

## Key Performance Properties

- Optical
- Mechanical
- Thermal
- Electrical

## Applications

- Printing
- Die-Cutting
- Embossing
- Thermoforming
- Hot Stamping

## Technical Data

<b>Thickness Range</b>	0.002" – 0.030"
<b>Surface Textures</b>	Smooth Matte/ Fine Velvet
<b>Master Roll Lengths</b>	up to 2,000 yards ( <i>dependent on thickness</i> ) Custom roll lengths available
<b>Widths</b>	48.5" – 63" Custom slit widths available
<b>Sheets</b>	24.5" x 48.5" sheets 48.5" x 96.5" sheets Custom trimmed and squared sheets available



## Typical Properties *(for Clear unless otherwise noted)*

	Test Method	Units	Typical Values
<b>Physical</b>			
Specific Gravity	ASTM D-792	–	1.20
Area Factor	ASTM D-590	ft <sup>2</sup> / 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
<b>Optical</b>			
Refractive Index	ASTM D-542	N <sub>D</sub>	1.586
Light Transmission	ASTM D-1003	%	89
Haze <sup>4</sup>	ASTM D-1003	%	0.5
Yellowness Index	ASTM D-1925	–	< 1.0
<b>Mechanical</b>			
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 <sup>1</sup>	ASTM D-774	Mullen, psi	40 - 45
Fold Endurance <sup>2</sup>	M.I.T	Double Folds	200
Impact Strength, Gardner <sup>3</sup>	ASTM D-5420	in lbs	120

### 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

### Note

Properties reported here are typical of average lots. Rowland Advanced Polymer Films makes no representation that the material in any particular shipment will conform exactly to the value given herein nor is Rowland Advanced Polymer Films 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.

WARNING: This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.



ORAFOL Americas  
Advanced Polymer Films

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## Typical Properties *(for Clear unless otherwise noted)*

	Test Method	Units	Typical Values
<b>Thermal</b>			
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 D-351	BTU / (lb °F)	0.30
Thermal Conductivity	ASTM D-177	BTU / (hr) (ft <sup>2</sup> ) (°F/in)	1.35
Coefficient of Thermal Expansion	ASTM D-696	in / in / °F	38 x 10 <sup>-6</sup>
Strain Relief @ 275° F	ASTM D-1204	%	<0.2
Brittleness Temperature	ASTM D-746	°F	-211
Vicat Softening Temperature	ASTM D-1525	°F	305
<b>Electrical</b>			
Dielectric Strength @ 72° F in oil, short time <sup>2</sup>	ASTM D-149	V / mil	1,700
Dielectric Constant 60 Hz/1 Mhz	ASTM D-150	–	3.00 / 3.00
Dielectric Factor 60 Hz/1 Mhz	ASTM D-150	–	0.001 / 0.002
Volume Resistivity	ASTM D-257	Ω-cm	10 <sup>17</sup>
Surface Resistivity	ASTM D-257	Ω-cm <sup>2</sup>	10 <sup>15</sup>

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