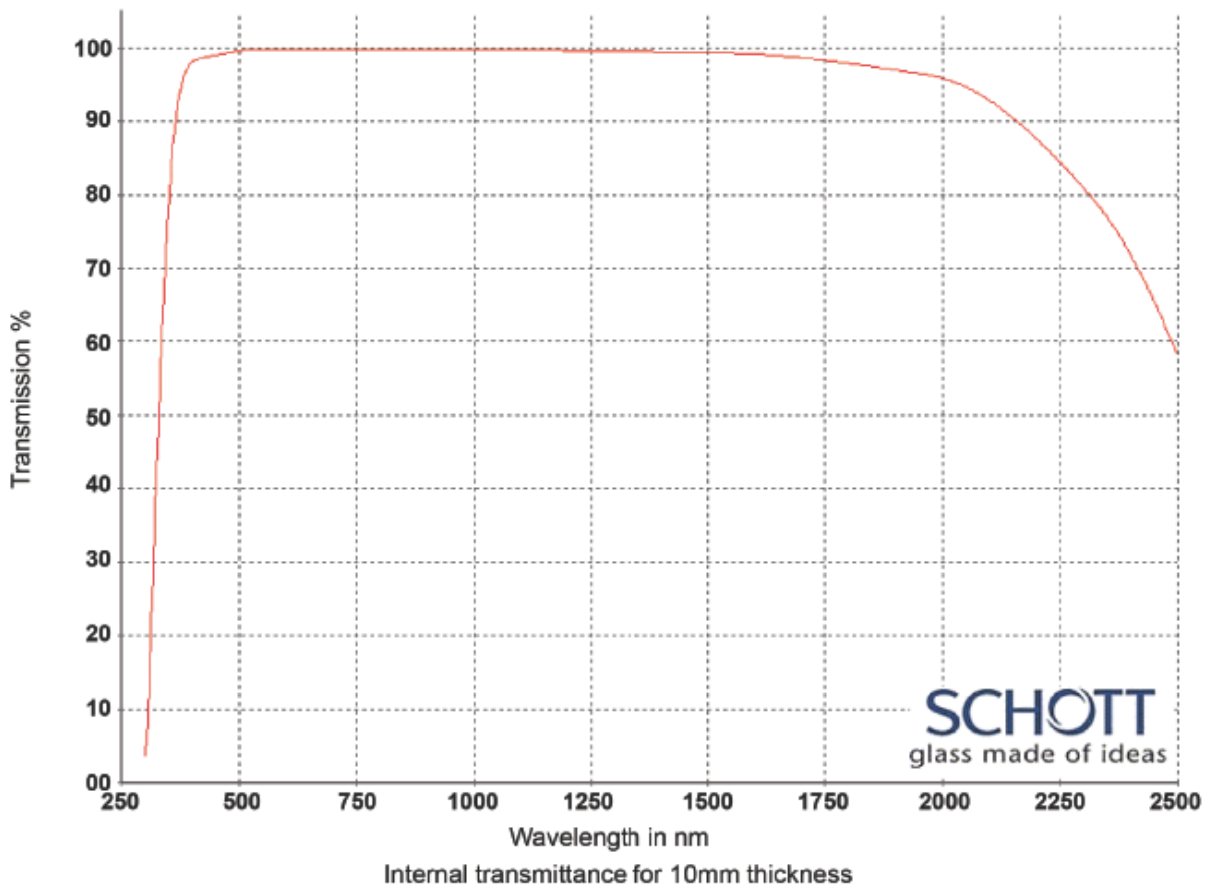


OPTICAL GLASSES: VISIBLE – NEAR INFRA-RED

Title: Optical Glasses - 250-2500nm

Material/Specification: Schott LAKL12 for 250nm - 2500nm transmission

Range/Description: OPG-LAKL12



WAVELENGTH	LAKL12 (T%)
2500 nm	0.580
2325 nm	0.790
1970 nm	0.963
1530 nm	0.993
1060 nm	0.997
700 nm	0.997
660 nm	0.997
620 nm	0.997
580 nm	0.997
546 nm	0.997
500 nm	0.996
460 nm	0.991
438 nm	0.988
420 nm	0.986
405 nm	0.983
400 nm	0.981
390 nm	0.971
380 nm	0.954
370 nm	0.920
365 nm	0.900
350 nm	0.780
334 nm	0.570
320 nm	0.330
310 nm	0.140
300 nm	0.010
290 nm	0.000
280 nm	0.000
270 nm	0.000
260 nm	0.000
250 nm	0.000

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OPTICAL GLASSES: VISIBLE – NEAR INFRA-RED

