



ENVOMARS Universal Lamination Ink

【Product description】

- ❖ Comply with packaging printing VOCs regulation, VOCs below 30% (Next generation eco-friendly universal lamination ink 300g/L VOCs requirements)
- ❖ Good adhesion on PET, NY, BOPP and PVDC
- ❖ Similar printing control requirement compare to solvent based ink, changing of printing equipment is not needed
- ❖ Wide range of application can be achieved by adjusting dilution ratio of water and alcohol based solvent to suit different printing environment, page design and printing parameters. Highest printing speed at 250m/min
- ❖ Good re dissolvability, excellent printing dot representation, unlikely to block printing cell
- ❖ Good film forming performance, suitable for retort application
- ❖ Water and alcohol solvent mix can be recycled after print, dehydration and distillation is not required, solvent mix can be re used in future printing. Simplified recycling process can save energy, solvents and reduce pollution
- ❖ Larger printing area/ unit amount of ink can be achieved by increasing pigment concentration, application cost remain similar compare to typical universal ink

【Product type】

Suitable for boiling, retort and light packaging product

【Main components】

- ❖ Resin: Water soluble polyurethane resin
- ❖ Solvent: Water/ alcohol
- ❖ Additive: Film forming additive
- ❖ Pigment; Organic/ Inorganic Pigment



【Printing substrate】

- ❖ PET Surface tension 50 dyne or above
- ❖ Nylon Surface tension 52 dyne or above
- ❖ BOPP Surface tension 38 dyne or above
- ❖ PVDC Surface tension 40 dyne or above

【Printing viscosity】

- ❖ Printing viscosity adjustment depends on different page setup and printing speed, below for reference
- ❖ Coloured – TOYO#3 13-14 sec
- ❖ White – TOYO#3 12-13 sec

【Dilution】

- ❖ Dilution depends on page setup, drying system and printing speed, dilution ratio between water (30-100%) and alcohol (0-70%) can be adjusted, typical ratio as below

Drying Speed solvent	fast	medium	slow
Water	30	50	100
IPA/Ethanol	70	50	0

【Application range】

Application	Lamination	Treated PET	Treated NY	Treated OPP	PVDC
Dry food Normal light packaging	Dry Water based adhesive Solvent less	○	○	○	○
Boiling food packages	Dry Solventless	○	○	△	△
Retort food packages	Dry	△	△	-	△

Note: “○” can be used, “△” for boiling and retort application, please assess performance with different application structure and pigment migration resistance performance.

【Standard colour code and application range】

Structure	Light package	NY/ CPP(PE)		PET/ CPP(PE)		PET/AL/ CPP
		boiling	Retort	boiling	Retort	Retort
Temp. °C		98	121	98	121	121
134A Black	○	○	○	○	○	○
213A White	○	○	○	○	○	○
321 Base yellow	○	○	○	○	○	○
438A Base red	○	○	○	○	○	○
436 Base red	○	-	-	-	-	-
433 Magenta H	○	-	-	-	-	-
466A Golden red	○	-	-	-	-	-
476 Golden red H	○	-	-	-	-	-
498 Magenta	○	-	-	○	-	○
531A Base blue	○	○	○	○	○	○
632 Green	○	○	○	○	○	○
724 Orange	○	○	○	○	○	○
843 Purple	○	○	○	○	○	○
900 Varnish	○	○	○	○	○	○

Note: “○” can be used

【Storage & Safety】

- ❖ Sealed and stored in cool and ventilated place, avoid direct sunlight
- ❖ Best performance at 15-30 °C, shake well before use
- ❖ Avoid contact with skin and eyes during operation, for more details please refer to “Ink health and safety instructions”

【Notices】

- ❖ Please use shallow printing cell for good printing and drying performance, contact us for details on cell parameters
- ❖ Main solvent used is a mixture of water and alcohol which has weaker solubility, please ensure the printer is thoroughly cleaned when swapping from typical solvent based ink to ENVOMARS ink



- ❖ Despite having good re dissolvability, it is difficult to clean the printing cell when the ink is dried. It is recommended to clean the printing cell thoroughly when the printer is stopped for a long period of time
- ❖ If the printing cell is stuck with dried ink, water alcohol mixture with adequate amount of ammonia solution can be used to clean the cell
- ❖ Please check compatibility with post production and relevant material
- ❖ For 121-135 °C high temp. retort application, please confirm performance before use
- ❖ Please do not mix with water based ink from other companies to avoid incompatible issue
- ❖ When printing on special substrate or special application, please contact us for more information
- ❖ Specialised ink can be mixed with base colour ink. Some pigment mixture might not be stable, if acceptable outcome could not be achieved, please contact us
- ❖ Above data are obtained by our company, result might vary with different substrate and experiment condition, please test before use

【Disclaimer】

This specification is in accordance with the actual production and test results, whether the product could meet your process requirements depends on application conditions and printed material. We recommend the users to assess if the product can meet all their requirements before production. Since we cannot predict or control your printing condition, the product performance cannot be guaranteed all sales are subjected to the standard terms and conditions of the sales control division.