# Data Sheet

SCHOTT

## RG610

| Reflection factor | |
|---|---|
| $P_d$ | 0.918 |

| Reference thickness | |
|---|---|
| d [mm] | 3 |

| Spectral values guaranteed | | |
|---|---|---|
| $\lambda_c$ ($\tau_i$ = 0.5) [nm] | = | 610 ± 6 |
| $\lambda_s$ ($\tau_{i,U}$ = $10^{-5}$) [nm] | = | 530 |
| $\lambda_p$ ($\tau_{i,L}$ = 0.94) [nm] | = | 690 |

| Refractive Index n |
|---|
| $n_d$ (587.6 nm) = 1.520 |
| $n_s$ (852.1 nm) = 1.520 |
| $n_t$ (1014.0 nm) = 1.510 |

| Density | |
|---|---|
| ρ [g/cm$^3$] | 2.65 |

| Bubble content | |
|---|---|
| Bubble class | 3 |

| Chemical Resistance | |
|---|---|
| FR class | 0 |
| SR class | 1.0 |
| AR class | 1.0 |

| Transformation temperature | |
|---|---|
| Tg [°C] | 520 |

| Thermal expansion | |
|---|---|
| $\alpha_{-30/+70°C}$ [$10^{-6}$/K] | 8.0 |
| $\alpha_{20/300°C}$ [$10^{-6}$/K] | 9.2 |
| $\alpha_{20/200°C}$ [$10^{-6}$/K] | |

| Temperature coefficient | |
|---|---|
| $T_K$ [nm/°C] | 0.14 |

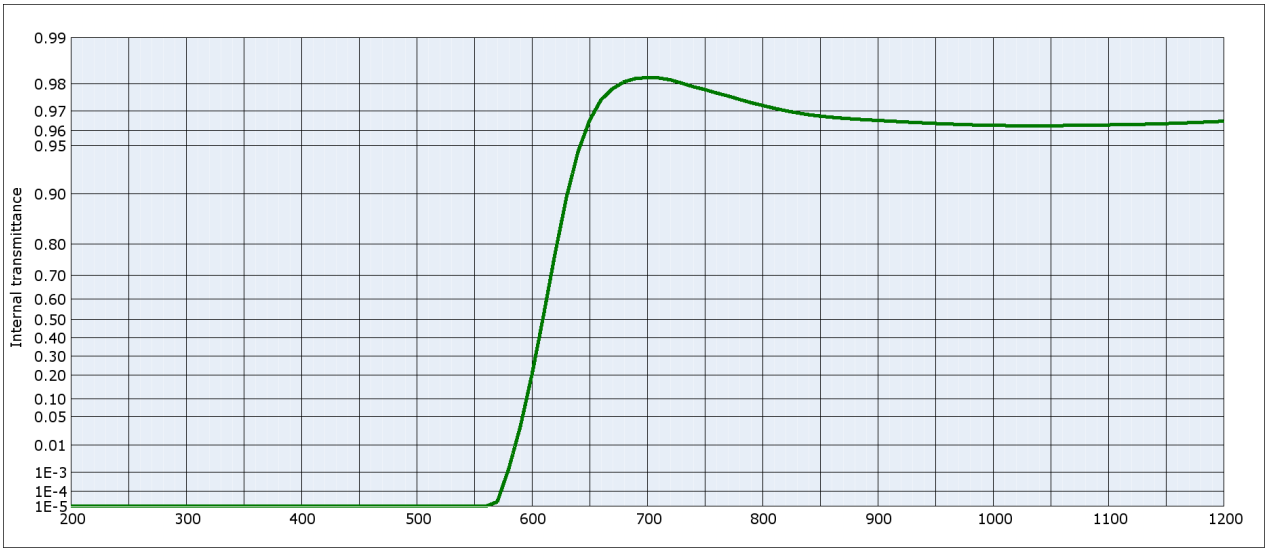
| Notes |
|---|
| Colloidally colored glass |
| Longpass filter |
| **All data wihout tolerances are to be understood to be reference values. Guaranteed values are only those values listed in the section "Spectral values guaranteed".** |

**Colorimetric evaluation**

| Illuminant | A (Planck T = 2856 K) | | |
|---|---|---|---|
| d [mm] | 1 | 2 | 3 |
| x | 0.663 | 0.690 | 0.697 |
| y | 0.328 | 0.310 | 0.303 |
| Y | 27 | 20 | 17 |
| $\lambda_d$ [nm] | 614 | 619 | 623 |
| $P_e$ | 0.94 | 1.00 | 1.00 |

| Illuminant | Planck T = 3200 K | | |
|---|---|---|---|
| d [mm] | 1 | 2 | 3 |
| x | 0.659 | 0.689 | 0.696 |
| y | 0.329 | 0.311 | 0.304 |
| Y | 25 | 18 | 15 |
| $\lambda_d$ [nm] | 613 | 619 | 623 |
| $P_e$ | 0.93 | 1.00 | 1.00 |

| Illuminant | D65 ($T_C$ = 6504 K) | | |
|---|---|---|---|
| d [mm] | 1 | 2 | 3 |
| x | 0.629 | 0.684 | 0.693 |
| y | 0.330 | 0.315 | 0.307 |
| Y | 17 | 12 | 10 |
| $\lambda_d$ [nm] | 611 | 617 | 621 |
| $P_e$ | 0.89 | 1.00 | 1.00 |




