



NEWPORT STABILIFE® COLOUR-GLASS REPLACEMENT OPTICAL FILTERS

Newport Corporation is proud to announce its new unique colour-glass replacement product line (patents pending). Developed to directly replace long-pass type coloured glasses in many applications, these new filters employ Newport's superior Stabilife® optical coating processes. Some key features and benefits of these new state-of-the-art products include:

CHARACTERISTIC	COLOURED GLASSES	NEWPORT REPLACEMENTS
Replaces all Schott WG, GG, OG, and RG type glasses and Hoya L, Y, O, R and IR type glasses	Available only in discreet wavelengths (e.g. WG-320, OG-550, RG-630, etc)	The 50% points can be custom tuned to ANY desired wavelength from 230nm to the infrared
Obsolescence	Many colour glasses are unavailable, with more possibly becoming obsolete in the future ¹	No obsolescence
Optical properties	Most have deep rejection, steep slopes and high passband transmissions	Optical properties are equal to or better than the coloured glasses they replace
Environmental Hazards	Coloured glasses may be manufactured with environmentally hazardous materials in conflict with the international RoHS Directives. Reformulated glasses may have inferior physical and optical properties	Manufactured only from 100% environmentally safe materials
Thicknesses	Thick (>= 3mm)	Thin (typically 1.1mm)
Sizes	Restricted to 6.5" SQ	Most available in basically any size, from 1mm SQ to 15" DIA
Spectral temperature sensitivity	Very temperature sensitive (spectral shifts at a rate as high as 0.38 nm/°C) ²	Temperature insensitive (maximum spectral shift < 0.0015nm/°C) ³
Thermal stability	May be damaged by thermal shock unless specially tempered. Maximum operating temperatures of some glasses limited (e.g. GG-395 limited to 238°C) ⁴	Resistant to high temperatures and thermal shock (produced with pure synthetic fused silica or temperature-resistant borosilicate). Consistently high allowable operating temperatures (> 400°C)
Sensitivity to ultraviolet light	Prolonged exposure to intense UV can cause permanent reductions in the transmissions of several filter glasses ⁵	Fully resistant against UV exposures
Autofluorescence	Most coloured glasses exhibit severe autofluorescence (e.g. Schott OG-550 measures 950 times higher than background) ⁶	Lowest available measured autofluorescence ⁶
Environmental Durability	Many coloured glasses exhibit limited environmental durability. Typical WG/OG/RG glasses exhibit surface staining or degradation after 2 cycles of the standard MIL-STD-810E temperature/humidity exposure test (24 hours per cycle) ⁷	Field-proven superior environmental durability and longevity. Typical Stabilife® colour-glass replacement filters pass beyond 80 cycles of MIL-STD-810E ⁷
Field survivability: Chemical resistance (e.g. acid resistance per ISO 8424 is quantified as SR Class 1 to 4 where glass having greater chemical resistance has a lower class number)	Many coloured glasses often exhibit limited resistance to acid and alkali exposures (e.g. RG-645 is SR Class 4.4) ⁸	Ultimate resistance to most chemical exposures (e.g. Newport replacement for RG-645 has a measured SR Class of 1.0) ⁹

¹Schott Glass Data Sheet June 1997 pg. 3

²Schott Glass RG-1000 (Data Sheets June 1997 pg. 50)

