

# XTRAFORM® ANTIGLARE 15GU

## Hardcoated Polycarbonate Film

### PRODUCT DESCRIPTION

**XtraForm Antiglare 15GU** is one of a series of hardcoated polycarbonate films designed for deep draw forming and 3D FIM applications.

**XtraForm Antiglare 15GU** is 250 µm thick with a textured anti-glare finish on the hardcoat side and a matt finish on the second surface which is ideal for automatic processing.



READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

### TYPICAL PROPERTIES

Property	Typical Value	Test Method
Gloss Level	15 ± 5 GU @ 60°	ASTM D523 Black back printed
Haze <sup>1</sup>	35 to 45%	ASTM D1003
Clarity <sup>1</sup>	30 to 40%	ASTM D1003
Total Luminous Transmission <sup>1</sup>	92%	ASTM D1003
Yellowness	< 5	E313
Thickness	258 µm ± 8%	Excluding protective layers
Scratch Resistance	10N – Pass	Erichsen scratch rod test VW TL226
Linear Abrasion	No wear through coating	FCA 50488/02
Acid / Alkali Spot Test	No change in appearance	LP-463PB-31-01

Property	Typical Value	Test Method
Suntan Lotion Test	No color transfer and no change in coating appearance or strength	TL226,PV3964
Resistance to Alcohol	No change in gloss, no visual change	FCA 50457
Heat Aging	No adhesion loss or visible change	168 hours @ 105 °C
Resistance to Humidity	No adhesion loss or change in haptic properties or gloss	168 hours @ 60 °C, 95% RH; 72 hours @ 90 °C, 95% RH

Note: All evaluation results are obtained from lab produced samples at MacDermid Alpha Electronics Solutions. They are for general guidance only and do not represent the final product's properties.

<sup>1</sup> Data from the coating on gloss base

#### BASE FILM DATA<sup>2</sup>

Property	Data	Test Method
Tensile Strength	≥ 55 MPa / 23 °C	ASTM D882
Water Absorption Equilibrium	0.35%	ASTM D570
Specific Gravity	1.2 g / cm <sup>3</sup>	ASTM D792
Elongation at Break	≥ 90% / 23 °C	ASTM D882

<sup>2</sup> Derived from suppliers' literature. The coating slightly enhances most properties

**PROCESS RECOMMENDATIONS<sup>3</sup>**

Method	Recommendations
Handling	The film must be handled in UV safe conditions at every process stage until the UV cure is complete
Printing/Decoration	Second surface decoration can be achieved with a variety of suitable screen printing inks, <u>excluding</u> UV inks. The hard coating will slightly retard the drying of solvent inks. The Ink manufacturer's process recommendations must be used to develop production processes. We do not recommend that baking cycles, in the printing process, exceed 5 hours at 80 degrees Celsius. Color matching of the ink and film must be undertaken with the protective layers removed <sup>3</sup>
Forming	In a constant smooth action, remove protective layer on top of the hard coat surface prior to forming. Use static control measures to prevent contamination. Thermoforming or pressure forming by the Niebling process must be carried out <i>after</i> decoration <sup>3</sup>
Curing	The formed part must be UV cured immediately after forming to prevent any scratching during subsequent processing <sup>3</sup>
Cutting	Trimming of the formed part should be carried out with precision matched metal tooling for optimum results <sup>3</sup>
Inject Moulding	The printed, formed and trimmed part is inserted into a suitably designed injection mould tool cavity and resin injected onto the printed side of the film <sup>3</sup>
Hazards Warnings	Refer to MSDS

<sup>3</sup> Full processing guidelines for printing, cutting, moulding, UV curing, and forming are available and must be referred to when designing a process using this product.

**SHELF LIFE & STORAGE CONDITIONS**

The recommended shelf life is 9 months from the date of manufacture. MacDermid Alpha Electronics Solutions guarantees a minimum remaining shelf life of 8 weeks at the time of despatch.

The recommended shelf life represents the maximum processing lifetime of the product from the date of manufacture when stored correctly and in unopened packaging.

The following storage conditions are recommended:

Storage Conditions	
Temperature	15 to 25 °C
Relative Humidity	< 55%
Packaging	Store in original protective packaging Once the packaging has been opened, the processing lifetime can be compromised due to air ingress, contamination or UV light
Moisture	Store away from water sources
Chemicals	Keep away from aggressive solvents
Stacking	For material $\leq 250 \mu\text{m}$ thick, 100 sheet packs should be stacked no more than 10 packs high

**IMDS ID-No**

By arrangement with our regulatory affairs team.

**SAFETY & WARNING**

It is recommended that the company/operator read and review the Safety Data Sheets for the appropriate health and safety warnings before use.

**Safety Data Sheets are available.**

**WASTE TREATMENT**

Prior to using any recommendations or suggestions for waste treatment, the user is required to know the appropriate local/state/federal regulations for on-site or off-site treatment which may require permits. If there is any conflict regarding our recommendations, local/state/federal regulations take precedent.

**CONTACT INFORMATION**

**To confirm this document is the most recent version, please contact  
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Also read carefully warning and safety information on the Safety Data Sheet. This data sheet contains technical information required for safe and economical operation of this product. READ IT THOROUGHLY PRIOR TO PRODUCT USE. Emergency safety directory assistance: US +1 202 464 2554, Europe + 44 1235 239 670, Asia + 65 3158 1074, Brazil 0800 707 7022 and 0800 172 020, Mexico 01800 002 1400 and (55) 5559 1588

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