RowTec®

Polycarbonate Film

FIRST IN FILM

Material Description

The family of RowTec® Polycarbonate Film products are 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 include:

- **RowTec** - Standard Polycarbonate Film
- **RowTec V** - meets UL94 VTM-2 at 0.005" - 0.010"
- **RowTec HC** - a high-abrasion and chemically resistant coated film
- **RowTec RT** - utilizes PreLume® Light Reflection Technology that achieves whiter and brighter graphics

Rowland can also furnish polycarbonate film in a variety of custom colors, 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 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.

ROWLAND TECHNOLOGIES

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

PreLume® is a registered trademark of Utopia Digital Technologies.

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Average Properties of RowTec® Polycarbonate

Physical	Test Method	Units	Typical Values
Specific Gravity	D-792	---	1.20
Area Factor	D-570	ft2/lb/mil	160
Water Absorption	D-570	%	0.32 equilibrium
Rockwell Hardness	D-785	(R Scale)	118
Pencil Hardness	D-3363	Scratch Hardness	B
Optical			
Light Transmission	D-1003	%	88-91
Haze	D-1003	%	0.5(CG only)
Yellowness Index	D-1925	---	<1.0
Refractive Index	D-542	N_D	1.586
Taber Abrasion Resistance △ Haze	D-1044	%	45
Mechanical			
Tensile Strength Yield	D-882	psi	8,700
Tensile Strength Break	D-882	psi	10,500
Elongation	D-882	%	150
Tensile Modulus	D-882	psi	350,000
Tear Strength Initial	D-1004	lb/mil	1.4-1.8
Tear Strength Propogation	D-1922	g/mil	30-55
Impact Strength	Gardener	in-lb	120-30 mil film
Burst Strength	D-774	Mullen, psi	40-45 @ 1 mil
Fold Endurance	M.I.T.	Double Folds	200 @ 10 mil
Thermal			
Tensile Heat Distortion	D-1637	ºF	302º @ 50 psi
Deflection Temperature	D-648	ºF	288º @ 264 psi
Specific Heat	C-351	Btu/lb/ºF	0.30
Thermal Conductivity	C-177	Btu/hr/ft²/ºF/in	1.35
Coefficient of Thermal Expansion	D-696	in/in/ºF	$38x10^{-6}$
Strain Relief	D-1204	%	<0.2 275ºF
Brittleness Temperature	D-746	ºF	-211
Vicat Softening Temperature	D-1525	ºF	305
Electrical			
Dielectric Strength 72ºF in oil	D-149 short time	V/mil	1,700 10mil film
Dielectric Constant 60 Hz / 10º Hz	D-150	---	3.00 / 3.00
Dissipation Factor 60 Hz / 1 MHz	D-150	---	.001 / .002
Volume Resistivity	D-257	ohm-cm	10^{17}
Surface Resistivity	D-257	obm-sq	10^{15}
Flammability			
UL Flammability	UL94	---	VTM-2 .005 and .010

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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