

Polycarbonate Film - Technical Data

Technical Data - Overview

Typical bulk properties for clear films unless otherwise noted

Property	Test Method	Unit	Value
Physical			
Specific Gravity	ASTM D-792	g / cm ³	1,20
Area Factor	ASTM D-590	m ² / kg / μm	833
Water Absorption at Equilibrium	ASTM D-570	%	0,32
Rockwell Hardness	ASTM D-785	R Scale	118
Pencil Hardness	ASTM D-3363	Scratch Hardness	B
Optical			
Refractive Index @ 25 °C	ASTM D-542	N _b	1,586
Light Transmission	ASTM D-1003	%	89
Haze ⁴	ASTM D-1003	%	0,5
Yellowness Index	ASTM D-1925	---	< 1
Mechanical			
Tensile Strength, Break	ASTM D-638	MPa	72
Tensile Strength, Yield	ASTM D-638	MPa	60
Tensile Elongation, Break	ASTM D-638	%	150
Tensile Modulus of Elasticity	ASTM D-638	MPa	2.400
Tear Strength, Initial	ASTM D-1004	N / μm	0,25 - 0,32
Tear Strength, Propagation	ASTM D-1922	g / μm	1,18 - 2,15
Burst Strength ¹	ASTM D-774	Mullen, MPa	0,275 - 0,310
Fold Endurance ²	M.I.T.	Double Folds	200
Impact Strength, Gardner ³	ASTM D-5420	J	13
Thermal			
Deflection Temperature under Flexural Load @ 1,8 MPa	ASTM D-648	°C	142
Tensile Heat Distortion @ 0,34 MPa	ASTM D-1637	°C	150
Specific Heat Capacity @ 25 °C	ASTM C-351	J / g / °C	1,26
Thermal Conductivity	ASTM C-177	W / m °C	0,20
Coefficient of Thermal Expansion	ASTM D-696	cm / cm / °C	68,4 x 10 ⁻⁶
Strain Relief @ 135 °C	ASTM D-1204	%	< 0,2
Brittleness Temperature	ASTM D-746	°C	-135
Vicat Softening Temperature	ASTM D-1525	°C	152
Electrical			
Dielectric Strength @ 22 °C in oil, short time ²	ASTM D-149	kV / cm	670
Dielectric Constant 60 Hz / 1 MHz	ASTM D-150	---	3,00 / 3,00
Dissipation Factor 60 Hz / 1 MHz	ASTM D-150	---	0,001 / 0,002
Volume Resistivity	ASTM D-257	Ω-cm	10 ¹⁷
Surface Resistivity	ASTM D-257	Ω-cm ²	10 ¹⁵

Footnotes: (1) Value for 0,025 mm film (2) Value for 0,250 mm film (3) Value for 0,762 mm film (4) Value measured for Gloss / Gloss film