POLYVANTIS

PRODUCT DATASHEET

LEXAN™ 9034+ 903XXX SHEET

DESCRIPTION

LEXAN™ 9034 based polycarbonate sheet is the standard grade of LEXAN sheet. Inherently high impact UV stabilized LEXAN 9034 sheet is an excellent candidate for glazing for economical protection against breakage or intrusion. As LEXAN has, better insulation properties than glass it may contribute to lower energy costs. LEXAN 9034 sheet may be thermoformed, pressure formed, cold-formed or used in flat applications.
Applicable to:
o9034* (applicable for all other uncoated LEXAN grades designated with 903xxxx nomenclature)
o9034V and 9034VSL - with improved UL rating
o9034HO - with improved optical specifications
o90316, 90317 and 90318 - "Protect-A-Glaze" with one side textured

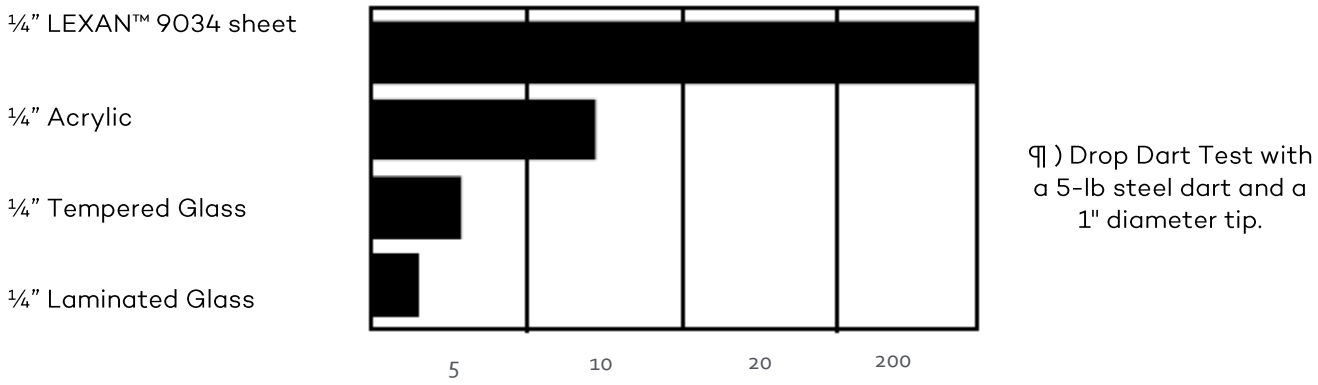
TYPICAL PROPERTY VALUES*

PROPERTY	TEST METHOD	UNITS	VALUE 9034 *	9034V	9034HO
PHYSICAL					
Specific Gravity	ASTM D792	-	1.20	1.20	1.20
Refractive Index @ 77°F	ASTM D542A	-	1.586	1.586	1.586
Light Transmission (Average at 0.118")	ASTM D1003	%	86	86	86
Initial Haze		HU	<1	<1	<1
Rockwell Hardness (M scale)	ASTM D785	-	70	70	70
Rockwell Hardness (R scale)	ASTM D785		118	118	118
Taber @ 100 cycles	ASTM D1044				
	(ANSI ZI26.1)	% haze	10	10	10
Water Absorption, 24 hrs	ASTM D570	%	0.15	0.15	0.15
Water Absorption, Equilibrium	@ 73°F	%	0.35	0.35	0.35
MECHANICAL					
Tensile Strength, Yield	ASTM D638	psi	9,500	9,500	9,500
Tensile Modulus	ASTM D638	psi	345,000	345,000	345,000
Flexural Strength	ASTM D790	psi	13,500	13,500	13,500
Flexural Modulus	ASTM D790	psi	345,000	345,000	345,000
Compressive Strength	ASTM D695	psi	12,500	12,500	12,500
Compressive Modulus	ASTM D695	psi	345,000	345,000	345,000
Poisson's Ratio	ASTM E132	-	0.37	0.37	0.37
Izod Impact Strength Notched @ 0.118"	ASTM D256A	ft-lbs/in	12-16	12-16	12-16
Unnotched @ 0.118"			60	60	60
			(no failure)	(no failure)	(no failure)
Shear Strength @ Yield	ASTM D732	psi	6,000	6,000	6,000
Shear Modulus	ASTM D732	psi	114,000	114,000	114,000

