

TOC-HF Ink series

(Halogen Free, High transparency ink for molding)

TOC-HF Ink forms a transparent colored ink layer, which can be overprinted with MIR-51000 Mirror Silver to obtain a mirror effect surface with vivid colors. It is environmentally friendly ink for molding that does not intentionally use halogen compounds (chlorine Cl, bromine Br) in raw materials and does not contain environmentally hazardous substances such as benzene, toluene, xylene, and isophorone.

Applications	Amusement equipment, Game housing		
Special Features	<ul style="list-style-type: none"> · Obtain mirror effect surface with vivid colors by overprinting MIR-51000 Mirror Silver. · Please use MIX-HF ink as back printing ink for TOC-HF and MIR-51000 Mirror Silver. · One pack type, but Catalyst can be used to improve adhesion. 		
Substrate	PC sheet, Easy adhesion treated PET film		
Dilution	Z-706 SOLVENT (standard), Z-703 SOLVENT (slow), Dilution 30 to 35% *Do not use other solvents as they may cause contamination of halogen compounds, and may adversely affect curing, adhesion, stencil stability, or other properties.		
Catalyst/Promoter mixing	106 CATALYST 2% Pot life 3 hrs. (For use with PET Substrate, hard adhesion materials and molding applications) *The ink will turn to gel after the pot life has expired. Be sure to mix only enough to use.		
Additives	None		
Recommended Cleaner	Screen Cleaner L2		
Mesh	T 350 to 420 mesh (Coverage would be about 45 to 55m ² /kg at 420 mesh)		
Drying	80°C 30 min	<u>Overprint</u> Each layer 80°C 10 min(tack-free) Final layer 80°C 30 min	
	*For IMD/FIM applications, drying time of 60 min at 80°C is recommended.		
Standard Colors	HF000 MEDIUM HF169 SCARLET	HF199 RED HF239 LIGHT YELLOW	HF399 BLUE HF919 BLACK

Caution

- Do not use solvents and catalysts other than the designated ones because of the possibility of contamination with halogen compounds.
- Please check the squeegee rubber, emulsion, materials and substrates before use, as they may contain halogen compounds.
- In the insert molding, in which the printing sheet is inserted inside the mold and is integrated with injected molded resin, the finished product may be affected by the substrate material, the ink used in design printing, selection of binder, printing conditions, printing order, drying method and conditions, selection of molded resin, mold design (type and position of the injection gates, number of gates), and the injection conditions, etc.
- Preliminary testing under actual conditions is strongly recommended before a commercial run.
- When using binders, we recommend "IMB-HF006 Binder" (various substrates) or "IMB-HF009 Binder" (PC substrates) which are halogen-free.
- Ink shelf life: 24 months from production date, unopened.

Safety

UN No.: Not classified in the definition
UN Classification: Not classified in the definition

Handling

- Use safety gloves and eyeglasses to protect skin and eyes. If the ink comes in contact with skin, wash with soap and plenty of water (or lukewarm water) and consult with a doctor.
- Containers should be closed tightly after use and stored in a cool and dark place.
- SDS is available upon request. Please request a copy and read it carefully before handling the products.

Resistance

1. Printed material

Test item	Test Condition	Test results
Adhesion	JIS K 5600-5-6:ISO2409(cross-cut)、1mm interval 6×6、 cellophane tape and peel	0(no peel)
Pencil Hardness	JIS K 5600-5-4:ISO 15184(pencil)、 Weight 750g, Pencil hardness (Mitsubishi Uni) which does not make scar.	F
Heat	JIS K5600-6-3 : ISO 3248, 90°C,240H、 check appearance and peel off from the substrate	No defect
Humidity	JIS K 5600-7-2 (Continuous condensation) 、 65 °C , 95%RH, 240 hrs.,check appearance and peel off from the substrate.	No defect
Accelerated Weathering (Xenon lamp)	JIS K-5600-7-7:ISO 11341、 BP Temp.63±3°C Raining rate 18 min/120 min 200 hrs. Check color fade and peel off	No defect

*Test condition 【TOC-HF399 BLUE】 【Z-706 CATALYST 30%】 【80°C 30 min】
【T 420】 【Substrate: Polycarbonate sheet】

2. Molded product

Test item	Test Conditions	Test results
Heat	JIS K5600-6-3: ISO 3248, 90°C,240 hrs、 check appearance and peel off from the substrate	No defect
Humidity	JIS K 5600-7-2(Continuous condensation)、 65°C, 95%RH, 240 hrs., check appearance and peel off from the substrate.	No defect

*Above resistance test results are measured results in our laboratory and they are not guaranteed values.

*Information contained in this catalog may change without prior notice.

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