SCHOTT
glass made of ideas

Refractive Indices		
	λ [nm]	
$n_{2325.4}$	2325.4	1.64179
$n_{1970.1}$	1970.1	1.64862
$n_{1529.6}$	1529.6	1.65581
$n_{1060.0}$	1060.0	1.66319
n_t	1014.0	1.66403
n_s	852.1	1.66751
n_r	706.5	1.67201
n_C	656.3	1.67415
$n_{C'}$	643.8	1.67475
$n_{632.8}$	632.8	1.67530
n_D	589.3	1.67779
n_d	587.6	1.67790
n_e	546.1	1.68084
n_F	486.1	1.68649
$n_{F'}$	480.0	1.68720
n_g	435.8	1.69322
n_h	404.7	1.69882
n_i	365.0	1.70839
$n_{334.1}$	334.1	1.71874
$n_{312.6}$	312.6	
$n_{296.7}$	296.7	
$n_{280.4}$	280.4	
$n_{248.3}$	248.3	

Constants of Dispersion Formula	
B_1	$1.28115389 \cdot 10^{+00}$
B_2	$4.82607607 \cdot 10^{-01}$
B_3	$1.16553538 \cdot 10^{+00}$
C_1	$6.36439821 \cdot 10^{-03}$
C_2	$2.13764262 \cdot 10^{-02}$
C_3	$9.32771532 \cdot 10^{+01}$

Constants of Formula dn/dT	
D_0	$2.26 \cdot 10^{-06}$
D_1	$1.05 \cdot 10^{-08}$
D_2	$-8.40 \cdot 10^{-12}$
E_0	$4.57 \cdot 10^{-07}$
E_1	$5.86 \cdot 10^{-10}$
$\lambda_{TK}[\mu\text{m}]$	0.210

Temperature Coefficients of Refractive Index						
[°C]	$\Delta n_{\text{rel}}/\Delta T [10^{-6}/\text{K}]$			$\Delta n_{\text{abs}}/\Delta T [10^{-6}/\text{K}]$		
	1060.0	e	g	1060.0	e	g
-40/-20	3.0	3.8	4.5	0.8	1.5	2.1
+20/+40	3.0	3.8	4.6	1.5	2.3	3.1
+60/+80	3.1	4.0	4.9	2.0	2.9	3.7

Internal Transmittance τ_i		
λ [nm]	τ_i [10 mm]	τ_i [25 mm]
2500	0.58	0.26
2325	0.79	0.55
1970	0.963	0.910
1530	0.993	0.982
1060	0.997	0.992
700	0.997	0.993
660	0.997	0.993
620	0.997	0.992
580	0.997	0.992
546	0.997	0.993
500	0.996	0.989
460	0.991	0.977
436	0.988	0.970
420	0.986	0.966
405	0.983	0.958
400	0.981	0.953
390	0.971	0.930
380	0.954	0.89
370	0.920	0.82
365	0.900	0.77
350	0.78	0.54
334	0.57	0.24
320	0.33	0.08
310	0.14	
300	0.01	
290		
280		
270		
260		
250		

Color Code	
λ_{80}/λ_{5}	37/30
Remarks	

Relative Partial Dispersion	
$P_{s,t}$	0.2818
$P_{C,s}$	0.5380
$P_{d,C}$	0.3039
$P_{e,d}$	0.2384
$P_{g,F}$	0.5452
$P_{i,h}$	0.7754
$P'_{s,t}$	0.2794
$P'_{C,s}$	0.5813
$P'_{d,C'}$	0.2534
$P'_{e,d}$	0.2363
$P'_{g,F'}$	0.4839
$P'_{i,h}$	0.7687

Deviation of Rel. Partial Dispersion ΔP from "Normal Line"	
$\Delta P_{C,t}$	0.0143
$\Delta P_{C,s}$	0.0071
$\Delta P_{F,e}$	-0.0018
$\Delta P_{g,F}$	-0.0062
$\Delta P_{i,g}$	-0.0348

Other Properties	
$\alpha_{-30/+70^\circ\text{C}} [10^{-6}/\text{K}]$	6.8
$\alpha_{+20/+300^\circ\text{C}} [10^{-6}/\text{K}]$	8.0
$T_g [^\circ\text{C}]$	636
$T_{10}^{13.0} [^\circ\text{C}]$	645
$T_{10}^{7.6} [^\circ\text{C}]$	764
$c_p [\text{J}/(\text{g}\cdot\text{K})]$	
$\lambda [\text{W}/(\text{m}\cdot\text{K})]$	
$\rho [\text{g}/\text{cm}^3]$	3.32
$E [10^3 \text{N}/\text{mm}^2]$	110
μ	0.281
$K [10^{-6} \text{mm}^2/\text{N}]$	1.84
$HK_{0.1/20}$	700
HG	2
B	0
CR	3
FR	3
SR	53.3
AR	2.2
PR	3.3

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