POLYVANTIS

PRODUCT DATASHEET

LEXAN™ HPHAF FILM

DESCRIPTION

LEXAN™ HPFAF film is a patented one-side coated Polycarbonate film. It offers anti-fog, abrasion resistance, impact resistance, good optical clarity, and thermoforming behavior. HPHAF film also provides chemical resistance, and printability. Typical applications include; Safety Goggles, motorcycle visors, ski goggles, instrument lenses and display panels. LEXAN™ HPHAF coated film is available in 48" widths and gauges from 0.007" to 0.020". Masking is of the cling type on the uncoated side and of the stick type on the coated side.

TYPICAL PROPERTY VALUES*

PROPERTY	ASTM (ISO) TEST METHOD	UNITS USCS (SI)	VALUE
MECHANICAL			
Tensile Strength			
@ Yield	ASTM D882 (ISO 527)	psi (MPa)	8800 (60)
Ultimate	ASTM D882 (ISO 527)	psi (MPa)	9000 (62)
Tear Strength			
Initiation	ASTM D1004	lb/mil (kN/m)	1.51 (264)
Propagation	ASTM D1922	g/mil (kN/m)	40 (14)
THERMAL			
Vicat Softening Temperature, B	ASTM 1525	°F (°C)	320 (160)
Heat Deflection Temp. by TMA at 1.8 Mpa	ISO 75 Modified	°F (°C)	290 (145)
Shrinkage at 302°F (150°C)	ASTM D1204	%	1.40%
PHYSICAL			
Anti-fog Properties	Exposure to 50C Water	Seconds to Fog	>110
Density	ASTM D792 (ISO 1183)	slug/ft^3 (kg/m^3)	2.3 (1200))
Thermoforming		% Thinning	<50
Pencil Hardness (coated surface)	ASTM D3363	-	HB-F
Taber Abrasion	ASTM D1044	delta Haze	5
OPTICAL			
Refractive Index @77°F (25°C)	ASTM D542A	-	1.5
Light Transmission	ASTM D1003	%	>88
Yellowness Index	ASTM D1925	%	0.6
Haze	ASTM D1003	%	<0.5

MANUFACTURING SPECIFICATIONS

NOMINAL GAUGE RANGES	MIN./MAX LIMIT OF NOMINAL
0.007 - 0.015"(0.175 - 0.37mm)	± 5%
0.20" (0.500mm)	± 3%

♦ These are typical properties and are not intended for specification purposes. If minimum certifiable properties are required, please contact your local POLYVANTIS Innovative Plastics representative or the POLYVANTIS Innovative Plastics' Quality Services Department.

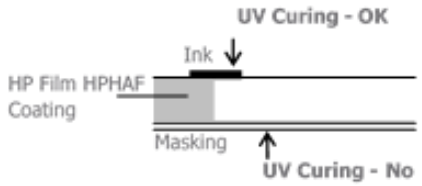
Reported Values are Based on 0.010" (0.250 mm) Thickness unless otherwise noted.

¶ Wisk is a registered trademark of Lever Brothers Company

Formula 409 is a registered trademark of Clorox Company

MASKING

The standard masking on HPHAF film is not designed to have UV radiation (for curing) passed through it. If this is required, alternate masking is available. Please contact your sales representative for more details.



CHEMICAL RESISTANCE

PROPERTY CHEMICAL	RESULTS
One Hour Continuous Surface Contact at 73 °F †	
Acetone	Failed
MEK	Failed
Toluene	Failed
Methylene Chloride	Failed
Isopropyl Alcohol	Passed
Cyclohexanone	Passed
Ethyl Acetate	Passed
Xylene	Passed
40% NaOH	Passed
Concentrated HCl	Passed
Gasoline (Regular)	Passed

Gasoline (Unleaded)	Passed
PROPERTY CHEMICAL	**RESULTS**
24 hour Surface Contact at 120 °F †	
Coffee	Passed
Top Job¥	Passed
Fantastik ##	Passed
Formula 409 #	Passed
Windex w/	Passed
Ammonia D ###	Passed
Wisk ¶	Passed
Downy #	Passed
Spray N Wash##	Passed
Clorox*	Passed
Mustard	Passed
Mr. Clean #	Passed
Ketchup	Passed
Tea	Passed
Tomato Juice	Passed
Lemon Juice	Passed
Grape Juice	Passed
Vinegar	Passed
Milk	Passed
Sunscreen SPF15	Passed

† Failure constitutes any of the following: non-removable stain or cloudiness, blistering, delamination, or cracking of the coating or failure to pass crosshatch tape adhesion.

†† Post cure conditions: One elliptical focused medium pressure mercury vapor lamp at 300 watts/inch and a conveyor speed of 20 feet/minute

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Formula 409 and Clorox are registered trademarks of the Clorox Company

Top Job, Downy, and Mr. Clean are registered trademarks of Procter & Gamble

Fantastik and Spray 'N Wash are registered trademarks of Texize, Division of Norton Norwich Products, Inc.

Windex w/Ammonia D is a registered trademark of Drackett Products Company

SAFETY

The processing guidance given in this documentation is given in good faith and the trust that in all cases you wear the correct Personal Protective Equipment (PPE), e.g. helmet, proper gloves, safety goggles etc. to safely fabricate, e.g. (but not limited to) sawing, cutting, forming our sheets and films. In all cases you should follow local and national regulations around the wear of PPE's prescribed or mandatory to perform these tasks in a safely manor.

POLYVANTIS

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LEXAN™ POLYCARBONATE FILM & SHEET Tough, Virtually Unbreakable

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