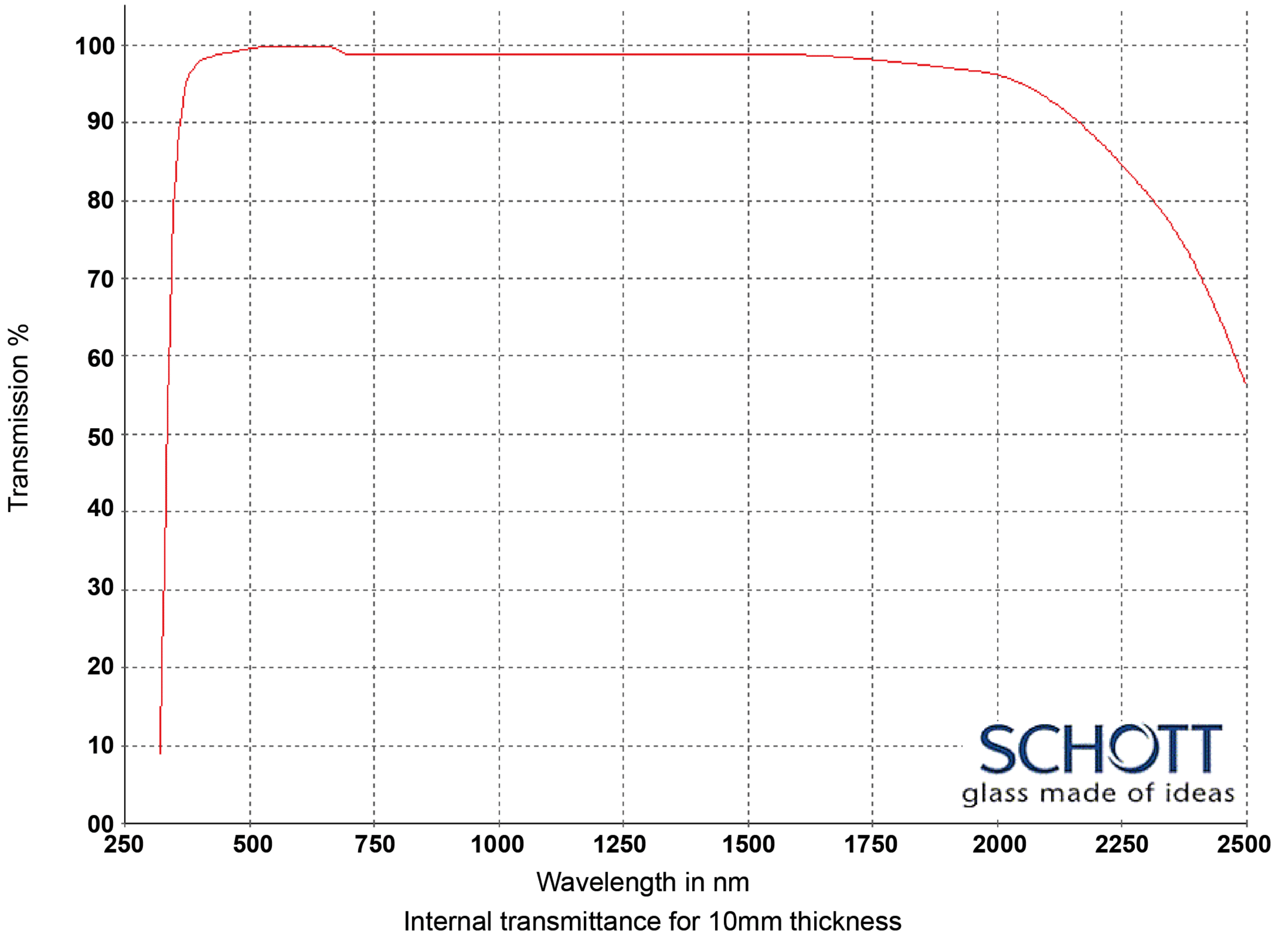




KNIGHT OPTICAL

Tel: +44 (0)1622 859444
Fax: +44 (0)1622 859555
info@knightoptical.co.uk
www.knightoptical.co.uk

Title: Optical Glasses - 250-2500nm
Material: N-KZFS4 for 250nm - 2500 transmission
Range: N-KZFS4



WAVELENGTH	N-KZFS4 (T%)
2500 nm	0.560
2325 nm	0.790
1970 nm	0.965
1530 nm	0.988
1060 nm	0.988
700 nm	0.988
660 nm	0.997
620 nm	0.997
580 nm	0.997
546 nm	0.997
500 nm	0.995
460 nm	0.990
436 nm	0.987
420 nm	0.984
405 nm	0.981
400 nm	0.979
390 nm	0.971
380 nm	0.963
370 nm	0.940
365 nm	0.920
350 nm	0.820
334 nm	0.470
320 nm	0.040
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