³Corion Corporation Optical Filter Catalogue April 1998

⁴Schott Glass Data Sheet June 1997 pg. 28 and Filter Catalogue Section 5.2

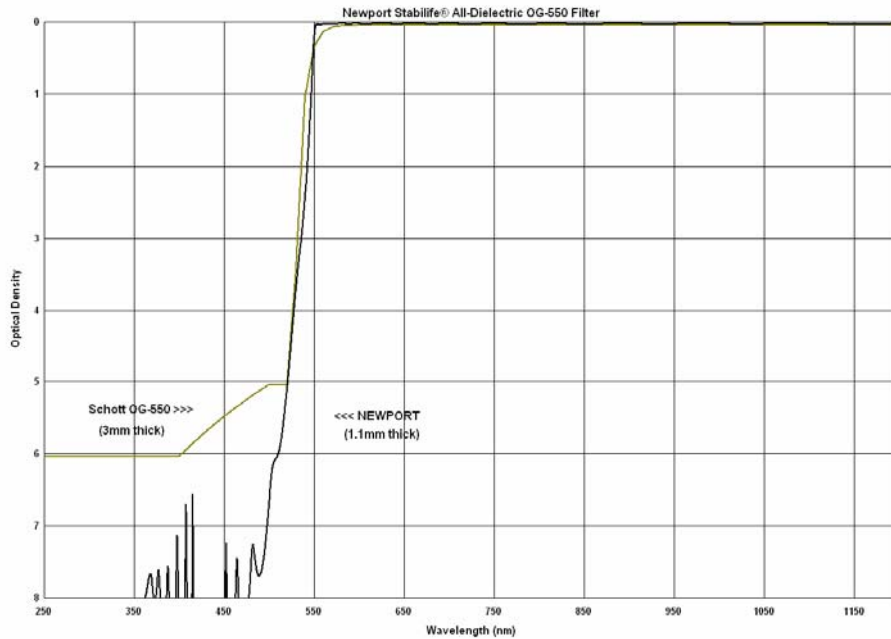
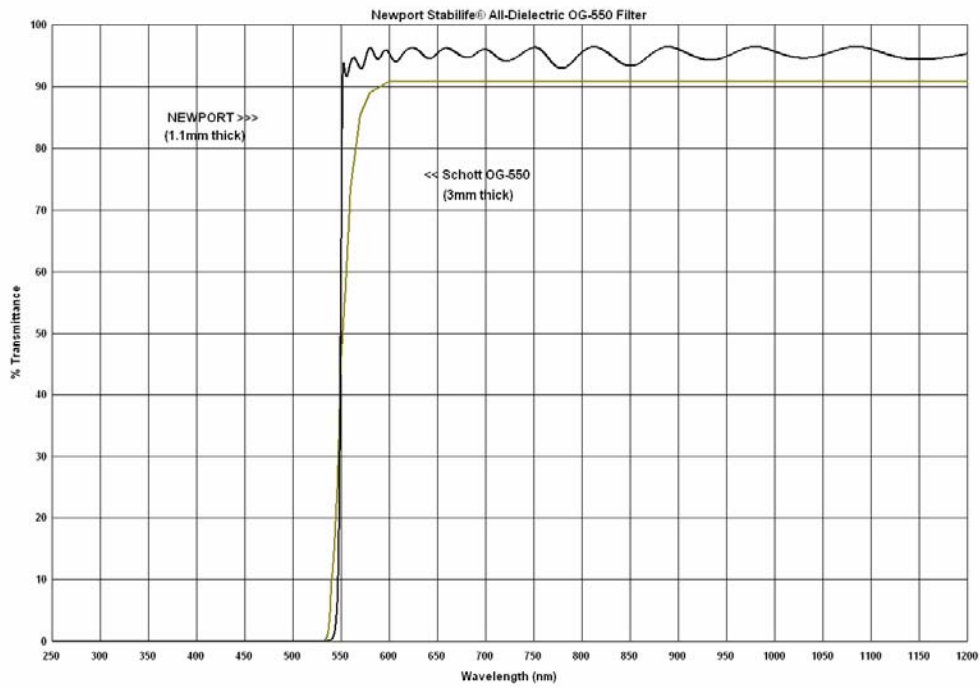
⁵Schott Glass Filter Catalogue Section 8.3 (pg. 24) and Schott Glass Data Sheet June 1997 pg. 59

⁶Measured by Caliper Life Sciences, Alameda, CA

⁷Newport Corporation March 2007

⁸Schott Glass Filter Catalogue Section 5.4 (pg. 8) and Schott Glass Data Sheet June 1997 pg. 43

⁹University of Lowell (Massachusetts)



TYPICAL COMMON SPECIFICATIONS

50% point tolerance: +/- 5nm
 %T \geq 90% AVG (from 50% point + 10nm to beyond 1200nm)
 Optical Blocking > 5 OD X-Ray to (50% point - 40nm)
 Thickness: 1.1mm nominal
 Size: As required (up to 15" DIA)

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