



# MARNOT™ XL HARDCOAT CLEAR POLYESTER

Marnot films are a complete line of functional hardcoats designed for graphic arts applications. Features of our hardcoat include:

- Excellent abrasion and scratch resistance
- Outstanding embossability and diecuttability
- Excellent chemical resistance to common household cleaners and many other substances
- First and second surface printability with solvent and UV inks, including clearing inks

Marnot XL Clear Polyester is available in web widths up to 1.25m and in 125, 175 and 250 micron thicknesses.

## TYPICAL VALUES ‡

| Physical                      |                       |             | Unit  |         |
|-------------------------------|-----------------------|-------------|-------|---------|
| Specific Gravity              | ASTM D792             | 1.3954      | g/c3  |         |
| Area Factor (Yield Factor)    |                       | 1395        | kg/m3 |         |
| Clarity                       | ASTM D1746            | 99          | %     |         |
| Haze                          | ASTM D1003            | <1          | %     |         |
| Light Transmission            | ASTM D1003            | 88          | %     |         |
| Water Absorption, Equilibrium | ASTM D570             | 1           | %     |         |
| Resistance to Humidity        | 720 hrs @38C, 100% RH | Pass        |       |         |
| Gloss Backpainted Flat Black  | ASTM D523             |             |       |         |
| 60 Degrees                    |                       | 92          | GU    |         |
| 85 Degrees                    |                       | -           |       |         |
| 20 Degrees                    |                       | 84          |       |         |
| Gloss Clear over White Matte  | ASTM D523             |             |       |         |
| 60 Degrees                    |                       | 164         | GU    |         |
| 85 Degrees                    |                       | -           |       |         |
| 20 Degrees                    |                       | 181         |       |         |
| Mechanical                    |                       | Test Method | Value | Unit    |
| Abrasion Resistance           | ASTM D1044            |             | 5     |         |
| Pencil Hardness               | ASTM D3363            |             | H     |         |
| Tensile Strength at           | ASTM D882             |             |       |         |
| Yield, MD                     |                       |             | 10.4  | kgf/mm2 |
| Yield, TD                     |                       |             | 20.5  | kgf/mm2 |
| Break, MD                     |                       |             | 17.5  | kgf/mm2 |
| Break, TD                     |                       |             | 17.5  | kgf/mm2 |
| Thermal                       |                       | Test Method | Value | Unit    |
| Glass Transition              |                       |             | 70C   |         |
| Shrinkage                     | 30 min at 120C        |             |       |         |
| MD                            |                       |             | 0.5   | %       |
| TD                            |                       |             | 0.4   | %       |

‡ These are typical values only and should not be confused with specification values. Specifications, tolerances and minimum values are available on request from your Tekra representative or from Tekra Corporation.

**CHEMICAL RESISTANCE**

| <b>Chemical</b>                 | <b>One hour surface contact at 23C</b> | <b>24 hours surface contact at 23C</b> |
|---------------------------------|--|--|
| Acetone                         | Pass                                   | Pass                                   |
| Concentrated HCl                | Pass                                   | Fail                                   |
| MEK                             | Pass                                   | Pass                                   |
| Toluene                         | Pass                                   | Pass                                   |
| Methylene Chloride              | Pass                                   | Pass                                   |
| Isopropyl Alcohol               | Pass                                   | Pass                                   |
| Cyclohexanone                   | Pass                                   | Pass                                   |
| Ethyl Acetate                   | Pass                                   | Pass                                   |
| Xylene                          | Pass                                   | Pass                                   |
| Brake Fluid                     | Pass                                   | Pass                                   |
| Butyl Cellosolve                | Pass                                   | Pass                                   |
| Hexane                          | Pass                                   | Pass                                   |
|                                 | <b>24 hours surface contact at 23C</b> | <b>24 hours surface contact at 50C</b> |
| Coffee                          | Pass                                   | Pass                                   |
| Fantastik <sup>1</sup>          | Pass                                   | Pass                                   |
| Formula 409 <sup>2</sup>        | Pass                                   | Pass                                   |
| Windex w/Ammonia D <sup>1</sup> | Pass                                   | Pass                                   |
| Tide <sup>3</sup>               | Pass                                   | Pass                                   |
| Downy <sup>3</sup>              | Pass                                   | Pass                                   |
| 20% Bleach                      | Pass                                   | Pass                                   |
| Mustard                         | Pass                                   | Slight Stain                           |
| Mr. Clean <sup>3</sup>          | Pass                                   | Pass                                   |
| Ketchup                         | Pass                                   | Pass                                   |
| Tea                             | Pass                                   | Pass                                   |
| Tomato Juice                    | Pass                                   | Pass                                   |
| Lemon Juice                     | Pass                                   | Pass                                   |
| Grape Juice                     | Pass                                   | Pass                                   |
| Vinegar                         | Pass                                   | Pass                                   |
| Milk                            | Pass                                   | Pass                                   |
| Top Job <sup>3</sup>            | Pass                                   | Pass                                   |
| Armor All †                     | Pass                                   | Pass                                   |
| Ethanol                         | Pass                                   | Pass                                   |
| Salt Water                      | Pass                                   | Pass                                   |
| Sunscreen                       | Pass                                   | Pass                                   |

**MASKING AND INTERLEAVING**

Marnot PET can be configured with interleaving, mask on the second surface, or with no masking or interleaving. If no protective interleaving or masking is selected, Tekra will not warranty Marnot PET against spot abrasions or other damage to the uncoated surface in transit.

**CUSTOMIZABILITY**

Marnot is normally available in roll form, 1.25m wide by 820m long on 175 micron PET, 1200m long on 125 micron and 910m long on 250 micron. Stock sheets are available in 175 micron and any stock can be custom slit or sheeted for maximum convenience for your applications.

The application suggestions, specifications and other data described here are based on experience that is believed by Tekra Corporation to be reliable. Because of the characteristics of these products, you should, before using these products in production, perform your own tests to determine to your satisfaction whether these products are acceptable and suitable for your particular purposes under your operation conditions.

Any order for these products will be subject to Tekra's terms and conditions of sale.



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<sup>1</sup> Registered Trademark of SC Johnson

<sup>2</sup> Registered Trademark of The Clorox Company

<sup>3</sup> Registered Trademark of Proctor and Gamble

† Registered Trademark of ArmorAll Products Corp.

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