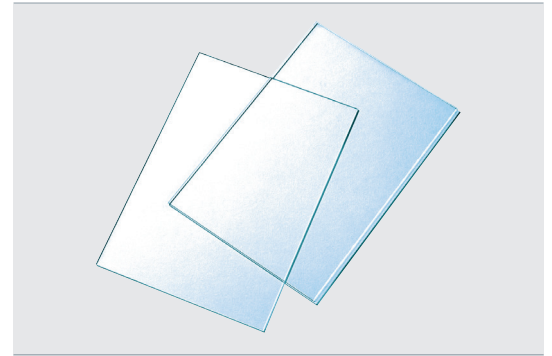# SoFi™ Solar Conversion Filters

Low-loss Dielectric Filters for Large Scale Solar Simulators

Large scale solar simulators are not only applied for solar cell performance testing, but also for product performance evaluation or certification in the fields of solar thermal collectors, solar concentrators, vacuum insulating glazings, energy storage, insulation materials etc. Solar conversion filters increase the performance of solar simulators by converting the radiation of a technical light source into a spectral distribution equivalent to the sunlight. With Materion Balzers Optics solar conversion filters "better than class A" according to IEC 60904-9 is achievable for different lamp types (eg. Xenon or Metal Halide). In addition to these international standards Optics Balzers is also able to meet customer specific spectral requirements in the UV, VIS and NIR spectral range.
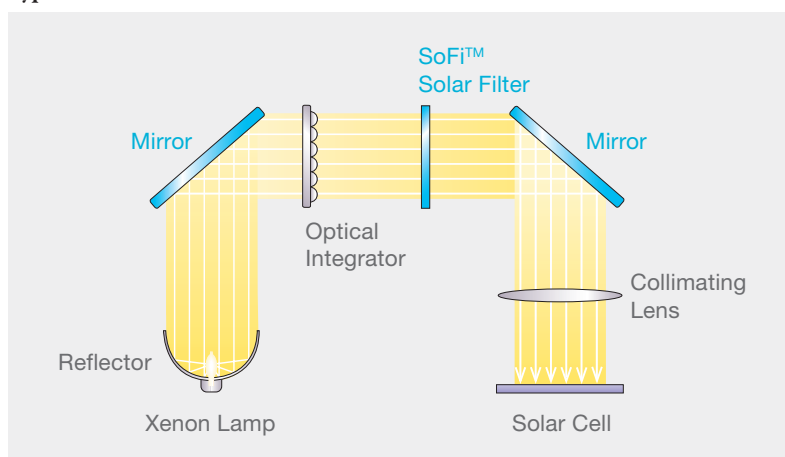
Benefits

- adaptable to customer specific light sources and different solar spectra
- conversion to class A and better according to IEC 60904-9
- dielectric filter with low absorption
- conversion independent of glass thickness
- 400° C temperature stability

Applications

- Solar simulators for performance testing of: solar cells, solar thermal collectors, solar concentrators, vacuum insulating glazings, energy storage, insulation materials
- UV-test equipment
- Accelerated lifetime testing equipment for paint, fabric and other synthetic materials
- weathering test equipment

Technical Data

wavelength rage (nm)	classification* better than A	A	B
400 – 500	0.85 – 1.15	0.75 – 1.25	0.6 – 1.4
500 – 600	0.85 – 1.15	0.75 – 1.25	0.6 – 1.4
600 – 700	0.85 – 1.15	0.75 – 1.25	0.6 – 1.4
700 – 800	0.85 – 1.15	0.75 – 1.25	0.6 – 1.4
800 – 900	0.85 – 1.15	0.75 – 1.25	0.6 – 1.4
900 – 1100	0.85 – 1.15	0.75 – 1.25	0.6 – 1.4

