

AUTOFLEX® AutoForm™

Product Data Sheet

IMD techniques are used for cost effective manufacture of facias, panels and casings in a variety of markets. MacDermid Autotype Limited films now offer advances in the durability of the film substrate, both in terms of chemical resistance and in terms of abrasion resistance.

PRODUCT DESCRIPTION

The product is a formable hard-coated polycarbonate film available in 180 - 750 μ thickness. The coating is designed to allow shallow formability whilst retaining its abrasion resistant properties. The abrasion resistance of the product is comparable with conventional hardcoated polycarbonates.

APPLICATIONS

The film is designed for in-mould decoration. The part is printed on the reverse, moulded to the shape required, and finally injection moulded on the reverse to give increased rigidity. The technique has applications in:

- White goods - Home appliance facias
- Brown Goods - Electronics facias
- Automotive - Heater controls
- Telecommunications - Mobile Telephones, Pagers

PERFORMANCE BENEFITS

- Low hazard compared with spray coating.
- Easily formable by thermoforming or pressure forming.
- Provides a scratch resistant surface to the polycarbonate used as substrate.
- High gloss finish.

PROCESS OUTLINE

During the decoration steps, prior to forming, handle the film with care.

Printing/Decoration

Second surface decoration can be achieved with a variety of suitable screen printing inks.

Forming

Thermoforming or pressure forming by the Niebling process should be carried out after decoration.

Cutting

Trimming of the formed part.

Injection Molding

The printed, formed and trimmed part is then inserted into a suitably designed injection mold tool cavity and resin injected onto the printed side of the film.

For further details contact the IMD Support Team.

HAZARDS & WARNINGS

ENSURE ALL USERS READ THIS INFORMATION

This product is solely intended for use as an industrial film substrate for use in vacuum/thermoforming and pressure forming applications. MacDermid Autotype Limited accepts no liability for use in any other way.

The main hazard associated with the film is the vapour produced when the film is exposed to heat prior to forming. Ensure that local exhaust extraction is in place to remove the vapour produced. See first aid instructions.

Ensure that light cotton gloves are worn throughout processing of the film. There is a minor possibility of irritation and/or sensitisation from the coating.

Do not touch the film while hot. Allow to cool before handling.



FIRE PRECAUTIONS

Extinguisher Media: Use water, foam, PCF, CO₂

Exposure Hazards: Toxic fumes CO, CO₂, NOx evolved during combustion.

SPILLAGE

N/A

FIRST AID

Inhalation of fumes during processing

Remove to fresh air. Give artificial respiration if necessary. Seek medical attention.

Ingestion

N/A

Eyes

N/A

Skin

Wash immediately with soap and water.

SHELF LIFE & STORAGE

This product should not deteriorate if stored in cool, dry conditions away from light and sources of UV, in the original sealed packaging. Use recommended within two years.

ENVIRONMENTAL & DISPOSAL

EC Regulation 594/91 classifies ozone depleting substances into a number of different groups, I-VI. This range of products do 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

EU Directives 2003/11/EC; 2002/95/EC; 2002/525/EC; 2006/122/EC (ROHS)

Restriction on use of	Pentabromodiphenyl ether CAS 32534-81-9
	Octabromodiphenyl ether CAS 32536-52-0
	Polybrominated biphenyls
	Polybrominated diphenylether
	Lead, Mercury, Cadmium, Chromium VI
	Perfluorooctanesulphonate, Perfluorooctanic acid & related compounds



In relation to the above directive, this range of products does not contain polybrominated biphenyl & diphenyl ethers, brominated compounds, perfluorooctane derivatives or any flame retardant agents. MacDermid Autotype products are also free of the heavy metals specified in the above Directives (lead, mercury, cadmium, chromium VI).

EU Directive 2002/96/EC (WEEE) relates to the Disposal and Recycling of Waste Electronic and Electrical Equipment. MacDermid Autotype products are compliant with this directive and do not contain any materials identified in Directives 2003/11/EC & 2002/53/EC (also 2037/2000). MacDermid Autotype Limited has no responsibility for the compliance of finished equipment, which will contain materials from other suppliers.

This range of products comprises films with a chemically treated surface which renders them difficult to recycle in appropriate material recovery schemes. The product contains no substances listed on the EC Black or Grey lists and may be safely disposed of in a landfill or by authorized incineration.

This product does not contain any chemicals on the EC Black or Grey lists.

DISPOSAL

Can be treated as normal solid waste and disposed of via landfill or authorised incineration.

PACKAGING

Sheets	100 sheets per pack up to 380 micron, 50 sheets per pack 380 micron and over, sealed in black plastic and packed in MacDermid Autotype Limited logo board box
Rolls	Maximum width 122cm on a 6" core.

Version 1.2 February 2008

The information and recommendations in this publication are believed to be accurate and are offered in good faith but do not constitute specifications. Suggestions concerning uses and applications are only the opinion of MacDermid Autotype Limited and users should carry out their own testing procedures to confirm suitability for their purposes. Except in the case of death or personal injury caused by the materials, MacDermid Autotype Limited **MAKES NO WARRANTY OF ANY KIND AND EXCLUDES ANY STATUTORY WARRANTY EXPRESS OR IMPLIED** other than that materials conform to their current applicable standard specification. Statements herein therefore should not be construed as guarantees of satisfactory quality or fitness for purpose. The responsibility of MacDermid Autotype Limited for claims arising out of breach of guarantee, negligence, strict liability or otherwise is limited to the purchase price of the material.

Suggestions concerning working practices and procedures are based on the practices adopted by existing users of the products and are made in good faith. **IT IS THE RESPONSIBILITY OF THE USER TO ENSURE THAT ALL RELEVANT HEALTH AND SAFETY LAWS AND REGULATIONS ARE COMPLIED WITH.** MacDermid Autotype Limited does not provide any advice on such laws and regulations and accepts no responsibility, express or implied, for breach of such regulations.

WARNING: Nothing in this guide or in these technical specifications should be construed to imply or suggest that the user employ operations or create articles, which would infringe any patents belonging to third parties. Specifically, without limitation, using these products to form three dimensional printed or coloured products under certain conditions may infringe one or more of the following patents or their equivalent patents in other jurisdictions:

US 5,108,530

US 5,733,651

US 5,648,414

It is the customer's responsibility to ensure that its operations, the conditions of processing, and articles of manufacture do not infringe the foregoing patents, or any third party patents. MacDermid does not accept responsibility in this regard. With regard to the foregoing specifically noted patents, if a customer chooses to operate under the conditions claimed in the applicable patent in the applicable jurisdiction it is MacDermid's understanding that licenses can be obtained from Bayer Aktiengesellschaft. However, obtaining such a license shall be the sole responsibility of the customer, as MacDermid assumes no responsibility for infringement of such patents.

