

Technical Report

New Product

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FMX Ink

(Environmentally friendly one-pack ink for post-forming)

FMX Ink is a one-pack ink suitable to 3-dimensional post-forming such as pressurized air forming, vacuum forming, etc. It does not contain any environmentally hazardous substances such as benzene, toluene, xylene, isophoron, etc.

FMX Ink is a new version of our FOM Ink. It is an isophoron-free ink. FMX Ink has better stability on stencil and better leveling properties. This new product has a more flexible and heat-resistant ink film during forming. The ink has good adhesion to treated PET and polycarbonate film. FMX Ink is suitable for printing and forming nameplates, interior parts of cars, and cell phones.

1. Special Features

(1) Environmentally friendly

FMX Ink does not contain isophoron, benzene, toluene, or xylene. All materials are registered in TSCA and EINECS.

(2) Flexible and resistant

The ink layer has extra-large elongation, about 300%, and therefore is quite suitable to be used in vacuum forming, pressure forming, hot press and deep drawing processes. The ink layer has very good resistance to heat and alcohol.

(3) Good stability on stencil

FMX Ink has better on-stencil stability than FOM Ink as it has better re-solubility on stencil.

2. Applications

Printed and 3-D formed parts such as sample cans for automatic vendors, interior parts of cars, electrical appliances, etc.



Standard Colors

000 Medium	001 Victoria	002 Extender	033 Gel Retarder	166 Red	168 Scarlet
182 Brilliant Red	191 Bright Red	234 Light Yellow	240 Light Yellow	263 Reddish Yellow	
277 Opaque Reddish Yellow	391 Blue	519 Orange	581 Magenta	611 White	
650 Back Lit White	675 Opaque White	791 Green	821 Violet	911 Black	
971 Black					

Besides these standard colors the following are also available: metallic, pearl, fluorescent, and phosphorescent colors as well as color-matched inks. Please do not hesitate to contact us about your particular ink needs.

Printing Conditions

Stencil: T200-300 mesh

Thinning: 10-20% weight with G-002 Solvent (Standard Solvent). G-001 Fast Dry, G-003 Slow Dry, Z-705 Extra-slow Dry solvents are also available depending on shop conditions. Excess thinning and use of other solvent may have an adverse effect on printability and adhesion.

Drying: Must be heated dried. 10 minutes at 80 degrees C in a box dryer is enough to achieve tack free conditions. Final drying should be done 50-60 minutes at 60 degrees C or 30-40 minutes at 80-90 degrees C.

3. Caution

Forming is a very sophisticated system in which many factors such as substrate, pattern printing inks, binder, printing conditions, sequence of printings, drying conditions, pre-forming conditions, molding conditions, and the design of the mould will affect the quality of the finished products. Preliminary testing under actual conditions before a commercial run is strongly recommended.

4. Resistance

Property	Test Conditions	Results
Adhesion	JIS K 5600-5-6 (Cross-cut): ISO 2409: 1mm interval 6X6 cuts, cellophane tape and peel	No peel
Scratch	JIS K 5600-5-4 (Pencil): ISO/DIS 15184: 750g weight, Hardness of the pencil, which does not make scar.	>H
Heat	ISO 3248 : 80°C, 400hrs, check appearance and peeling off from the substrate.	No defect
Hot water	JIS K 5600-6-2: ISO 2812-2: Dip 48 hours in 40°C warm water, check appearance & adhesion	No defect
Alcohol	Gakushin scrub tester, cotton soaked ethanol, 200g, 100times check appearance & peeling.	No defect
Scrub	Gakushin scrub tester, with cotton, 500g, 500 times, check color fade.	No defect
Folding	JIS K 5600-5-1: ISO 1519 (Cylindrical Mandrel) 2mm dia. Check crack.	No defect
Ball drop	JIS K 5600-5-3: Dupont Impulse Tester, drop 300 g weight, from 30 cm height, check appearance.	No defect
Punch	Cut with a punch, check cut edges.	No defect
Blocking	200 g/cm ² , 40°C, 24hours	No defect
Weather Conditions:	Sunshine Weather-meter, black panel temp. 63+/-3°C, rain 18/120min, check appearance & adhesion. >1000 hrs Substrates: Polycarbonate sheet, 0.5mm thick. Ink: FMX 911 Black, Printing: T-250 mesh 15% thinning with G-002 Drying: 30 minutes at 80 °C.	

These test results are only for our lab purpose. We do not guarantee the results.

If you need more detailed data about resistance, please contact us.