

# LEXAN<sup>\*</sup> HPXXH Film

## Product Datasheet

### DESCRIPTION

LEXAN<sup>\*</sup> HPXXH graphic films are high-performance coated films offering the highest chemical and abrasion resistant package of any films in the GE graphic film product line. Features include:

- Extreme durability of coating
- Chemical resistance to household cleaners including Wisk(r) and Formula 409(r)
- Excellent abrasion resistance
- Excellent clarity and consistency of gloss level

Note: LEXAN HPXXH Film cannot be first surface printed with graphics or textures and it is not suggested for 3D forming

### Typical Property Values<sup>1</sup>

Property	ASTM (ISO) Test Method	Units USCS (SI)	HP12H	HP40H	HP60H	HP92H
<b>Mechanical</b>						
Tensile Strength						
@ Yield	ASTM D882 (ISO 527)	psi (MPa)	8800 (60)	8800 (60)	8800 (60)	8800 (60)
Ultimate	ASTM D882 (ISO 527)	psi (MPa)	9000 (62)	9000 (62)	9000 (62)	9000 (62)
Tear Strength						
Initiation	ASTM D1004	lb/mil (kN/m)	1.51 (264)	1.51 (264)	1.51 (264)	1.51 (264)
Propogation	ASTM D1922	g/mil (kN/m)	38.7 (40)	38.7 (40)	38.7 (40)	38.7 (40)
<b>Thermal</b>						
Vicat Softening Temperature, B	ASTM 1525	°F (°C)	320 (160)	320 (160)	320 (160)	320 (160)
Heat Deflection Temp. by TMA at 1.8 MPa	ISO 75 Modified	°F (°C)	290 (143)	290 (143)	290 (143)	290 (143)
Shrinkage at 302 °F (150 °C)	ASTM D1204	%	1.40%	1.40%	1.40%	1.40%
<b>Physical</b>						
Density	ASTM D792 (ISO 1183)	slug/ft <sup>3</sup> (kg/m <sup>3</sup> )	1200 (75)	1200 (75)	1200 (75)	1200 (75)
Surface Energy (1st surface / 2nd surface)	ASTM D5946-01	-	NA/34	NA/34	NA/34	NA/34
Surface Tension (1st surface / 2nd surface)	Dyne Pens	Dyne	NA/38-40	NA/38-40	NA/38-40	NA/38-40
Pencil Hardness (1st surface / 2nd surface)	ASTM D3363	-	f-h/b-hb	f-h/b-hb	f-h/b-hb	f-h/b-hb
Taber Abrasion	ASTM D1044	delta Haze	<2	<1	<1	<2
<b>Optical</b>						
Refractive Index @ 77 °F (25 °C)	ASTM D542A	-	1.5	1.5	1.5	1.5
Light Transmission	ASTM D1003	%	91	92	92	92
Yellowness Index	ASTM D1925	%	1	0.7	0.9	0.7
Haze	ASTM D1003	%	44	10	5.4	0.5
Gloss over Flat Black min/max @ 60°	ASTM D523-60 (ISO 2813)	-	12	40	60	92

### Manufacturing Specifications

Nominal Gauge Ranges	Min./Max Limit of Nominal
0.007" (0.175 mm)	± 10%
0.010-0.015" (0.250-0.375 mm)	± 5%
0.020-0.030" (0.500-0.750 mm)	± 3%

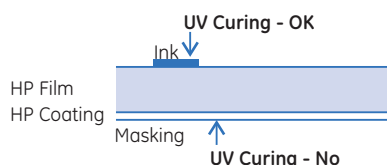


- 1 These are typical properties and are not intended for specification purposes. If minimum certifiable properties are required, please contact your local GE Advanced Materials, Specialty Film & Sheet representative or the GE Advanced Materials, Specialty Film & Sheet Quality Services Department. Reported values are based on 0.010" (0.250 mm) thickness unless otherwise noted.
- \* LEXAN is a trademark of General Electric Company.

# GE Advanced Materials Specialty Film & Sheet

## MASKING

The standard masking on HP 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 AND ABRASION RESISTANCE

LEXAN HPXXH films offer excellent chemical and abrasion resistance. Refer to the following chart for quantitative measurements of these values.

### Taber Abrasion Resistance (ASTM D1044)

#### LEXAN HP92H Grapic Film

Condition	Units	Typical Value
CS10F Wheel, 500 grams		
50	Change in % Haze	1.5
100	Change in % Haze	2.5
250	Change in % Haze	3.5
500	Change in % Haze	7.5

## CHEMICAL RESISTANCE

Chemical	Results	
	One Hour	Three Hours
<b>Continuous Surface Contact at 73 °F</b>		
Acetone	Passed	Failed*
MEK	Passed	Failed*
Toluene	Passed	Failed*
Methylene Chloride	Passed	Failed*
Isopropyl Alcohol	Passed	Passed
Cyclohexanone	Passed	Passed
Ethyl Acetate	Passed	Failed*
Xylene	Passed	Passed
40% NaOH	Passed	Passed
Concentrated HCl	Passed	Passed
Gasoline (Regular)	Passed	Passed
Gasoline (Unleaded)	Passed	Passed
Butyl Cellosolve	Passed	Passed
<b>24 Hour Surface Exposure at 120 °F</b>		
Coffee	Passed	* A few small coating blisters
Top Job*	Passed	
Fantastik*	Passed	
Formula 409*	Passed	
Windex w/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	

\* Wisk is a registered trademark of Lever Brothers Company

\* 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



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