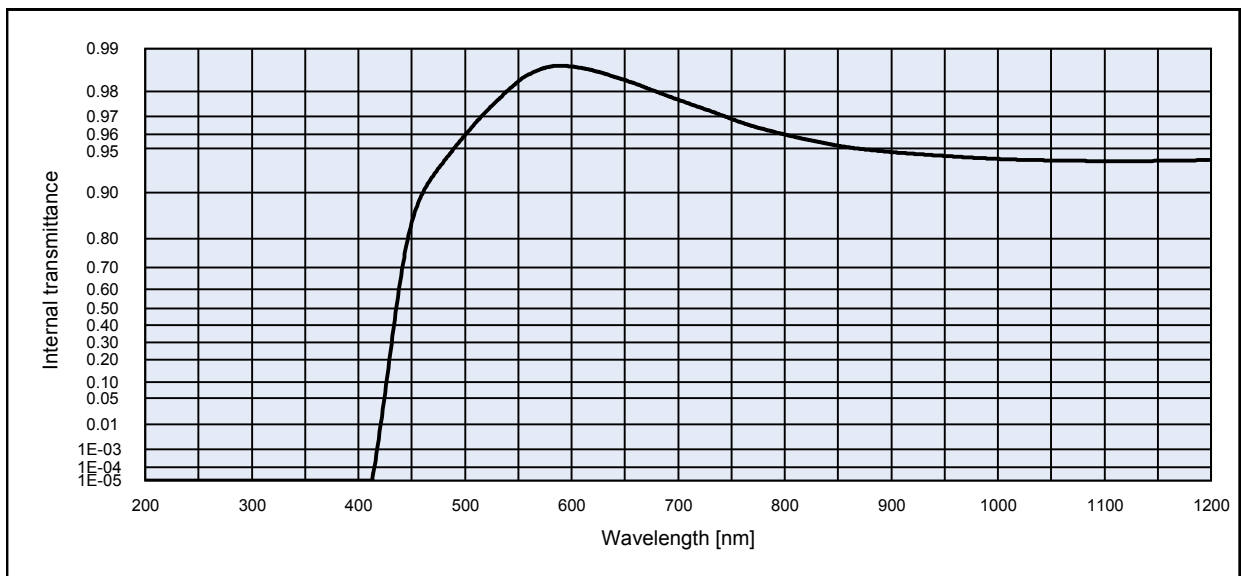
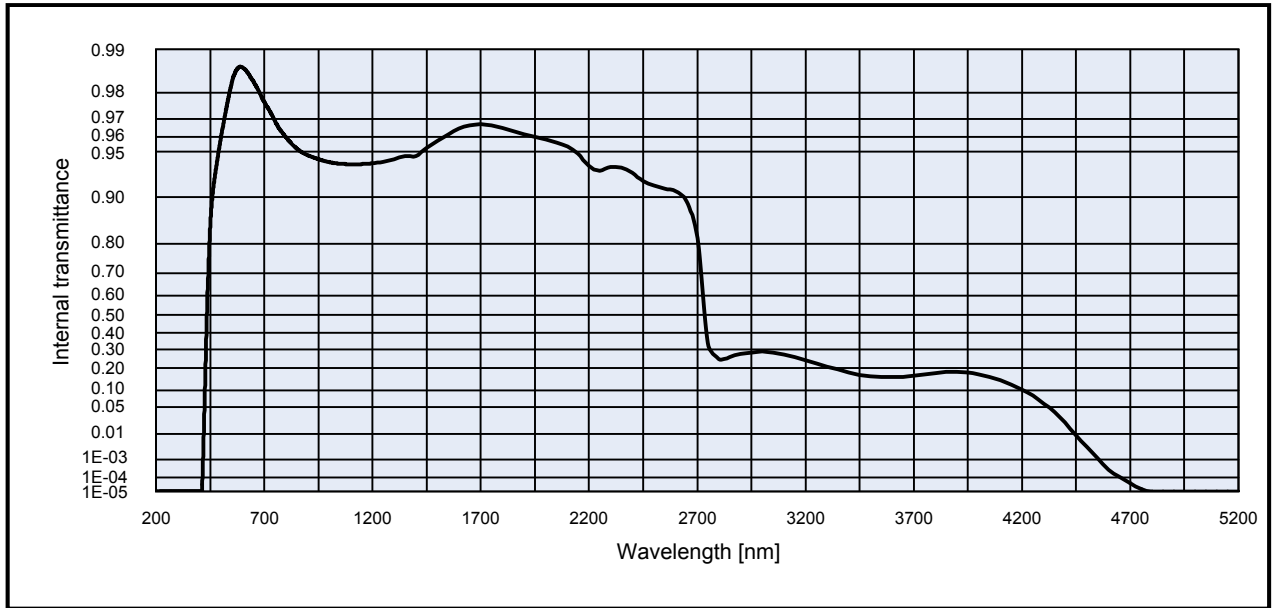


<b>GG435</b>			<b>Density</b>		<b>Notes</b>					
			$\rho$ [g/cm <sup>3</sup> ]	2.55						
<b>Reflection factor</b>			<b>Bubble content</b>		Colloidally colored glass					
$P_d$	0.92		Bubble class		Long pass filter					
<b>Reference thickness</b>			<b>Chemical resistance</b>							
d [mm]	3		FR class							
<b>Spectral values guaranteed</b>			SR class							
$\lambda_c$ ( $\tau_i = 0.50$ ) [nm] = 435 ± 6			AR class							
$\lambda_s$ ( $\tau_{is} = 1 \cdot 10^{-5}$ ) [nm] = 370			Transformation temperature							
$\lambda_p$ ( $\tau_{ip} = 0.92$ ) [nm] = 520			T <sub>g</sub> [°C]		537					
			<b>Thermal expansion</b>							
			$\alpha_{-30/+70^\circ\text{C}}$ [10 <sup>-6</sup> /K]		7.8					
			$\alpha_{20/300^\circ\text{C}}$ [10 <sup>-6</sup> /K]		9.1					
			$\alpha_{20/200^\circ\text{C}}$ [10 <sup>-6</sup> /K]							
<b>Refractive index n</b>			<b>Temperature coefficient</b>		All data without tolerances are to be understood to be reference values. Guaranteed values are only those values listed in the section "Spectral values guaranteed".					
$\lambda$ [nm]	Element	n	T <sub>k</sub> [nm/°C]							
546	Hg	1.52								
587.6	He	1.52								
852.1	Cs	1.52								
1014	Hg	1.51								

Colorimetric evaluation												
Illuminant	A ( Planck T = 2856 K )			Illuminant	Planck T = 3200 K			Illuminant	D65 ( T <sub>c</sub> = 6504 K )			
d [mm]	1	2	3	d [mm]	1	2	3	d [mm]	1	2	3	
