

Fototex 3D – FIM

Product Data Sheet

PRODUCT DESCRIPTION

Fototex 3D is a hybrid cure (solvent and UV) screen printable texturing lacquer, designed to enable a range of textured finishes to be selectively printed onto parts produced using the Film Insert Moulding (FIM) process. It can also be printed onto graphic inks for automotive dial applications.

There are two finishes, Supermatt and Fine, these can be used as designed or blended together to give a custom finish. In addition a Gloss Modifier lacquer is available to mix with either of the finishes to change the gloss or texture levels and create an infinite range of texture and gloss options.

APPLICATIONS

In use, Fototex 3D is screen printed onto a flat film surface and hot-air dried before being formed into a 3D part. The film is then UV cured to produce a very hard and chemical resistant surface with controlled texture and gloss level. Finally the part is back injection moulded. Typical applications for Fototex 3D include:

- Automotive Interior Control Panels
- Automotive Dial Applications
- Parts produced using the FIM process

FEATURES

- Combine texture and gloss finishes on 3D parts produced using FIM
- Designed for use with XtraForm
 - Also compatible with Autoflex EB, Autoflex PC and Polycarbonate films
- Extremely durable – scratch, abrasion & chemical resistant
- Easy to process
- No need for an additional hardener due to hybrid cure (solvent & UV) technology
- Print fine line details and achieve exceptional definition
- Deep draw formability – high pressure or thermoforming
- No nitrogen required to achieve a supermatt finish

BLENDING RECOMMENDATIONS

- The Fine and Supermatt finishes can be fully intermixed.
- We recommend a maximum addition of 60% of Gloss Modifier to Supermatt
- We recommend a maximum addition of 80% of Gloss Modifier to Fine

Note: For maximum stain resistance limit Gloss Modifier additions to $\leq 30\%$



PROCESS OUTLINE

Fototex 3D is suitable for printing on a flat bed or cylinder press and is designed to be printed onto XtraForm, polycarbonate and many first surface printed inks. When printing onto graphic inks, please test the ink chosen to confirm compatibility with the lacquer

The cosmetic result achieved will vary with the substrate used and processing conditions. Recommended process conditions are:

- Avoid exposure to white light during processing
- Stir well before use
- Screen print onto the hard coat surface of XtraForm
- Mesh - use 62-120 thread/cm for Fototex 3D Fine
 - Use a solvent resistant stencil such as Autotype Capillex CX / CPS Ultra Cap HD or Autotype PLUS 7000 / CPS Ultra Coat 535
- Mesh - use 90 -150 thread/cm for Fototex 3D Supermatt
 - Create solvent resistant stencil with Autotype Capillex CX / CPS Ultra Cap HD or Autotype PLUS 7000 / CPS Ultra Coat 535
- Use 60 - 75 Shore **solvent resistant** squeegee. Recommended: Sericol Duralife; RKS HQ.
- Recommend 20° squeegee angle
- Dry using hot air (jet) drier at 100°C for a minimum of 2 minutes (minimum 80°C)
- Rack printed sheets. If stacked less than 50 sheets for a max of 24 hours
- Form part
- UV Cure; Minimum dose 2J (as required for XtraForm), optimum intensity 1.5 W/cm²

Recommended Screen Cleaning Products

- Screen opener for on press cleaning - Autotype Autosolve Press Wash AF or CPS Screen Opener 511
- Screen cleaning for archiving screens for reuse - Autotype Autosolve Press Wash AF55 or CPS Screen Cleaner Vx

Screen cleaning for reclaiming screens - Autotype Autosolve Industrial or CPS Screen Wash A6

Please refer to the Fototex 3D FIM Processing Guide for detailed processing recommendations and advice



TYPICAL PROPERTY VALUES

PROPERTY *	FINE	FINE with 50% addition of Gloss Modifier	SUPERMATT	SUPERMATT with 50% addition of Gloss Modifier	TEST METHOD
Gloss Black back- Printed ¹ 20° 60° 85°	 0.3-0.4 2.0-3.0 1-1.5	 2.0-3.0 11-16 4-8	 0.2-0.3 1.0-2.0 3.5-6.0	 1.5-2.5 11-17 12-22	ASTM D523
Haze	93-95	60-65	93-95	45-50	ASTM D1003 - 77
TLT	88-90	90-91	93-95	90-91	ASTM D1003 - 77
Yellowness ⁴ (test tile value subtracted)	E313: 4-6 D1925: 4-6	E313: 4-5 D1925: 4-5	E313: 2.5-3.5 D1925: 2.5-3.5	E313: 2-3 D1925: 2-3	ASTM D1925 / E313
MEK spot test ⁶ (30 min)	Pass	Pass	Pass	Pass	DIN 42 115
Pencil hardness	H-2H	F-H	F-H	F-H	MacDermid Autotype Method ³
1000 cycles linear abrasion	No Glossing	No Glossing	Slight Cosmetic Glossing ⁵	No Glossing	MacDermid Autotype Method ³
Heat / humidity resistance	No Change, No Loss of Adhesion	No Change, No Loss of Adhesion	No Change, No Loss of Adhesion	No Change, No Loss of Adhesion	7 days at 60°C / 95% RH

