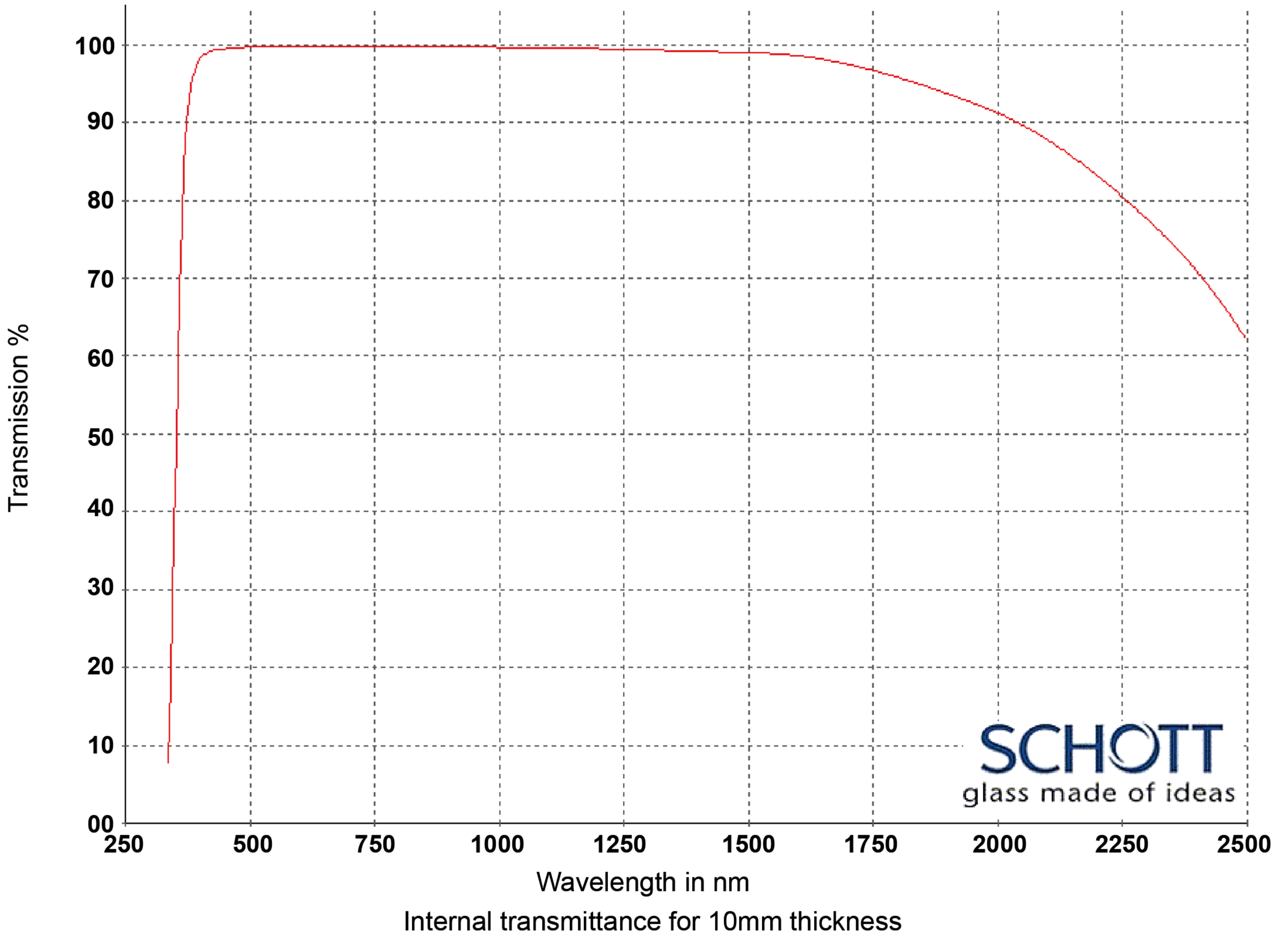




KNIGHT OPTICAL

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Title: Optical Glasses - 250-2500nm  
Material: Schott N-BALF5 for 250nm - 2500 transmission  
Range: OPG - N-BALF5



**SCHOTT**  
glass made of ideas

WAVELENGTH	N-BALF5 (T%)
2500 nm	0.620
2325 nm	0.760
1970 nm	0.920
1530 nm	0.989
1060 nm	0.996
700 nm	0.998
660 nm	0.997
620 nm	0.997
580 nm	0.998
546 nm	0.998
500 nm	0.997
460 nm	0.995
436 nm	0.994
420 nm	0.991
405 nm	0.986
400 nm	0.983
390 nm	0.967
380 nm	0.940
370 nm	0.870
365 nm	0.820
350 nm	0.440
334 nm	0.010
320 nm	0.000
310 nm	0.000
300 nm	0.000
290 nm	0.000
280 nm	0.000
270 nm	0.000
260 nm	0.000
250 nm	0.000

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Whilst every effort has been made to verify the data, Knight Optical (UK) Ltd can take no responsibility for its accuracy.

