

Polyled

LED UV curing ink, very fast polymerization

Works perfectly well in hot stamping on automatic machine

APPLICATION

POLYLED ink series are designed to meet the needs of the container market for printing on plastic bottles, cosmetics packaging and other applications on rigid or semi-rigid materials such as polyethylene (HDPE and LDPE) and polypropylene (PP) pre-treated, polyester, PET and PETG, rigid PVC, polycarbonate, polystyrene.

USE ON GLASS

The Polyled ink series works very well on glass and accepts hot stamping.

The process is as follows:

- Polyled ink with 5% hardener
- Hot stamping metal foil 12 μ (ref 5400) from ITW CER
- To obtain optimal adhesion and resistance, always dry at high temperature (140/150 °C) during 30 minutes minimum

UV LED CURING ADVANTAGES

- No solvent evaporation
- Mixture ink + hardener is stable (more than 5 hours of use)
- Energy saving: no thermal pre-firing between printing and hot stamping is needed
- Ozone-free UV LED dryers
- The small size of the UV LED dryers allows their integration on automatic machines
- Longer life of UV LED lamps than conventional UV lamps
- No preheating of the dryer

SUBSTRATES

- Plastic bottles: rigid or semi-rigid materials
- Polyethylene (HDPE and LDPE)
- Pretreated polypropylenes (PP)
- Polyester
- PET
- PETG
- Rigid PVC
- Polycarbonates
- Polystyrenes
- Glass

BENEFITS

Very high curing speed, therefore suitable for high printing speeds.

Excellent adhesion to PVC.

In most cases, we must add 4% AM9192 hardener and mix evenly. This mixture has a shelf life of at

least 8 hours in a room with a temperature between 18 and 25 °C.

INK ADHESION

Before printing on PE and PP, do not forget to treat the substrate by flaming (surface tension 44 dyne is required). The surface of the substrate must be absolutely free of contaminating residues such as grease, oil and sweat. Due to the different types of PET and PETG, the surface tension may vary. This can be corrected by pre-treatment with a «soft» gas flame. Preliminary tests are essential to determine suitability for the intended use.

After proper curing, there is excellent adhesion of the ink on the media as well as a very good resistance to scratching, solvents (see DIN 16 524), alcohol (96% ethanol), sweat, common alkaline.

- Ethanol: resistant 500 round trips
- Acetone: resistant to 100 round trips
- Good resistance to chemical agents and alcohol

ASPECT

Very Glossy

THINNING

The addition of thinner may be needed in some cases (automatic ink supply) using ST178 thinner, between 1 to 5%.

Be careful not to over-dose by diluting which would lead to curing problems.

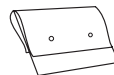
PRINTING EQUIPMENT

Semi-automatic or automatic machines equipped with flame treatment.



SCREEN MESH

Mesh 140 to 180 (threads/cm)



SQUEEGEES

SR1 or HR1 types (simple layer), 85 or 75 shores



CLEANING

Solvents H, ECO N or 93801





DRYING/CURING

120 mJ/cm² at 600 mW/cm² for most of the colours. POLYLED inks are very sensitive to natural UV light and to UV light emitted by fluorescent tubes. Special precautions must be taken to avoid direct exposure of the products. Similarly, all the radiation interference, even indirectly, from the UV-LED dryer to the screen and/or the substrate being printed should be avoided. Beware of skylights, windows... which can have the effect of hardening the ink in the screen. UV filters are recommended.



STORAGE

The POLYLED ink series are guaranteed to be stable in their original, unopened packaging; they have a shelf life of 24 months. Storage should be at a temperature between 15 and 25 °C (59-77 °F)

COLOUR MATCHING

DUBUIT offers a full in-house colour matching service from 1 kg. Please provide as much information as possible regarding the type of substrate, colour, mesh used...

MULTIFLEX PIGMENT CONCENTRATES

It is possible to enhance the power of colours by adding the Multiflex pigment concentrates. Be aware, however, that the addition of an excessive amount of pigment concentrates may affect the polymerization; please do not use concentrates alone.

FLUORESCENT SHADES

They have to be used on white background. The pot life of these inks is about three months from the date shown on the packaging. The light resistance is limited in time, especially in outdoor exposure.

ADDITIVES AND SPECIAL PRODUCTS

Do not forget that additives must not be incorporated systematically in the inks, but must be used with caution as their dosage and their field of use can often present risks. The special products we deliver are of consistent quality. Encre DUBUIT cannot guarantee the work using these products. Indeed, they cannot influence neither the working methods nor the operating parameters.

LIGHT FASTNESS

Pigments from medium to high light resistance are used in the POLYLED. However, because of the resins used, all POLYLED inks are limited to a maximum of 3 months outdoor exposure.

HEALTH AND SAFETY

The vast majority of printing inks and related products formulated by Encre DUBUIT contain no substances of very high concern. Our products comply with the requirements of Directives 2011/65/EU (RoHS 2), 2015/863/EU (RoHS 3) and 94/62/EC (heavy metal concentration levels present in packaging). For more information about our regulatory compliance, please consult our Eco System document, available on request.

The POLYLED Series should not be used for printing food packaging material that is not recognized as an appropriate barrier (plastic, cardboard, paper and labels affixed to these media).

POLYLED INK RANGE SOLID COLOURS - 700 RANGE

ARTICLE DESIGNATION

	REF.
Mid Yellow	710
Gold Yellow	720
Mandarin	730
Vermillion	740
Dark Red	750
Pink	760
Violet	770
Primary Blue	780
Emerald Green	790

BLACK, WHITE, BASE AND VARNISH

	REF.
Mixing Black	701
Mixing White	702
Base	095
Varnish	090

The varnish 090 is a transparent overprint varnish and can also be used to increase the transparency of certain colours. It can be used as a binder for metal powders/paste as well as other decorative particles (pearl, flakes...)

VERY OPAQUE SHADES

Opaque White	706
Opaque Yellow	
Opaque Vermillion	
Opaque Night Blue	
Opaque Black	703

ADDITIVES

Hardener	AM9192
Thinner	ST178
Photo Initiator Led	AM9335

Add photoinitiators: 1-3% in weigh

SPECIAL SHADES ON REQUEST

Encres DUBUIT guarantees the quality of our products. However, we cannot guarantee the final result, because we exercise no control over individual operating procedures. Our responsibility is limited solely to the exchange of ink or varnish. The quality of a substrate to be printed can vary, as well as an overprinted ink; therefore, the above information is given in good faith based on the state of our art and prior experience. This statement also applies to our technical assistance. When using our inks and varnishes on a new substrate or when changing operating procedures, we strongly recommend testing first a full-scale production to ensure compatibility. Please refer to our General Conditions of Sales.