x	0.453	0.457	0.459	x	0.430	0.434	0.437	x	0.323	0.328	0.333	
y	0.415	0.419	0.422	y	0.409	0.414	0.418	y	0.350	0.361	0.369	
Y	91	91	90	Y	91	90	90	Y	91	90	90	
$\lambda_d$ [nm]	580	580	580	$\lambda_d$ [nm]	578	578	578	$\lambda_d$ [nm]	568	568	568	
P <sub>e</sub>	0.09	0.14	0.18	P <sub>e</sub>	0.10	0.15	0.19	P <sub>e</sub>	0.09	0.13	0.17	





**Internal transmittance  $\tau_i$  at reference thickness  $d$  [mm] = 3**  
**The internal transmittance values, tabulated and graphically represented, are reference values only**

$\lambda$ [nm]	$\tau_i$	$\lambda$ [nm]	$\tau_i$	$\lambda$ [nm]	$\tau_i$	$\lambda$ [nm]	$\tau_i$	$\lambda$ [nm]	$\tau_i$	$\lambda$ [nm]	$\tau_i$
200	< 1.0E-05	500	9.6E-01	800	9.6E-01	1100	9.4E-01	2200	9.4E-01	3700	1.6E-01
210	< 1.0E-05	510	9.7E-01	810	9.6E-01	1110	9.4E-01	2250	9.3E-01	3750	1.7E-01
220	< 1.0E-05	520	9.7E-01	820	9.6E-01	1120	9.4E-01	2300	9.4E-01	3800	1.8E-01
230	< 1.0E-05	530	9.8E-01	830	9.6E-01	1130	9.4E-01	2350	9.4E-01	3850	1.8E-01
240	< 1.0E-05	540	9.8E-01	840	9.5E-01	1140	9.4E-01	2400	9.3E-01	3900	1.8E-01
250	< 1.0E-05	550	9.8E-01	850	9.5E-01	1150	9.4E-01	2450	9.2E-01	3950	1.8E-01
260	< 1.0E-05	560	9.8E-01	860	9.5E-01	1160	9.4E-01	2500	9.2E-01	4000	1.7E-01
270	< 1.0E-05	570	9.9E-01	870	9.5E-01	1170	9.4E-01	2550	9.1E-01	4050	1.6E-01
280	< 1.0E-05	580	9.9E-01	880	9.5E-01	1180	9.4E-01	2600	9.1E-01	4100	1.4E-01
290	< 1.0E-05	590	9.9E-01	890	9.5E-01	1190	9.4E-01	2650	8.9E-01	4150	1.2E-01
300	< 1.0E-05	600	9.9E-01	900	9.5E-01	1200	9.4E-01	2700	8.2E-01	4200	1.0E-01
