POLYVANTIS

PRODUCT DATASHEET

LEXAN™ TP3A1-NA9E FILM

DESCRIPTION

LEXAN™ TP3A1-NA9E film is a thermoplastic polycarbonate film with one side polish one side velvet with outstanding printability, good dimensional stability at high temperatures and good processability.

TYPICAL PROPERTY VALUES*

PROPERTY	ASTM TEST METHOD	UNITS (USCS)	VALUE	ISO TEST METHOD	UNITS (SI)	VALUE
MECHANICAL						
Tensile Strength @ Yield	ASTM D882	psi	7786.5	ISO 527	MPa	53.7
Ultimate	ASTM D882	psi	6713.5	ISO 527	MPa	46.3
Tensile Modulus	ASTM D882	psi	288564.5	ISO 527	MPa	1990.1
Tensile Elongation at Break	ASTM D882	%	27.18	ISO 527	%	27.18
Izod Impact, unnotched, 23°C/3.2mm	ASTM D4812	ft-lb	1585.8		J	2150
Izod Impact, notched, 23°C/3.2mm	ASTM D256	ft-lb	668.3		J	906
Puncture Resistance (Dynatup)	ASTM D3763	Ft-lb			J	
THERMAL						
Coefficient of Thermal Expansion						
CTE -20~170°C, crossflow	ASTM E831	($x10^{-5}$/°F)		ISO 11359-2	($x10^{-5}$/°C)	
CTE -20~170°C, inflow	ASTM E831	($x10^{-5}$/°F)		ISO 11359-2	($x10^{-5}$/°C)	
Glass Transition Temperature		°F	267.4	ISO 11357	°C	130.8
Coefficient of Thermal Conductivity	ASTM E1461	Btu/hr/ft^2/°F/in			W/m°K	0.25
Vicat Softening Temperature, B	ASTM 1525-00 modified	°F	269.6		°C	132
Heat Deflection Temp. by TMA at 1.8 Mpa		°F	233.6	ISO 75 Modified	°C	112
Shrinkage at 230°F (110°C)	ASTM D1204	%	TD:0.1% MD:0.11%			
Shrinkage at 266°F (130°C)	ASTM D1204	%	TD:0.06% MD:0.7%		%	
OPTICAL						
Light Transmission	ASTM D1003	%	Polish 88 matte 92	ISO 489	%	
Yellowness Index	ASTM E313					
Color: L/a/b	CIE Lab 1976	-	94.9/0.1/-0.5			
Haze	ASTM D1003	%	94		%	
Gloss over Flat Black fine matte @ 60°	ASTM D523-60	-	9.0	ISO 2813		9.0

PROPERTY	ASTM TEST METHOD	UNITS (USCS)	VALUE	ISO TEST METHOD	UNITS (SI)	VALUE
PHYSICAL						
Density	ASTM D792	$slug/ft^3$		ISO 1183	g/cm^3	1.19
Pencil hardness (500g)	ASTM D3363	-			-	
Taber Abrasion (100 Cycles)	ASTM D1044	Delta Haze%			Delta Haze%	
Adhesion						
Surface Tension	Dyne Pens	Dyne	Polish 34 matte 48		Dyne	
Water Absorption, 24 hrs.	ASTM D570	% change		ISO 62	% change	0.16

- These are typical properties and are not intended for specification purposes. If minimum certifiable properties are required, please contact your local POLIVANTIS representative or the POLIVANTIS Quality Services Department.
  Reported Values are based on 0.15 mm (0.06") thickness unless otherwise noted.

PRODUCT AVAILABILITY

NOMINAL GAUGE RANGES	MIN./MAX LIMIT OF NOMINAL
0.010"-0.020" (0.254mm-0.508 mm)	-/+5%
0.006 – 0.010" (0.15 mm-0.250 mm)	-/+10%

Product specification indicates to the plant's COA

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LEXAN™ POLYCARBONATE FILM & SHEET | Tough, Virtually Unbreakable