

PRODUCT DESCRIPTION - DATA SHEET

PolyLine™ 3449A Film is a one side brushed, one side polished transparent polycarbonate film. It offers high temperature resistance, excellent dimensional stability, as well as good printability without pre- treatment making it an excellent candidate for multi-layer printing for applications such as overlays, floor graphics, high-performance labels and in-mould decoration. It can be screen printed using traditional solvent based or water based inks, as well as UV or infrared drying inks and offers ease of processing for thermoforming, embossing, die- cutting, hydro-forming and bending. The brushed 1st surface allows processors and OEMs alike to achieve a brushed metal appearance by back printing, laminating, or spraying with metallic inks, adhesives, or paint.

Properties	ASTM Test Method	Units	Value	ISO Test Method	Units	Value
Physical Properties						
Density	ASTM D792	slug/ft ³	2.3	ISO 1183	kg/m ³	1200
Water Absorption 24 hrs	ASTM D570	% change	0.35	ISO 62	% change	0.35
Surface Energy (1st surface / 2nd surface)	ASTM D5946-01	-	38/34			
Surface Tension (1st surface / 2nd surface)	Dyne Pens	Dyne	40-42/38-40			
Optical Properties						
Refractive Index @ 77 °F (25 °C)	ASTM D542A	-	1.6			
Light Transmission	ASTM D1003	%	90			
Yellowness Index	ASTM D1925	%	1.2			
Haze	ASTM D1003	%	66			
Gloss over Flat Black min/max @ 60°	ASTM D523-60	-	31	ISO 2813	-	31
Mechanical Properties						
Tensile Strength @ Yield	ASTM D882	psi	8500	ISO 527	MPa	62
Ultimate	ASTM D882	psi	9000	ISO 527	MPa	65
Tensile Modulus	ASTM D882	psi	300000	ISO 527	MPa	2506
Tensile Elongation at Break	ASTM D882	%	100-160	ISO 527	%	100-154
Gardner Impact Strenght at 0.03 in. (0.75 mm)	ASTM D3029	ft-lb	23	ISO 6603-1	J	31
Tear Strength						
Initiation	ASTM D1004	lb/mil	1.4-1.8		kN/m	245
Propogation	ASTM D1922	g/mil	30-55		kN/m	10-20
Puncture Resistance (Dynatup)	ASTM D3763	ft-lb	9		J	12
Fold Endurance (MIT)						
0.010 inch (0.25 mm)	ASTM D2176-69	double folds	120			
0.020 inch (0.50 mm)	ASTM D2176-69	double folds	30			
Thermal Properties						
Coefficient of Thermal Conductivity	ASTM D5470	Btu/hr/ft ² /°F/in	1.35		W/m°K	0.2
Coefficient of Thermal Expansion	ASTM E831	(x 10 ⁻⁵ /°F)	3.2	ISO 11359	(x 10 ⁻⁵ /°C)	5.8
Specific Heat @ 40 oF (4 oC)	ASTM E1269	Btu/lb/°F	0.3		KJ/Kg-°C	1.25
Glass Transition Temperature)	ASTM D3417/D3418	°F	307	ISO 11357	C	153
Vicat Softening Temperature, B	ASTM 1525-00 Modified	°F	323		°C	160
Heat Deflection Temp. by TMA at 1.8 MPa		°F	290	ISO 75 Modified	°C	145
Shrinkage at 302 oF (150 oC)	ASTM D1204	%	1.40		%	1.40
Brittleness Temperature	ASTM D746	°F	-211		°C	-135

POLYLINE™ 3449A
Brushed/Polished Polycarbonate Film



Manufacturing Specifications

Nominal Gauge	Min./Max Limit
<u>Ranges</u>	<u>of Normal</u>
0.010-0.015" (0.250-0.375 mm)	± 5%
0.020" (0.500mm)	± 3%

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