**STATUS: 01.12.2014**



Further explanations see 'Optical Filters 2013' catalogue

# RG610

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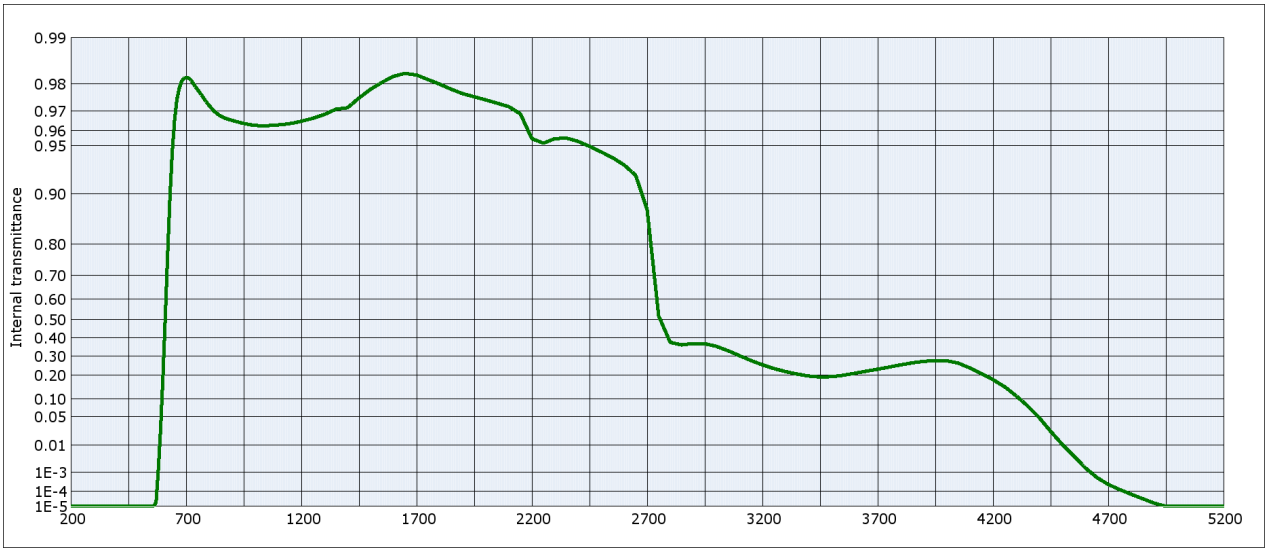


**Internal transmittance $\tau_i$ at reference thickness d = 3 mm**
**The internal transmittance values, tabulated and graphically represented, are reference values only**

