



PLEXIGLAS® Films for Microfluidic Applications

Product Characteristics

High transmission

PLEXIGLAS® films for microfluidic applications provide excellent light transmission and brilliance due to a low intrinsic absorption. PLEXIGLAS® Film OF301 is especially suitable for performing analytics in the UV spectrum.

Transmission OF301 > 90 % (315 nm)
 Transmission OF302 ≈ 12 % (315 nm)

Biocompatibility

PLEXIGLAS® is known for its very good biocompatibility as its use is well established in diagnostics applications.

Hydrophilicity

PLEXIGLAS® has the highest surface energy amongst other polymers used in microfluidics. This allows a laminar flow in the micro channels.

Processability

Both PLEXIGLAS® films can be easily processed by laser cutting and die cutting.

Bonding-process

The following bonding-processes are suitable:

- Thermal bonding
- Solvent bonding
- Laser welding
- Ultra sonic welding

Services

Cleanroom conditions

An important point for microfluidic devices: POLYVANTIS GmbH has the possibility to produce under cleanroom conditions.

Masking films

Masking films are typically applied on both sides but can be adapted per customer's needs.

In-house cutting

In-house cutting by POLYVANTIS GmbH allows customers to have their individual requirements met. The customer receives an all-in-one quality product and service.

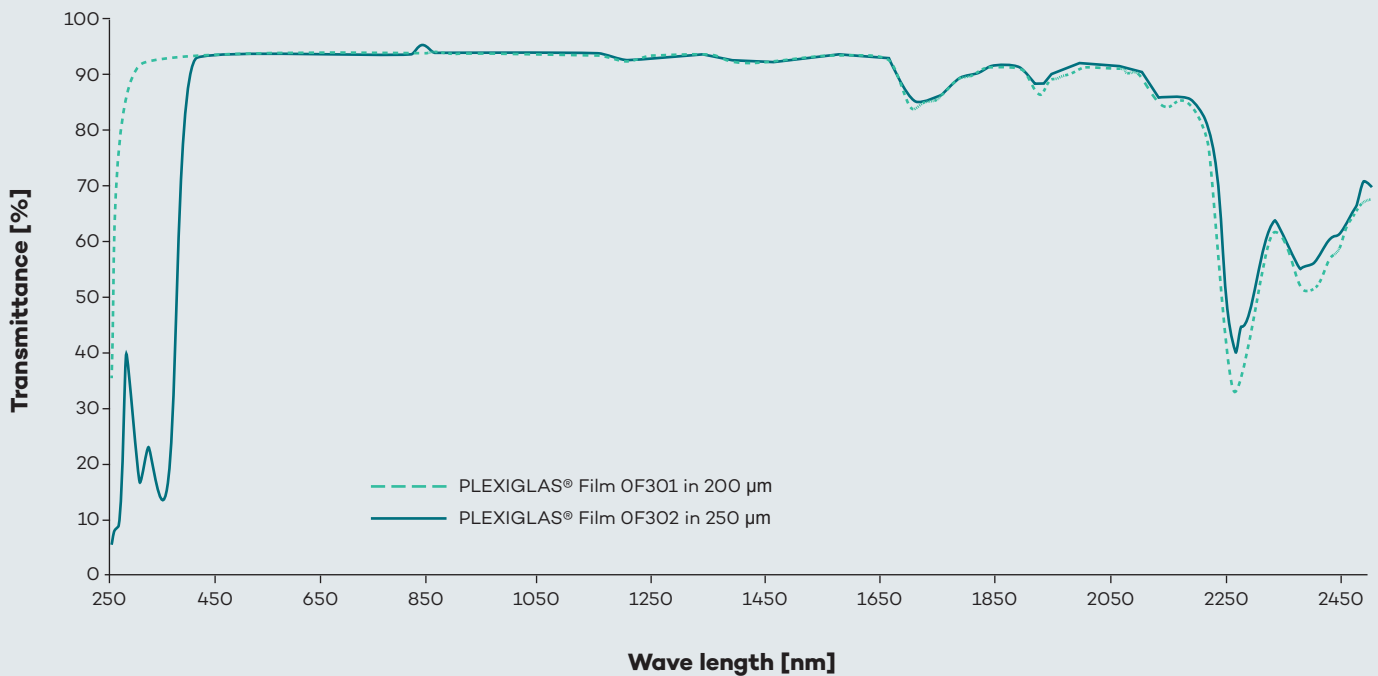


Available PLEXIGLAS® Film thicknesses

	PLEXIGLAS® Film OF301	PLEXIGLAS® Film OF302
Thickness µm	80, 200, 375, 500	175, 250, 375, 500



Technical Data				
Properties	Unit	Method	PLEXIGLAS® Film OF301 in 200 µm	PLEXIGLAS® Film OF302 in 250 µm
Light transmittance (D65/10°)	%	DIN EN ISO 11664	92.5	92.3
UV transmittance (280–380)	%	DIN EN ISO 410	91.8	12.2
Haze (@23 °C)	%	ASTM D1003	0.2	1.2
Refractive index (@23 °C)	–	DIN EN ISO 489	1.49	1.49
Glass transition temp. T_g (10 K/min)	°C	DIN EN ISO 11357	110	111
Max. water absorption (@23 °C)	%	DIN EN ISO 62	1.9	2.1
Surface tension (@23 °C)	mN/m	DIN ISO 8296	44–45	43–44
Tensile yield stress (σ_y)	MPa	DIN EN ISO 527-3	80	55
Nominal tensile strain at break (ϵ_{tB})	%	DIN EN ISO 527-3	6	59
Yield strain (ϵ_y)	%	DIN EN ISO 527-3	–	55
Density	g/cm ³	DIN EN ISO 1183	1.19	1.17





PLEXIGLAS®
Film

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® = registered trademark

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