310	< 1.0E-05	610	9.9E-01	910	9.5E-01	1250	9.4E-01	2750	3.4E-01	4250	8.2E-02
320	< 1.0E-05	620	9.9E-01	920	9.5E-01	1300	9.4E-01	2800	2.5E-01	4300	5.9E-02
330	< 1.0E-05	630	9.9E-01	930	9.5E-01	1350	9.5E-01	2850	2.6E-01	4350	3.9E-02
340	< 1.0E-05	640	9.8E-01	940	9.4E-01	1400	9.5E-01	2900	2.7E-01	4400	2.1E-02
350	< 1.0E-05	650	9.8E-01	950	9.4E-01	1450	9.5E-01	2950	2.8E-01	4450	9.2E-03
360	< 1.0E-05	660	9.8E-01	960	9.4E-01	1500	9.6E-01	3000	2.9E-01	4500	3.5E-03
370	< 1.0E-05	670	9.8E-01	970	9.4E-01	1550	9.6E-01	3050	2.8E-01	4550	1.1E-03
380	< 1.0E-05	680	9.8E-01	980	9.4E-01	1600	9.7E-01	3100	2.7E-01	4600	3.0E-04
390	< 1.0E-05	690	9.8E-01	990	9.4E-01	1650	9.7E-01	3150	2.6E-01	4650	1.1E-04
400	< 1.0E-05	700	9.8E-01	1000	9.4E-01	1700	9.7E-01	3200	2.4E-01	4700	4.2E-05
410	< 1.0E-05	710	9.8E-01	1010	9.4E-01	1750	9.7E-01	3250	2.2E-01	4750	1.6E-05
420	5.7E-03	720	9.7E-01	1020	9.4E-01	1800	9.7E-01	3300	2.1E-01	4800	< 1.0E-05
430	2.4E-01	730	9.7E-01	1030	9.4E-01	1850	9.6E-01	3350	1.9E-01	4850	< 1.0E-05
440	6.6E-01	740	9.7E-01	1040	9.4E-01	1900	9.6E-01	3400	1.8E-01	4900	< 1.0E-05
450	8.4E-01	750	9.7E-01	1050	9.4E-01	1950	9.6E-01	3450	1.7E-01	4950	< 1.0E-05
460	9.0E-01	760	9.7E-01	1060	9.4E-01	2000	9.6E-01	3500	1.6E-01	5000	< 1.0E-05
470	9.2E-01	770	9.7E-01	1070	9.4E-01	2050	9.6E-01	3550	1.6E-01	5050	< 1.0E-05
480	9.4E-01	780	9.6E-01	1080	9.4E-01	2100	9.5E-01	3600	1.6E-01	5100	< 1.0E-05
490	9.5E-01	790	9.6E-01	1090	9.4E-01	2150	9.5E-01	3650	1.6E-01	5150	< 1.0E-05