

Technical Report

New Product

No.132
(2006. March)

ERX Ink

(Environmental friendly, PVC Free one-pack ink for Nameplates)

ERX Ink is an environmentally friendly one-pack ink, which does not contain polyvinyl chloride and environmental hazardous substances such as benzene, toluene, xylene and isophoron. It has an excellent on-stencil-stability because of its excellent re-solubility. It is recommended for fine line printing for example for nameplates. It has excellent adhesion to polyester and polycarbonate films. Applications are Nameplates of electronic appliances, inner decoration of cars, casing of portable cellular phones.

1. New Functions

① Environmentally friendly

ERX Ink is an environmentally friendly one-pack ink, which does not contain polyvinyl chloride and environmental hazardous substances such as benzene, toluene, xylene and isophoron. All materials are registered in TSCA and EINECS.

② On-stencil-stability

It has an excellent on-stencil-stability because of its excellent re-solubility.

2. Applications

This ink is suitable for car interior, electronic appliance and other wide range of applications using Polyester films and polycarbonate films.



3. Standard colors

| | | | | |
|------------------|------------------|--------------------|-------------------------|---------------------------|
| 000 Medium | 001 Victoria | 003 Bright Red | 037 Royal Blue | 121 Scarlet |
| 161 Scarlet | 168 Scarlet | 177 Opaque Red | 182 Brilliant Red | 221 Yellow |
| 230 Light Yellow | 246 Light Yellow | 263 Reddish Yellow | 271 Opaque Light Yellow | 277 Opaque Reddish Yellow |
| 391 Blue | 515 Light Orange | 519 Light Orange | 577 Opaque Orange | 581 Magenta |
| 611 White | 675 Opaque White | '91 Green | 911 Black | 971 Black |
| 972 Black | | | | |

Metallic, Pearl, Fluorescent, Phosphorescent colors and other Functional Inks, and color matching are available. Please do not hesitate to contact us.

4. Printing conditions

- * Stencil : T 200-300 mesh.
- * Thinning : 10-20% with F-003 (Standard) solvent. F-002 (rapid Dry) and Z-705 (Ultra slow dry) are also available depending on shop conditions. Using other solvent or excessive thinning will harm adhesion and printability.
- * Drying : Heated drying is a must. 10 minutes at 80 °C is enough to get tack-free dry, final drying should be 30 minutes at 80 °C.

5. Note

Printing conditions, thickness of ink film, sequence of printing and drying conditions may affect the performance of the finished goods. Please be sure to make preliminary tests to find most suitable conditions.

6. Resistance

| Items | Test conditions | Results |
|------------------|---|--------------|
| Adhesion | JIS K 5600-5-6 (Cross-cut): ISO 2409: 1mm interval 6X6 cuts, cellophane tape and peel | 0. (No peel) |
| Scratch hardness | JIS K 5600-5-4 (Pencil): ISO/DIS 15184: 750g weight, Hardness of the pencil which does not make scar. | Ht |
| Heat | 110°C, 48 hrs, 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 |
| Water | 168hrs in city water, check appearance and peeling off from the substrate. | No defect |
| Acid | 24 hrs in 5% HCl check appearance and peeling off from the substrate. | No defect |
| Alkaline | 24 hrs in 5% NaOH, check appearance and peeling off from the substrate. | No defect |
| Alcohol | Gakushin scrub tester, cotton soaked ethanol, 500g weight, 50 back and forth. Then check appearance and peeling off from the substrate. | No defect |
| Scrub | Gakushin scrub tester, with cotton, 500g weight, 500 back and forth, check color fade. | No defect |
| Folding | JIOS 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 500g weight, from 50cm height, check appearance. | No defect |
| Weather | Weather meter with carbon arc, Black panel temp. 63+/-3°C, check appearance and peeling. (1000hrs) | No defect |

Test conditions:

Ink : ERX 911 Black

Substrate : 0.5 mm thick polycarbonate sheet (Tsutsunaka Plastics Polycarbonate EC-100)

Printing : T-250. Thinning 15% with F003 Solvent.

Drying : 30 minutes at 80 °C.

Note : These results are for our lab purpose. We do not guarantee the results.

Teikoku Printing Inks Mfg. Co., Ltd.

Tel: +81-3-3800-6760, Fax: +81-3-3800-6603

e-mail: saletki@teikokuink.com

Copyright (c) 2006 Teikoku Printing Inks Mfg. Co., Ltd.