

# B270 Glass Types

## Glass Code 523586

B270 is a borosilicate crown optical glass with high homogeneity, low bubble and inclusion content. Widely used as drawn sheet water-white glass.



EQUIVALENTS		$n_d =$	1.52307	$\nu_d =$	58.64	$n_F - n_c =$	0.008920
Schott B270	Hoya C12	$n_e =$	1.52520	$\nu_e =$	58.36	$n_{F'} - n_c =$	0.009000
	Hikari KN1						
Ohara NSL51	Chinese H-K51						

Refractive Indices		
nm		
$n_r$	706.5	1.51883
$n_c$	656.3	1.52037
$n_{c'}$	643.8	1.52080
$n_{HeNe}$	632.8	1.51120
$n_D$	589.3	1.52299
$n_d$	587.6	1.52307
$n_e$	546.1	1.52520
$n_F$	486.1	1.52929
$n_{F'}$	480.0	1.52980
$n_g$	435.8	1.53416
$n_h$	404.7	1.53820
$n_i$	365.0	1.54510

Chemical Properties	
RC(S)	2
RA(S)	1
$D_w$	2
$D_A$	1

Internal Transmittance		
nm	5mm	10mm
2400	0.89	0.80
2200	0.910	0.828
2000	0.960	0.921
1800	0.981	0.962
1600	0.995	0.990
1400	0.996	0.993
1200	0.999	0.998
1060	0.998	0.997
1000	0.998	0.996
950	0.998	0.996
900	0.997	0.995
850	0.997	0.994
800	0.996	0.993
700	0.996	0.992
650	0.996	0.992
600	0.996	0.992
550	0.996	0.992
500	0.995	0.990
480	0.994	0.989
460	0.994	0.988
440	0.993	0.987
420	0.993	0.987
400	0.993	0.987
390	0.992	0.985
380	0.989	0.979
370	0.987	0.974
360	0.979	0.959
350	0.962	0.925
340	0.922	0.850
330	0.83	0.69
320	0.66	0.43
310	0.36	0.13
300	0.09	0.01
290		
280		

Thermal Properties	
$T_g$ (°C)	533
$T_s$ (°C)	595
$T_{10}^{14.5}$ (°C)	467
$T_{10}^{13}$ (°C)	520
$\alpha_{20/120}$ ( $10^{-7}/K$ )	85
$\alpha_{20/300}$ ( $10^{-7}/K$ )	96

Constants of Dispersion	
$A_0$	2.2877828
$A_1$	$-9.3148723 \times 10^{-3}$
$A_2$	$1.0986443 \times 10^{-2}$
$A_3$	$4.8465203 \times 10^{-4}$
$A_4$	$-3.3944738 \times 10^{-5}$
$A_5$	$1.6958554 \times 10^{-6}$

Mechanical Properties	
$H_K$ (GPa)	5.37
$F_A$	
$E$ (GPa)	74.0
$G$ (GPa)	30.26
Poisson Ratio	0.223

Relative Partial Dispersions			
$P_{d,c}$	0.3033	$P'_{d,c}$	0.2529
$P_{e,d}$	0.2384	$P'_{e,d}$	0.2363
$P_{g,F}$	0.5357	$P'_{g,F}$	0.4842

Stress-Optical Coefficient	
$B$ ( $10^{-12}/Pa$ )	

Deviation of Relative partial Dispersions $\Delta P$ from the "Normal Line"	
$\Delta P_{F,e}$	0.0006
$\Delta P_{g,F}$	-0.0001

Colouration Code	
$\lambda_{80} / \lambda_5$	35 / 31

Other Properties	
Density	2.54

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