

Rowlux®

Illusion Film

Material Description

Rowlux® is a multi-lensed effect thermoplastic film manufactured in polycarbonate, flexible PVC and PETG. Rowlux gets its effects of motion and dimension from thousands of minute parabolic lenses that are molded into the surface on both sides of the film. These lenses create a pattern of absorption and reflection of light which result in optical characteristics that are remarkable and unique. Shimmering silk, stardust sparkles, geometric repetition and three dimensional are some of the ways to describe this material.

These materials also lend themselves to many downstream processing methods. Printability is the key to Rowlux. Silk screening, litho and flexo are just a few of the printing methods that have been successfully utilized on Rowlux materials. Polycarbonate and PETG can be easily hot stamped for rich and varied effects. Rowlux Illusion Film can also be easily die cut and adhesively bonded to many different substrates.

Applications

Applications for Rowlux are as varied as the imagination allows. It has been used in packaging applications, point-of-purchase displays, vending machines, clothing, apparel and accessories, business cards, decals, home furnishings, CD packaging and many other ingenious applications.



Material Form and Supply

Rowlux Illusion Film is available in both rolls and sheets. Material is produced at 25 3/8" wide (24" of usable surface guaranteed) and 0.015" thick. Polycarbonate, flexible PVC and PETG are all available in roll form. Polycarbonate and PETG are available in a standard sheet size of 25 3/8" x 54". Custom sheet sizes are also available.



Average Properties of Rowlux® Polycarbonate

Physical	Test Method	Units	Typical Values
Specific Gravity	D-792	---	1.20
Water Absorption	D-570	% max	0.32 equilibrium
Rockwell Hardness	D-785	(R Scale)	118
Pencil Hardness	D-3363	Scratch Hardness	B
Coefficient of Thermal Expansion	D-696	in/in/°F	38 x 10 ⁻⁶
Optical			
Light Transmission	D-1003	%	88-91
Refractive Index	D-542	N _d	1.586
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
Thermal			
Tensile Heat Distortion	D-1637	°F	302 @ 50 psi
Deflection Temperature	D-648	°F	288 @ 264 psi
Vicat Softening Temperature	D-1525	°F	305-315

Average Properties of Rowlux® PETG

Physical	Test Method	Units	Typical Values
Specific Gravity	D-792	----	1.27
Thermal Conductivity	D-177	Btu·in/h·ft ² ·°F	1.50
Coefficient of Thermal Expansion	D-696	mm/mm·°C	5.1 x 10 ⁻⁵
Mechanical			
Tensile Stress at yield	D-882	psi	7,500
Tensile Stress at break	D-882	psi	8,000
Elongation at break	D-882	%	400
Tensile Modulus of Elasticity	D-882	10 ⁵ psi	2.80
Thermal			
Deflection Temperature	D-648	°F @ 264 psi	147
Vicat Softening Temperature	D-1521	°F	185

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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