PROPERTY	TEST METHOD	UNITS	VALUE 9034 *	9034V	9034HO
THERMAL					
Coefficient of Thermal Expansion	ASTM D696	in/in/°F	3.75 x10^{-5}	3.75 x10^{-5}	3.75 x10^{-5}
Coefficient of Thermal Conductivity	ASTM C177	Btuoin/hroft^{2}o°F	1.35		1.35
Specific Heat @ 40°C	ASTM C351	BTU/lb-°F	0.30		0.30
Heat Deflection Temperature @ 264	ASTM D648	°F	270	266	270
@ 66 psi			280		280
Brittle Temperature (on resin)	ASTM D746	°F	-211	-211	-211
FLAMMABILITY					
Horizontal Burn (Flame Spread) AEB	ASTM D635	in	<1		<1
Ignition Temperature, Self		°F	>1000	>1000	>1000
UL Flammability (File # 539157)	UL94HB	Pass/Fail	HB		HB
	UL94VO	Pass/Fail		≥0.236	
	UL94V2	Pass/Fail		≥0.060	
ELECTRICAL					
Dielectric Constant @ 60 Hz	ASTM D150	-—	3.17		
Volume Resistivity	ASTM D257	Ohm-cm	8.2 x 10^{16}		
Dissipation Factor (@60 Hz) also known as Power Factor	ASTM D150		0.0009		

♦ These typical values are not intended for specification purposes. If minimum certifiable properties are required please contact your local POLYVANTIS representative.

IMPACT RESISTANCE¶



¶) Drop Dart Test with a 5-lb steel dart and a 1" diameter tip.

CHEMICAL RESISTANCE

LEXAN™ 9034 sheet has sufficient resistance to most mineral oils, greases, aliphatic hydrocarbons and acids under low or moderate stress levels. Specific (application related) testing is always advised, especially in applications where the LEXAN 9034 sheet will come into contact with aggressive chemicals.

PROCESSING

LEXAN 9034 sheet can be used for thermoforming. It offers high, deep draw ratios, equal wall thickness distribution, and it can be formed into complex shapes using standard thermoforming equipment. Sandwich type heating systems give the best results. LEXAN 9034 sheet has a forming temperature range of 350-400°F. When forming, a draft angle of at least 3° should be allowed, and post mold shrinkage of .007-.009 in/in taken into account.

PRE-DRYING

It is important to ensure that LEXAN 9034 sheet is free of moisture prior to thermoforming. A hot air circulating oven set at 250°F is recommended. Pre-drying times vary from 3-24 hours, depending on sheet thickness.

ASSEMBLING / PAINTING

Parts made from LEXAN 9034 sheet can be assembled with plastics, metals, rubber and other materials using many types of adhesive bonding, welding and mechanical fastening techniques. Since some of these materials can cause environmental stress cracking, please consult POLYVANTIS, for advice on specific applications. A list of approved paint systems and suppliers is available upon request.

CODE COMPLIANCE

Underwriters Laboratories LEXAN 903x Sheet is listed as a Burglary-Resisting Glazing Material according to UL Standard 972.

UL File Number: E539157

POLYVANTIS

Polycarbonate products are sold globally under the trademark LEXAN™ Film & Sheet, owned by SABIC or its subsidiaries or affiliates.

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LEXAN™ POLYCARBONATE FILM & SHEET Tough, Virtually Unbreakable

LEXAN is a trademark of SABIC