| λ [nm] | $\tau_i$ | λ [nm] | $\tau_i$ | λ [nm] | $\tau_i$ | λ [nm] | $\tau_i$ | λ [nm] | $\tau_i$ | λ [nm] | $\tau_i$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 200 | $< 10^{-5}$ | 500 | $< 10^{-5}$ | 800 | 0.972 | 1100 | 0.963 | 2200 | 0.955 | 3700 | 0.230 |
| 210 | $< 10^{-5}$ | 510 | $< 10^{-5}$ | 810 | 0.971 | 1110 | 0.963 | 2250 | 0.952 | 3750 | 0.241 |
| 220 | $< 10^{-5}$ | 520 | $< 10^{-5}$ | 820 | 0.970 | 1120 | 0.963 | 2300 | 0.955 | 3800 | 0.253 |
| 230 | $< 10^{-5}$ | 530 | $< 10^{-5}$ | 830 | 0.969 | 1130 | 0.964 | 2350 | 0.955 | 3850 | 0.263 |
| 240 | $< 10^{-5}$ | 540 | $< 10^{-5}$ | 840 | 0.968 | 1140 | 0.964 | 2400 | 0.953 | 3900 | 0.271 |
| 250 | $< 10^{-5}$ | 550 | $< 10^{-5}$ | 850 | 0.968 | 1150 | 0.964 | 2450 | 0.950 | 3950 | 0.276 |
| 260 | $< 10^{-5}$ | 560 | $< 10^{-5}$ | 860 | 0.967 | 1160 | 0.964 | 2500 | 0.945 | 4000 | 0.274 |
| 270 | $< 10^{-5}$ | 570 | $2.1 \cdot 10^{-5}$ | 870 | 0.967 | 1170 | 0.964 | 2550 | 0.941 | 4050 | 0.261 |
| 280 | $< 10^{-5}$ | 580 | $1.5 \cdot 10^{-3}$ | 880 | 0.966 | 1180 | 0.965 | 2600 | 0.934 | 4100 | 0.236 |
| 290 | $< 10^{-5}$ | 590 | $3.1 \cdot 10^{-2}$ | 890 | 0.966 | 1190 | 0.965 | 2650 | 0.923 | 4150 | 0.208 |
| 300 | $< 10^{-5}$ | 600 | 0.202 | 900 | 0.966 | 1200 | 0.965 | 2700 | 0.875 | 4200 | 0.179 |
| 310 | $< 10^{-5}$ | 610 | 0.516 | 910 | 0.965 | 1250 | 0.967 | 2750 | 0.517 | 4250 | 0.148 |
| 320 | $< 10^{-5}$ | 620 | 0.770 | 920 | 0.965 | 1300 | 0.968 | 2800 | 0.375 | 4300 | 0.112 |
| 330 | $< 10^{-5}$ | 630 | 0.895 | 930 | 0.965 | 1350 | 0.971 | 2850 | 0.361 | 4350 | $7.8 \cdot 10^{-2}$ |
| 340 | $< 10^{-5}$ | 640 | 0.945 | 940 | 0.964 | 1400 | 0.971 | 2900 | 0.368 | 4400 | $4.8 \cdot 10^{-2}$ |
| 350 | $< 10^{-5}$ | 650 | 0.966 | 950 | 0.964 | 1450 | 0.975 | 2950 | 0.367 | 4450 | $2.4 \cdot 10^{-2}$ |
| 360 | $< 10^{-5}$ | 660 | 0.975 | 960 | 0.964 | 1500 | 0.978 | 3000 | 0.353 | 4500 | $1.1 \cdot 10^{-2}$ |
| 370 | $< 10^{-5}$ | 670 | 0.978 | 970 | 0.964 | 1550 | 0.980 | 3050 | 0.329 | 4550 | $4.5 \cdot 10^{-3}$ |
| 380 | $< 10^{-5}$ | 680 | 0.981 | 980 | 0.963 | 1600 | 0.982 | 3100 | 0.302 | 4600 | $1.6 \cdot 10^{-3}$ |
| 390 | $< 10^{-5}$ | 690 | 0.982 | 990 | 0.963 | 1650 | 0.983 | 3150 | 0.275 | 4650 | $5.7 \cdot 10^{-4}$ |
| 400 | $< 10^{-5}$ | 700 | 0.982 | 1000 | 0.963 | 1700 | 0.982 | 3200 | 0.253 | 4700 | $2.5 \cdot 10^{-4}$ |
| 410 | $< 10^{-5}$ | 710 | 0.982 | 1010 | 0.963 | 1750 | 0.981 | 3250 | 0.233 | 4750 | $1.3 \cdot 10^{-4}$ |
| 420 | $< 10^{-5}$ | 720 | 0.981 | 1020 | 0.963 | 1800 | 0.980 | 3300 | 0.218 | 4800 | $6.7 \cdot 10^{-5}$ |
| 430 | $< 10^{-5}$ | 730 | 0.980 | 1030 | 0.963 | 1850 | 0.978 | 3350 | 0.206 | 4850 | $3.4 \cdot 10^{-5}$ |
| 440 | $< 10^{-5}$ | 740 | 0.979 | 1040 | 0.963 | 1900 | 0.977 | 3400 | 0.196 | 4900 | $1.7 \cdot 10^{-5}$ |
| 450 | $< 10^{-5}$ | 750 | 0.978 | 1050 | 0.963 | 1950 | 0.976 | 3450 | 0.192 | 4950 | $< 10^{-5}$ |
| 460 | $< 10^{-5}$ | 760 | 0.977 | 1060 | 0.963 | 2000 | 0.975 | 3500 | 0.193 | 5000 | $< 10^{-5}$ |
| 470 | $< 10^{-5}$ | 770 | 0.976 | 1070 | 0.963 | 2050 | 0.973 | 3550 | 0.200 | 5050 | $< 10^{-5}$ |
| 480 | $< 10^{-5}$ | 780 | 0.975 | 1080 | 0.963 | 2100 | 0.972 | 3600 | 0.210 | 5100 | $< 10^{-5}$ |
| 490 | $< 10^{-5}$ | 790 | 0.974 | 1090 | 0.963 | 2150 | 0.969 | 3650 | 0.220 | 5150 | $< 10^{-5}$ |



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