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

Refractive Indices

	λ [nm]	
$n_{2325.4}$	2325.4	1.57535
$n_{1970.1}$	1970.1	1.58233
$n_{1529.6}$	1529.6	1.58971
$n_{1060.0}$	1060.0	1.59739
n_t	1014.0	1.59828
n_s	852.1	1.60199
n_r	706.5	1.60688
n_C	656.3	1.60922
$n_{C'}$	643.8	1.60987
$n_{632.8}$	632.8	1.61049
n_D	589.3	1.61324
n_d	587.6	1.61336
n_e	546.1	1.61664
n_F	486.1	1.62300
$n_{F'}$	480.0	1.62380
n_g	435.8	1.63071
n_h	404.7	1.63723
n_i	365.0	1.64865
$n_{334.1}$	334.1	
$n_{312.6}$	312.6	
$n_{296.7}$	296.7	
$n_{280.4}$	280.4	
$n_{248.3}$	248.3	

Internal Transmittance τ_i

λ [nm]	τ_i [10 mm]	τ_i [25 mm]
2500	0.56	0.23
2325	0.79	0.56
1970	0.965	0.920
1530	0.988	0.970
1060	0.988	0.996
700	0.988	0.994
660	0.997	0.993
620	0.997	0.993
580	0.997	0.993
546	0.997	0.992
500	0.995	0.987
460	0.990	0.976
436	0.987	0.968
420	0.984	0.961
405	0.981	0.952
400	0.979	0.950
390	0.971	0.930
380	0.963	0.910
370	0.940	0.86
365	0.920	0.82
350	0.82	0.60
334	0.47	0.15
320	0.04	
310		
300		
290		
280		
270		
260		
250		

Relative Partial Dispersion

$P_{s,t}$	0.2694
$P_{C,s}$	0.5240
$P_{d,C}$	0.3006
$P_{e,d}$	0.2378
$P_{g,F}$	0.5590
$P_{i,h}$	0.8284
$P'_{s,t}$	0.2666
$P'_{C's}$	0.5657
$P'_{d,C'}$	0.2503
$P'_{e,d}$	0.2353
$P'_{g,F'}$	0.4958
$P'_{i,h}$	0.8199

Deviation of Rel. Partial Dispersion

ΔP from "Normal Line"

$\Delta P_{C,t}$	0.0373
$\Delta P_{C,s}$	0.0173
$\Delta P_{F,e}$	-0.0033
$\Delta P_{g,F}$	-0.0100
$\Delta P_{i,g}$	-0.0496

Constants of Dispersion Formula

B_1	$1.35055424 \cdot 10^{+00}$
B_2	$1.97575506 \cdot 10^{-01}$
B_3	$1.09962992 \cdot 10^{+00}$
C_1	$8.76282070 \cdot 10^{-03}$
C_2	$3.71767201 \cdot 10^{-02}$
C_3	$9.03866994 \cdot 10^{+01}$

Constants of Formula dn/dT

D_0	$1.81 \cdot 10^{-06}$
D_1	$1.16 \cdot 10^{-08}$
D_2	$-7.99 \cdot 10^{-12}$
E_0	$6.20 \cdot 10^{-07}$
E_1	$7.94 \cdot 10^{-10}$
$\lambda_{TK}[\mu m]$	0.205

Color Code

λ_{80}/λ_5	36/32
--------------------------	-------

Remarks

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	1060.0	e	g
-40/ -20	2.7	3.5	4.4	0.5	1.3	2.2
+20/+40	2.7	3.7	4.7	1.3	2.3	3.2
+60/+80	2.8	3.9	5.0	1.7	2.8	3.9

Other Properties

$\alpha_{-30/+70^\circ C} [10^{-6}/K]$	7.3
$\alpha_{+20/+300^\circ C} [10^{-6}/K]$	8.2
Tg[°C]	547
$T_{10}^{13.0} [^\circ C]$	545
$T_{10}^{7.6} [^\circ C]$	675
$c_p [J/(g \cdot K)]$	0.760
$\lambda [W/(m \cdot K)]$	0.840
$\rho [g/cm^3]$	3.00
$E [10^3 N/mm^2]$	78
μ	0.241
$K [10^{-6} mm^2/N]$	3.90
HK _{0.1/20}	520
HG	3
B	1
CR	1
FR	1
SR	3.4
AR	1.2
PR	1