

## ISX-HF Ink series

**(Halogen-free, environmentally friendly, one pack type ink for insert molding)**

ISX-HF ink is an environment-friendly 1 pack type ink series for film insert molding that does not intentionally use halogen compounds (chlorine Cl, bromine Br) in raw materials. It has good adhesion to PC (polycarbonate) sheet and PC type molding resins, and is suitable for Film Insert Molding (FIM) without any binder.

<b>Applications</b>	<ul style="list-style-type: none"> <li>· Automobile nameplate/Molded parts</li> <li>· Automobile interior</li> <li>· Home appliance nameplate/Molded parts</li> </ul>		
<b>Special Features</b>	<ul style="list-style-type: none"> <li>· Capable of creating design printed materials for film insert molding on PC sheet, easy adhesion treated PET film, etc.</li> <li>· Capable of insert molded products of PC (polycarbonate), PC/ABS, ABS, PMMA (Acrylic) resins.</li> <li>· One pack type ink, suitable for sheet forming process such as pressure air, and vacuum forming.</li> </ul>		
<b>Substrate</b>	PC sheet, easy adhesion treated PET film		
<b>Dilution</b>	G-003 SOLVENT (fast) Z-705 SOLVENT (standard) Z-004 SOLVENT (slow) Dilution: 5 to 15% *Defoamer may separate over time, please stir well before use.		
<b>Additives</b>	SM-40 DEFOAMER less than 1% (For anti-foam and improvement in leveling)		
<b>Recommended Cleaner</b>	Screen Cleaner L2		
<b>Mesh</b>	T 200 to 270 mesh (Coverage is about 35m <sup>2</sup> /kg at 250 mesh)		
<b>Drying</b>	90°C 90 min	<u>Over print</u> Each layer 80°C 10 min(tack-free) Final layer 90°C 90 min	
<b>Standard Colors</b>	HF000 MEDIUM HF001 VICTORIA HF169 SCARLET HF179 赤 RED HF199 RED HF249 LIGHT YELLOW	HF279 OPAQUE REDDISH YELLOW HF399 BLUE HF529 ORANGE HF589 MAGENTA HF619 WHITE HF669 WHITE	HF679 WHITE HF829 VIOLET HF919 BLACK HF979 BLACK

**Caution**

- Due to the possibilities of contamination with halogen compounds, only designated solvents and catalysts can be used.
- Please check the squeegee rubber, emulsion, materials and substrates before use, as they may contain halogen compounds.
- In the forming process such as vacuum forming, pressure air forming, and mold forming, as well as in insert molding processes that integrate injection molded resin, a complex set of factors affect the performance of the final product, including the selection of printing materials and inks for design printing, printing conditions, printing sequence, drying method and conditions, selection of molding resin, mold design (gate shape, type and position, number of gates), and conditions set during injection molding.
- Preliminary testing under actual conditions is strongly recommended before a commercial run.
- Ink shelf life: 24 months from production date, unopened.

**Safety**

UN No.: 1210

UN Classification: Class 3 Flammable Liquids (Flash point is over 23 Degree C)

**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**

Test item	Test Conditions	Test results
Adhesion	JIS K 5600-5-6:ISO2409(cross-cut), 1mm interval, 6×6, cellophane tape, peel off	0(no peel)
Pencil Hardness	JIS K 5600-5-4:ISO 15184(pencil), 750g weight, Hardness of the pencil which does not make scar	F
Heat	ISO 3248: 90°C、400 hrs. check appearance and peel off from the substrate	No defect
Hot Water	JIS K 5600-6-2:ISO 2812-2, Soak 48 hrs. in 40°C hot water, check appearance and peel off	No defect
Cool-heat cycling test	JIS K 5600-7-4: 10 cycles, 90°C, 2.5hr~25°C, 0.5hr~-40°C, 2.5hr~25°C, 0.5hr check appearance and peel off from the substrate	No defect
Humidity	JIS K 5600-7-2 (Continuous condensation) : 50°C, 95%RH, 168 hrs., check appearance and peel off	No defect
Water	Soak 168 hrs. in tap water, check appearance and peel off from the substrate	No defect
Acid	Soak 7 hrs. in 5% H <sub>2</sub> SO <sub>4</sub> , check appearance and peel off from the substrate	No defect
Alkaline	Soak 7 hrs. in 5% NaOH, check appearance and peel off	No defect
Alcohol	Gakushin scrub tester, cotton soaked ethyl alcohol, weight 200g, 50 back and forth, check peel off	No defect
Scrub	Gakushin scrub tester, cotton, weight 500g, 500 back and forth, check color fade	No defect
Falling-weight test	JIS K5600-5-3 DuPont Impulse tester, drop 500g weight from 50 cm height	No defect
Punching	Punching by press machine	No defect

\*Test conditions 【ISX-HF 679 WHITE, 979 BLACK】 【Z-705 SOLVENT 10%】  
 【90°C 90 min】 【T 250】 【Substrate: Polycarbonate】

\*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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