POLYVANTIS

PRODUCT DATASHEET

# LEXAN™ HP01Wxx FILM

## DESCRIPTION

LEXAN™ HP01Wxx graphic film is a virtually glare free film that uses POLYVANTIS's unique coatings technology allowing high light transmission for clear and sharp graphics. This high-performance coated film also offers very good chemical and abrasion resistance with excellent UV resistance. These performance capabilities, along with ease of processing, make HP01Wxx film a good choice for outdoor graphic applications such as warning labels, outdoor menu boards and gasoline pumps graphics.

## TYPICAL PROPERTY VALUES*

| PROPERTY | ASTM (ISO) TEST METHOD | UNITS USCS (SI) | HP01Wxx |
|---|---|---|---|
| MECHANICAL | | | |
| Tensile Strength @ Yield | ASTM D882 (ISO 527) | psi (MPa) | 8800 (60) |
| Ultimate | ASTM D882 (ISO 527) | psi (MPa) | 9000 (62) |
| | | | |
| 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 | % | 1.50% |
| | | | |
| PHYSICAL | | | |
| Density | ASTM D792 (ISO 1183) | slug/ft$^3$ (kg/m$^3$) | 2.3 (1200) |
| Pencil Hardness (coated surface) | ASTM D3363 | - | HB-F |
| Taber Abrasion (CS10F, 500g, 50cycles) | ASTM D1044 | delta Haze | 0.2 |
| | | | |
| OPTICAL | | | |
| Light Transmission | ASTM D1003 | % | 90 |
| Yellowness Index | ASTM D1925 | % | 1 |
| Haze | ASTM D1003 | % | 91 |
| Gloss over Flat Black @ 60° | ASTM D523-60 (ISO 2813) | _ | 12 |
| Gloss over Flat Black @ 85° | ASTM D523-60 (ISO 2813) | _ | 1 |
| UV% Transmission at 350 nm | UV/Visual Spectroscopy | % | 0.5 |
| UV% Transmission at 360 nm | UV/Visual Spectroscopy | % | 1.5 |
| UV% Transmission at 370 nm | UV/Visual Spectroscopy | % | 8 |

- These are typical properties and are not intended for specification purposes. If minimum certifiable properties are required, please contact your local POLYVANTIS representative or the POLYVANTIS Quality Services Department.
  Reported Values are based on 0.030" (0.750 mm) Thickness unless otherwise noted.

## MANUFACTURING SPECIFICATIONS

| NOMINAL GAUGE RANGES | MIN./MAX LIMIT OF NOMINAL |
|---|---|
| ≤0.010" (0.250 mm) | -10% +20% |
| >0.010" (0.250mm) | -5% +10% |

## UV RESISTANCE

LEXAN™ HP01Wxx film utilizes a proprietary coating technology developed by POLYVANTIS. This special coating resists yellowing and hazing. Yellowness index change of less than 3.0 at 1000 hours of QUV testing and less than 2.0 at 1000 hours of Xenon Arc testing make LEXAN™ HP01Wxx film a candidate for demanding outdoor applications.

## TABER ABRASION RESISTANCE (ASTM D1044) LEXAN™ HP01Wxx GRAPHIC FILM

| CONDITION<br>CS10F WHEEL, 500 GRAMS<br>Cycles | HP01Wxx<br>% Change in Haze<br>by ASTM D1003 |
|---|---|
| 25 | 0.2% |
| 50 | 0% |
| 100 | -0.3% |
| 200 | -0.4% |

## CHEMICAL RESISTANCE

| 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 | Failed |
| Xylene | Passed |
| 40% NaOH | Passed |
| Concentrated HCl | Passed |
| Gasoline (Regular) | Passed |
| Gasoline (Unleaded) | Passed |
| Butyl Cellosolve | Passed |
| | |
| 24 HOUR CONTINUOUS SURFACE CONTACT AT 120°F | |
| Coffee | Passed |
| Top Job[¥] | Passed |
| Fantastik [##] | Passed |
| Formula 409 [#] | Passed |
| Windex w/ Ammonia D [###] | Passed |
| Wisk [¶] | Passed |

| CHEMICAL | RESULTS[+] |
|---|---|
| 24 HOUR CONTINUOUS SURFACE CONTACT AT 120°F | |
| 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 |

[+] 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.

[¶] 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

POLYVANTIS

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LEXAN™ POLYCARBONATE FILM & SHEET Tough, Virtually Unbreakable

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