* match to solar spectral distribution according to IEC60904-9

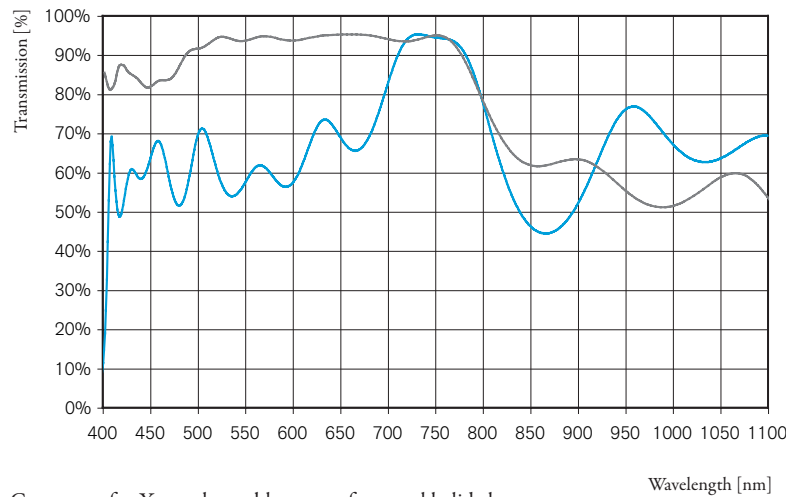**Customer specific non-standard spectral requirements**

on request

UV Cut-On wavelength and UV Transmission

on request

Anti-Reflection Coating

on request

Typical Solar Simulator

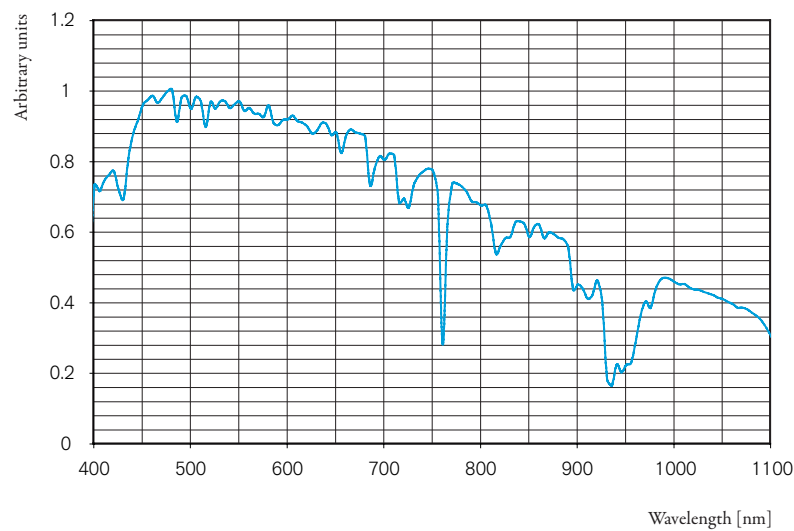Solar Simulators let you simulate various solar conditions

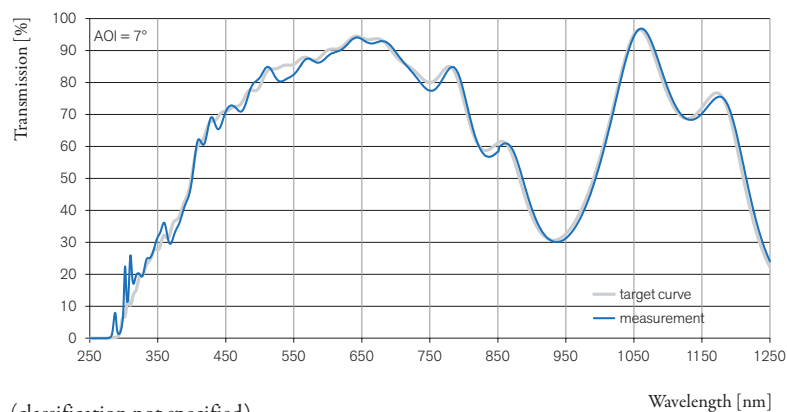## Typical Conversion Filter Spectra

Gray curve for Xenon lamp, blue curve for metal halide lamp

Standard Solar Spectrum AM 1.5 G

Customer specific solar filter for extended wavelength range UV-IR

(classification not specified)