GIZ-HF Ink series
(Environmentally-friendly Halogen Free Ink for Glass)

GIZ-HF ink series is featured by superior solvent resistance and adhesive resistance, high and stable dyne value of the ink layer, and low temperature drying compared to conventional inks for glass.

Applications	Glass decorative printing for smartphones, tablets and automotive interior display, etc.
Special Features	・ Superior solvent resistance and adhesive resistance, compared to conventional inks for glass. (Suitable for post processing of various bonds and double-sided tape) ・ High and stable dyne value of printed ink layer ・ Dries at a lower temperature (120°C) than conventional inks for glass (150°C).
Substrates	Glass, Metal materials
Dilution	C-004 SOLVENT　Dilution 0 to 5% *Do not use other solvents as they may cause and affect halogen contamination, curing, adhesion, stencil stability or other adverse effects.
Catalyst/Promoter mixing	SM-708 Additive　5%　　Pot life 7 to 8 hrs. *Be sure to add *Do not use inks past their pot life as it may cause performance degradation.
Additives	SM-95 DEFOAMER　1%（For anti-foam and improvement in leveling）
Recommended Cleaner	Screen Cleaner L2
Mesh	T300 to 420 mesh (Coverage is about 35 to 40 m^2/kg at T300 mesh).
Drying	150°C　30 min *Recommended drying temperature is 150°C, but temperature range from 120 to 150°C is applicable.　　　Overprint Each layer 150°C　10 min (tack-free) Final layer 150°C　30 min
Standard Colors	HF000 MEDIUM　　　HF239 LIGHT YELLOW　　HF829 VIOLET HF001 VICTORIA　　　HF399 BLUE　　　　　　HF939NC BLACK HF169 SCARLET　　　HF529 ORANGE HF189 RED　　　　　　HF679 WHITE

Caution	・ Make sure to add 5% of SM-708 additive to the ink before use. ・ Do not use solvents and catalysts other than the designated ones because of the possibility of contamination with halogenated compounds. ・ Please check the squeegee rubber, emulsion, materials and substrates before use, as they may contain halogen compounds. ・ Checking before commercialization: Adhesion and resistance properties may change due to differences in substrates, processes, printing and drying conditions. Be sure to check the adhesiveness and resistance properties before mass production printing. ・ Ink shelf life: 12 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

Test item	Test conditions	Test results
Adhesion	JIS K 5600-5-6:ISO2409（Cross-cut method）、1mm interval 6×6、cellophane tape peeling	0 (No peel off)
Scratch hardness	JIS K 5600-5-4:ISO 15184（Pencil method), 750g weight, hardness of the pencil which does not make scar	4H
Heat	JIS K5600-6-3：ISO 3248, 80℃,300H、check appearance and peeling off from the substrate	No defect
Humidity	JIS K 5600-7-2（Continuous condensation）、60℃, 95%RH, 300 hrs. check appearance and peeing off from the substrate	No defect
Hot Water	JIS K 5600-6-2：ISO 2812-2、 Soak 24 hrs. in 60℃ hot water, check appearance and peeling off from the substrate	No defect
Boiling water	Soak 1 hr. in a boiling water, check appearance and peeling off from the substrate	No defect
Scrub	Scrub tester, with cotton cloth, 500g weight, 1000 back and forth, check color fade	No defect
Accelerated weathering (Xenon lamp method)	JIS K-5600-7-7:ISO 11341、 BP Temperature 63±3℃ Rain rate 18 min /120 Min, 1000 hrs. check color fade and peeling off	No defect

*Test conditions　【GIZ-HF939 NC Black】　【SM-708 Additive 5%】【C-004 Solvent】
　　　　　　　　【150℃ 30 min】【T 350】　【Substrate：Glass plate】
*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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