

# LEXAN™ HPHAF FILM

## PRODUCT DATASHEET

### DESCRIPTION

LEXAN™ HPHAF 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      |
|---|------------------------|---|------------|
| <b>MECHANICAL</b>                       |                        |   |            |
| 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)    |
| <b>THERMAL</b>                          |                        |   |            |
| 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%      |
| <b>PHYSICAL</b>                         |                        |   |            |
| Anti-fog Properties                     | Exposure to 50C Water  | Seconds to Fog                            | >110       |
| Density                                 | ASTM D792 (ISO 1183)   | slug/ft <sup>3</sup> (kg/m <sup>3</sup> ) | 2.3 (1200) |
| Thermoforming                           |                        | % Thinning                                | <50        |
| Pencil Hardness (coated surface)        | ASTM D3363             | -   | HB-F       |
| Taber Abrasion                          | ASTM D1044             | delta Haze                                | 5          |
| <b>OPTICAL</b>                          |                        |   |            |
| 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 SABIC Innovative Plastics representative or the SABIC Innovative Plastics' Quality Services Department. Reported Values are Based on 0.010" (0.250 mm) Thickness unless otherwise noted.

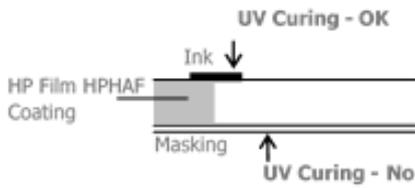
† Wisk is a registered trademark of Lever Brothers Company

# Formula 409 is a registered trademark of Clorox Company

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## 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 |
|---|---------|
| <b>One Hour Continuous Surface Contact at 73 °F †</b> |         |
| 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  |
| <b>24 hour Surface Contact at 120 °F †</b>            |         |
| Coffee  | Passed  |
| Top Job <sup>‡</sup>                                  | Passed  |
| Fantastik <sup>###</sup>                              | Passed  |
| Formula 409 <sup>#</sup>                              | Passed  |
| Windex w/   | Passed  |
| Ammonia D <sup>###</sup>                              | Passed  |
| Wisk <sup>¶</sup>                                     | Passed  |
| Downy <sup>#</sup>                                    | Passed  |
| Spray N Wash <sup>##</sup>                            | Passed  |
| Clorox <sup>*</sup>                                   | Passed  |
| Mustard   | Passed  |
| Mr. Clean <sup>#</sup>                                | 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

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## 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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