

Technical Report

New Product

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IPX Ink

(Low odor and environmentally friendly IMD Ink)

IPX Ink is a low odor and environmentally friendly ink which does not contain organic solvents such as benzene toluene, xylene, and isophoron. It has good adhesion to treated PET, polycarbonate and injected resins and good resistance to the high temperature encountered during the injection molding process. Therefore it is very suitable to be used for injection molded details which are found on electrical appliances, automobile parts, cellular phones, etc.

1. Special Features

(1) Environmentally friendly.

The ink does not contain organic solvents such as benzene toluene, xylene, and isophoron. It also does not contain organic solvents regulated by PRTR and Japanese labor safety regulations. All chemicals used in the ink are registered in TSCA and ENICS.

(2) Low odor.

As it has low odor the result is a more comfortable work environment.

(3) Excellent suitability to forming.

The ink has better resistance to the flow of high temperature melt resin, and as a result it provides more flexibility in designing the mold. It also is suitable for other forming processes such as pressurized air molding, vacuum molding, etc. Using "IMB 003 Binder" or "IMB 009 Binder" it provides excellent adhesion to injected resins such as polycarbonate (PC) and PC/ABS alloy resin.

2. Applications

Suitable for Film Insert Molding (FIM) using treated PET and polycarbonate film. FIM makes it possible to produce one-piece molded parts for cellular phones, electrical appliances and automobile parts.



3. Standard Colors

000 Medium	001 Victoria	168 Scarlet	178 Red	182 Carmine
238 Light Yellow	277 Reddish Yellow	391 Blue	519 Orange	
581 Magenta	675 White	791 Green	821 Violet	971 Black

Other functional inks such as metallic, pearl, fluorescent, and phosphorescent colors are available on request. Please contact our representatives if you are in need of any of these functional inks.

4. Printing Conditions

(1) Mesh: T200-270 mesh

(2) Thinning:

Thin with F-003 Solvent at 10-15% of weight. F-002 (Fast dry), F-003 (Standard) and F-005 (Slow dry) are available. Please use a solvent that is appropriate for your work area. Do not use too much solvent or a solvent other than a recommended one, or the result may be poor adhesion or lack of printability.

(3) Catalyst:

Add 240 Catalyst at 10% of weight to the ink and mix well. If you need a soft ink layer use 15% of 220 Catalyst. Pot life is about 4-5 hours at 25 degrees C.

(4) Drying:

Must be heat dried. "Tack free dry" will be achieved at 10 minutes drying at 80 degrees C in a box dryer. Final drying must be done after IMB Binder is applied. 60 minutes at 90 degrees C is a standard.

5. Caution

Insert molding is a very sophisticated system in which many factors such as binder, pattern printing inks, printing conditions, molding resin and molding conditions will affect the result. Please test completely before starting a commercial run.

6. Resistance of molded parts

Test Item	Test method (molded parts)	Results
Hot water	JIS K 5600-6-2: ISO 2812-2, Dip 48 hours into 40 degrees C hot water. Then check appearance and peel.	No defect
Heat	ISO 3248: Store 400 hours in 80 degrees C, check appearance and peel.	No defect
Cold and heat cycle.	2.5 hours at -40 degrees C, 2.5 hours at 90 degrees C, then 2.5 hours at room temperature, after 10 cycles check appearance and peel.	No defect

Specimen: Cut out from an injection molded part with PC resin.

Test method: Substrate: Easy print treated PET sheet

Ink: IPX 675 white, Thinning with 15% F-003 Solvent,

Catalyst: mixed with 10% 240 Catalyst.

Printing: T-250 mesh, 60 minutes dry in a 90 degrees C box dryer.

Evaluation was done after 24 hours seasoning at room temperature.

These test results are only for our lab purposes; we do not guarantee the results. Please do not hesitate to contact us for further detail.

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