

RowTec®

Polycarbonate Film

FRST
IN FILM

Material Description

The family of RowTec® Polycarbonate Film products is extruded from the finest quality resin and to the highest quality in graphic arts grade films. The properties of our RowTec film offer superior performance in applications that require optical, thermal, mechanical, and electrical characteristics. Rowland Technologies, Inc. produces polycarbonate film in both roll and sheet form in all of the industry standard thicknesses and surface textures. All of Rowland's film products are manufactured to exacting tolerances that meet or exceed the most demanding requirements as it pertains to thickness, gloss level, and surface texture control.

The RowTec family of polycarbonate films includes:

- RowTec Standard Polycarbonate Film
- RowTec V Meets UL94 VTM-2 at 0.005" - 0.010"
- RowTec FR Meets UL94 VTM-0 at 0.003" - 0.004"
Meets UL94 V-0 at 0.005" - 0.030"
- RowTec FDA Complies with 21 CFR 177.1580
- RowTec UV Enhanced UV stability

Rowland can also furnish polycarbonate film in a variety of custom colors (both translucent and opaque), textures, and thicknesses for optimum design freedom. RowTec films are easily printed without special inks or need for pre-treatment and handle superbly in die cutting, embossing, thermoforming, hot stamping, in-mold decorating, and many other fabrication processes.

RowTec Polycarbonate Films deliver the clarity, dimensional stability, impact resistance, and dielectric properties you demand.

Applications

RowTec Polycarbonate Film has found wide acceptance in the following applications: instrument panel overlays, membranes with graphic panels, decals, labels, backlit displays, menu boards, medical applications, dial indicators, scales, thermoformed parts, cold-embossed parts, die-cut items, and coating applications. These applications cover a wide industry base: automotive, appliance, computer, electronic, medical, and display.



Material Form and Supply

RowTec films are available in standard roll widths of 48 1/2" or up to 55" wide upon request (roll length depends on desired film thickness). Thicknesses range from 0.002" - 0.040". Cut sheets are available in standard 24 1/2" x 48 1/2" sheets or in custom-cut sheets.

Available Surfaces

RowTec is available in all industry standard surface textures (gloss/gloss*, velvet/matte, velvet/gloss, matte/gloss, suede/matte). Protective masking is applied to all gloss/gloss films.

*Standard protective masking configuration (0.005" - 0.007" is cling/cling and 0.010" - 0.030" is stick/cling).

Average Properties of RowTec® Polycarbonate

Physical	Test Method	Units	Typical Values
Specific Gravity	ASTM D-792	---	1.20
Area Factor	ASTM D-590	ft ² / lb / mil	160
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 @ 77°F (25°C)	ASTM D-542	N _D	1.586
Light Transmission	ASTM D-1003	%	89
Haze ⁴	ASTM D-1003	%	0.5
Yellowness Index	ASTM D-1925	---	< 1.0
Mechanical			
Tensile Strength, Break	ASTM D-638	psi	10,500
Tensile Strength, Yield	ASTM D-638	psi	8,700
Tensile Elongation, Break	ASTM D-638	%	150
Tensile Modulus of Elasticity	ASTM D-638	psi	350,000
Tear Strength, Initial	ASTM D-1004	lb / mil	1.4 - 1.8
Tear Strength, Propagation	ASTM D-1922	g / mil	30 - 55
Burst Strength ¹	ASTM D-774	Mullen, psi	40-45
Fold Endurance ²	M.I.T.	Double Folds	200
Impact Strength, Gardner ³	ASTM D-5420	in lbs	120
Thermal			
Deflection Temperature under Flexural Load @ 264 psi	ASTM D-648	°F	288
Tensile Heat Distortion @ 50 psi	ASTM D-1637	°F	302
Specific Heat Capacity @ 77°F	ASTM C-351	BTU / (lb °F)	0.30
Thermal Conductivity	ASTM C-177	BUT / (hr)(ft ²)(°F/in)	1.35
Coefficient of Thermal Expansion	ASTM D-696	in / in / °F	38 x 10 ⁻⁶
Strain Relief @ 275°F	ASTM D-1204	%	< 0.2
Brittleness Temperature	ASTM D-746	°F	-211
Vicat Softening Temperature	ASTM D-1525	°F	305
Electrical			
Dielectric Strength @ 72°F in oil, short time ²	ASTM D-149	V / mil	1,700
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 0.001" film
- (2) Value for 0.010" film
- (3) Value for 0.030" film
- (4) Value measured for Gloss / Gloss film

PLEASE NOTE: Properties reported here are typical of average lots. Rowland Technologies, Inc. makes no representation that the material in any particular shipment will conform exactly to the value given herein nor is Rowland Technologies, Inc. responsible for the performance of this material for a given application. The user of the material should perform their own testing to determine the suitability of the material for the intended use. Applications depicted herein are not specifications. They are provided as information only.

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