¹Gloss level depends on print deposit. Results are quoted for Fine printed through 90 thread/cm mesh, Supermatt through 120 thread/cm mesh. ² For more information, please refer to MacDermid Autotype statement on pencil hardness testing. ³ See Test Method Manual ⁴Measured on 250 micron polycarbonate, post cure. ⁵No penetration or damage to the hard coat. ⁶Tested on XtraForm



CHEMICAL PROPERTIES

CHEMICAL	FINE	SUPERMATT	FINE or SUPERMATT with 30% addition of Gloss Modifier	TEST METHOD
Fantastik Windex Wisk Downy	No visible stain or damage	No visible stain or damage	No visible stain or damage	DIN 42115 Part 2 modified to 50°C
Windex Spic & Span Armorall Turtle Wax Pledge Vinyl Cleaner Multi Cleaner DPL Dri Slide WD40	No visible stain or damage	No visible stain or damage	No visible stain or damage	DIN 42115 Part 2 at room temperature
Sun cream Hand cream ¹	No visible stain or damage	No visible stain or damage	No visible stain or damage	Tested against various automotive test methods inc. GM, Fiat, Ford, VW etc
Grape Juice Coffee Milk Water/IMS Lemon Juice Diesel Petrol	No visible stain or damage	No visible stain or damage	No visible stain or damage	DIN 42115 Part 2 modified to 50°C

¹For more detailed information please contact MacDermid Autotype



HAZARDS & WARNINGS***IRRITANT, FLAMMABLE, HARMFUL TO THE ENVIRONMENT*****ENSURE ALL USERS READ THIS INFORMATION**

The product is sold solely for use as an industrial printing lacquer in FIM applications. MacDermid Autotype Limited accepts no liability for use in any other way. This product contains solvents and acrylates which may be irritating to eyes and may cause sensitisation by skin contact. The product is flammable, and heating may generate vapours which may form explosive vapour/air mixtures. Although it has a noticeable odour, the product is not classified as hazardous by inhalation. For further information, please refer to the safety data sheet

HANDLING FOTOTEX 3D

Wear protective equipment (safety glasses, gloves and protective clothing) and ensure good ventilation at all times. Ensure nitrile or butyl rubber gloves are worn throughout processing until the lacquer has been fully cured to minimise the risk of sensitisation by skin contact.

Disposal

Dispose via authorised waste disposal contractor only. Do not place in drains or water courses. The EWC Code for this product is 08 03 12.

Processing

Wear nitrile or butyl rubber gloves, protective clothing and ensure good ventilation at all times.

FIRE PRECAUTIONS

Extinguisher Media: Foam, CO₂, dry powder or water fog

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

SPILLAGE

Personal Precautions: Wear nitrile or butyl rubber gloves, goggles and overalls.

Environmental Precautions: Protect waterways

Methods for Cleaning: Absorb spillages with oil absorbing material. Do not use sawdust or other combustible material. Dispose via authorised waste disposal contractor only.



FIRST AID

Inhalation: Move the exposed person to fresh air at once. Get medical attention if any discomfort continues.

Ingestion: Immediately rinse mouth and drink plenty of water (200-300 ml). Give milk instead of water if readily available. Do not induce vomiting. If vomiting occurs, the head should be kept low so that stomach vomit doesn't enter the lungs. Get medical attention.

Eyes: Promptly wash eyes with plenty of water while lifting the eye lids. Make sure to remove any contact lenses from the eyes before rinsing. Continue to rinse for at least 15 minutes. Get medical attention promptly if symptoms occur after washing.

Skin: Wash Remove contaminated clothing. Wash the skin immediately with soap and water. Get medical attention if irritation persists after washing.

Shelf Life & Storage

Store in cool, dry conditions and in the original sealed packaging. Shelf Life 6 months at launch, we will be constantly testing and updating the shelf life until

PACKAGING

Packaged in 750ml metal containers

IMDS Number: 444253637

For further help or information, please contact the MacDermid Autotype FIM Technical Team on 01235 771111

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US 5,108,530

US 5,733,651

US 5,648,414

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