### Refractive Indices

	$\lambda$ [nm]	
$n_{2325.4}$	2325.4	
$n_{1970.1}$	1970.1	
$n_{1529.6}$	1529.6	
$n_{1060.0}$	1060.0	1.53529
$n_t$	1014.0	1.53598
$n_s$	852.1	1.53885
$n_r$	706.5	1.54255
$n_C$	656.3	1.54430
$n_{C'}$	643.8	1.54479
$n_{632.8}$	632.8	1.54525
$n_D$	589.3	1.54730
$n_d$	587.6	1.54739
$n_e$	546.1	1.54982
$n_F$	486.1	1.55451
$n_{F'}$	480.0	1.55510
$n_g$	435.8	1.56016
$n_h$	404.7	1.56491
$n_i$	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	

### Internal Transmittance $\tau_i$

$\lambda$ [nm]	$\tau_i$ [10 mm]	$\tau_i$ [25 mm]
2500	0.62	0.30
2325	0.76	0.50
1970	0.920	0.81
1530	0.989	0.973
1060	0.996	0.991
700	0.998	0.995
660	0.997	0.993
620	0.997	0.993
580	0.998	0.995
546	0.998	0.995
500	0.997	0.992
460	0.995	0.988
436	0.994	0.984
420	0.991	0.978
405	0.986	0.965
400	0.983	0.957
390	0.967	0.920
380	0.940	0.85
370	0.87	0.71
365	0.82	0.60
350	0.44	0.13
334	0.01	
320		
310		
300		
290		
280		
270		
260		
250		

### Relative Partial Dispersion

$P_{s,t}$	0.2810
$P_{C,s}$	0.5345
$P_{d,C}$	0.3025
$P_{e,d}$	0.2380
$P_{g,F}$	0.5532
$P_{i,h}$	
$P'_{s,t}$	0.2783
$P'_{C's}$	0.5771
$P'_{d,C'}$	0.2520
$P'_{e,d}$	0.2357
$P'_{g,F'}$	0.4909
$P'_{i,h}$	

### Deviation of Rel. Partial Dispersion

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

$\Delta P_{C,t}$	0.0161
$\Delta P_{C,s}$	0.0066
$\Delta P_{F,e}$	-0.0007
$\Delta P_{g,F}$	-0.0004
$\Delta P_{i,g}$	

### Other Properties

$\alpha_{-30/+70^\circ\text{C}}$ [ $10^{-6}/\text{K}$ ]	7.3
$\alpha_{+20/+300^\circ\text{C}}$ [ $10^{-6}/\text{K}$ ]	8.4
$T_g$ [ $^\circ\text{C}$ ]	558
$T_{10}^{13.0}$ [ $^\circ\text{C}$ ]	559
$T_{10}^{7.6}$ [ $^\circ\text{C}$ ]	711
$c_p$ [ $\text{J}/(\text{g}\cdot\text{K})$ ]	0.810
$\lambda$ [ $\text{W}/(\text{m}\cdot\text{K})$ ]	1.050
$\rho$ [ $\text{g}/\text{cm}^3$ ]	2.61
$E$ [ $10^3\text{N}/\text{mm}^2$ ]	81
$\mu$ [ $10^{-6}\text{mm}^2/\text{N}$ ]	0.214
$\text{HK}_{0.1/20}$	600
HG	2
B	1
CR	1
FR	0
SR	1
AR	2
PR	1

### Constants of Dispersion Formula

$B_1$	$1.28385965 \cdot 10^{+00}$
$B_2$	$7.19300942 \cdot 10^{-02}$
$B_3$	$1.05048927 \cdot 10^{+00}$
$C_1$	$8.25815975 \cdot 10^{-03}$
$C_2$	$4.41920027 \cdot 10^{-02}$
$C_3$	$1.07097324 \cdot 10^{+02}$

### Constants of Formula $dn/dT$

$D_0$	$1.14 \cdot 10^{-06}$
$D_1$	$1.28 \cdot 10^{-08}$
$D_2$	$-1.46 \cdot 10^{-11}$
$E_0$	$5.02 \cdot 10^{-07}$
$E_1$	$5.87 \cdot 10^{-10}$
$\lambda_{TK}$ [ $\mu\text{m}$ ]	0.219

### Color Code

$\lambda_{80}/\lambda_5$	37/34
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### Remarks


### Temperature Coefficients of Refractive Index

[ $^\circ\text{C}$ ]	$\Delta n_{\text{rel}}/\Delta T$ [ $10^{-6}/\text{K}$ ]			$\Delta n_{\text{abs}}/\Delta T$ [ $10^{-6}/\text{K}$ ]		
	1060.0	e	g	1060.0	e	g
-40/-20	2.1	2.8	3.5	0.1	0.7	1.3
+20/+40	2.1	2.9	3.7	0.8	1.6	2.3
+60/+80	2.3	3.1	3.9	1.3	2.1	2.9