

## Autotex

### Product Data Sheet

**Polyester\* film is tougher and more durable than polycarbonate and PVC film. It offers enhanced chemical resistance and dramatically improved flex life. The Autotex® range of textured polyester films extends the functionality of polyester film into areas demanding high abrasion resistance together with excellent receptivity to graphic inks and windowing lacquers. Autotex® has been developed for applications requiring a combination of high abrasion resistance and flexibility, such as embossed membrane switches.**

\* The term polyester is the generic term for a number of different polymers, of which polyethylene terephthalate (PET) is the most common. PET is used in MacDermid Autotype Industrial Polyester film products.

#### PRODUCT DESCRIPTION

Autotex® is a high quality textured polyester film, consisting of a base polyester and a flexible chemically bonded, UV-cured textured coating. It is available in sheets and rolls.

#### Product range:

Autotex Version	Finish	Gauge		
		150µ	200µ	280µ
Autotex® with standard ink primer for solvent based inks	Fine	F150	F200	F280
	Velvet	V150	V200	V280
Autotex® with 7-series ink primer for UV and solvent inks	Fine	F157	F207	-
	Velvet	V157	V207	-

#### Primer:

Autotex® has an ink adhesion primer on the second surface. This primer confers excellent adhesion to a wide range of solvent based graphic inks but is not recommended for use with UV-cured graphic inks or a combination of solvent and UV graphic inks.

Autotex® (7 Series) has a different ink adhesion primer on the second surface. This primer offers excellent adhesion to a wide range of solvent inks and UV graphic inks.

Polyester films with high gloss surfaces are prone to blocking when stored with the film surfaces touching each other. Blocking is the term given when two surfaces adhere or merge into each other and when separated leave immovable marks on the film. For this reason we recommend that users make sure that the non-textured (ink primer) surfaces are not left in contact with each other for extended periods of time.



**Windows:**

Autotex® can be screen printed with Windotex™ to obtain a clear window (see Windotex™ product data sheet). Autotex® Fine, because of its lighter texture, will produce clearer windows than Autotex® Velvet.

**Outdoor use:**

In common with most other plastics, Autotex® has limited long term resistance to UV light and therefore is not recommended for long term use outdoors. In order to overcome this issue, MacDermid Autotype has specially developed Autotex® XE, a UV resistant version of Autotex®. Please see Autotex® XE Product Data Sheet.

**PRODUCT APPLICATIONS**

Autotex® is used as a substrate in the following applications:

Membrane switch overlays  
Fascia panels  
Nameplates  
Labels/Product marking

**Major benefits:**

- Long flex life
- Chemical and household cleaner resistance, even at the edges
- Clear window facility
- Embossable
- Excellent scratch resistance
- Consistent low gloss, textured surface
- Attractive appearance

**CHEMICAL PROPERTIES**

Property	Autotex	Test Method
Chemical Resistance	Resistant to: Alcohols Dilute Acids Dilute Alkalis Esters Hydrocarbons Ketones Household Cleaning Agents*	DIN 42 115

For more detailed information refer to Autotex® solvent resistance sheet.



**ELECTRICAL PROPERTIES**

Property	Autotex	Test Method
Dielectric strength <sup>1</sup> 150 $\mu$ 200 $\mu$ 280 $\mu$	>16 kV >18 kV >22 kV	ASTM D149-81 6.35mm electrodes @ 23°C / 50% RH
Surface resistivity V150, V157; V200, V207; F157; F207; V280; F280  F150; F200	>10 <sup>13</sup> $\Omega$ /sq  >10 <sup>15</sup> $\Omega$ /sq 500Vd.c	ASTM D257 @ 20°C/54% RH  ASTM D257 @ 23°C/50% RH
Volume resistivity <sup>1</sup>	10 <sup>15</sup> $\Omega$ m 100Vd.c	ASTM D257

<sup>1</sup> Data derived from Base film manufacturer's literature. The Autotex<sup>®</sup> coating slightly enhances most properties.

**MECHANICAL PROPERTIES**

Property	Autotex	Test Method
Elongation at break <sup>1</sup>	80-120%	ASTM D882
Switch life	>5 million flexes	MacDermid Autotype Method <sup>2</sup>
Tensile strength at break	150-200 N/mm <sup>2</sup>	ASTM D882

<sup>1</sup> Data derived from Base film manufacturer's literature <sup>2</sup> See Test Method Manual.

**OPTICAL PROPERTIES**

Property	Autotex	Test Method
Gardner Haze Fine Velvet	58% $\pm$ 5% 71% $\pm$ 5%	ASTM D1003-77 <sup>1</sup>
Gloss Level (60°) Fine Velvet	7% $\pm$ 1.5% 4.5% $\pm$ 1%	ASTM D2457-03 <sup>1</sup>
Texture profile Ra  Rtm Fine Velvet	1.6 $\mu$ $\pm$ 0.2 $\mu$ m 3.1 $\mu$ $\pm$ 0.2 $\mu$ m  8 $\mu$ $\pm$ 2 $\mu$ m 15.4 $\mu$ $\pm$ 2 $\mu$ m	MacDermid Autotype Method <sup>2</sup>
Total luminous transmission	92% $\pm$ 2%	ASTM D1003-77 <sup>1</sup>
UV absorption	1.2 - 1.4	MacDermid Autotype Method <sup>2</sup> (370nm)
Yellowness index <sup>2</sup>	<3	ASTM E313

<sup>1</sup> Adapted to MacDermid Autotype method, see Test Method Manual.

<sup>2</sup> See Test Method Manual



**PHYSICAL PROPERTIES**

Property	Autotex	Test Method
Relative Density <sup>1</sup>	1.40g/cm <sup>2</sup>	ASTM D1505
Thicknesses - all grades	Nominal ±10%	MacDermid Autotype Method <sup>2</sup>

<sup>1</sup>Data derived from Base film manufacturer's literature. <sup>2</sup> See Test Method Manual

**THERMAL PROPERTIES**

Property	Autotex	Test Method
Dimensional stability	0.2% maximum shrinkage MD at 120 °C	MacDermid Autotype Method <sup>1</sup>
Maximum processing temperature	120 °C	
Maximum use temperature	Low humidity (<10%RH) 85 °C High humidity (10-95%RH) <60 °C	
Minimum use temperature	-40 °C (-40F)	MacDermid Autotype Method <sup>1</sup>

<sup>1</sup> See Test Method Manual

**IMDS ID-No 12495963****LEGISLATIVE DIRECTIVES**

This product does not knowingly contain any phthalates, or substances listed in the European End-of-Life Vehicles (ELV), Restriction of the use of certain Hazardous Substances in electrical and electronic equipment (RoHS) or Waste Electrical and Electronic Equipment (WEEE) Directives.

EC Regulation 594/91 classifies ozone depleting substances into a number of different groups, I-VI. Autotex<sup>®</sup> does NOT contain any substance classified in groups I-VI nor have any of the substances been used by MacDermid Autotype during manufacture. For details of the content of each of the groups, please see separate ozone depleting substances document.

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