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Page No.:	1 to 5
Version No.	2

## Technical Data Sheet :

### Product Identification:

#### Tru Superlam EP Series (Toluene & MEK Free)

**Description:** Tru Superlam EP inks are highly pigmented, Eco friendly, Polyurethane based Gravure Inks, specially formulated for lamination job. These inks have excellent printability, maintains stable adhesion and exhibit minimum solvent retention levels. These inks are specially designed with solvent and resin system Balanced to optimize best results at high press speeds. This has been achieved by intelligently managing the chemistry of the whole ink system so as to achieve precise specifications with excellent technical outcome.

**End Use :** Very low odour and solvent retention characteristics, make this ink system eminently suitable for to the packaging of food products such as coffee, biscuits, snack foods, cooked foods, confectionery, etc.

**Printing Machines & Press Speed:** Tru Superlam EP Series is tailored to run effortlessly on Gravure printing machines. Tru Superlam EP inks may be printed at speeds of 150 to over 300m/min depending upon press drying capabilities and the solvent used for reduction. In case of very high speed printing it is recommended to use end of the press chilling roller to bring down the web temp to room tem before the web enters the “Rewind Web”.

**Cylinders:** Tru Superlam EP inks are suitable for all types of engraved cylinders (chemical, mechanical and laser engraving).

## Printing Substrates:

Tru Superlam EP inks are suitable for reverse printing a number of films:

- ✓ BOPP(Corona treated 38-42 Dyne/cm) – Only after adding EPE 3910 - 00 ( BOPP Adhesion promoter from TIL)
- ✓ Certain CC PET Verities – Ink to be used as it is
- ✓ Other films after verifications

## Benefits:

- High color strength
- Low solvent retention
- Prints on wide range of plastic films
- Reliable, high performance results
- Free from banned solvent (Toluene, MEK and others) and free from migrating plasticizer and resins.
- Does not contain pigments based on heavy metals.

## Specific Features:

- Good Printing Stability and Excellent Fine Dot (below 8 %) Reproduction at higher print speeds.
- High yield and Very High Transparency
- Perfect for transparent laminates as well as lamination with MET Films
- Excellent solvent release, enabling high press speeds to be used
- Excellent freeze thaw resistance: making the ink suitable for the extreme cold weather countries
- Good heat resistance (180<sup>0</sup>C, 3bar, 1-sec., Treated PET, under standard lab conditions)

## Precautions:

- ❖ Lamination of the printed film recommended to be undertaken 24 hours after printing.
- ❖ To achieve good lamination, surface treatment of OPP film must be at 38 - 42 dyne.
- ❖ Surface treatment levels of films below the specified data may result in lower bond strengths, delaminating and poor adhesion

## Bond Strength :

- ✓ Good lamination bond strength: 200 to 250g/15 mm for most structures such as BOPP/LDPE .
- ✓ Good lamination bond strength on polyester (PET) structures with corona or chemical treated polyester films.

## Colour Range:

A full range of colors is available, which may only occasionally be restricted by end user requirements. The pigments used have reasonable commercial fastness to light but they may not withstand prolonged exposure to direct sunlight. If this property is required, it should be requested while placing orders.

## Process Range:

<b>Product Codes</b>	<b>Product Description</b>	<b>L.F. (1-8 Scale),Full Shade</b>	<b>% Solids(±2)</b>
EPK 3902 - 00	Tru Superlam EP Pro Black	7	27
EPY 3903 - 00	Tru Superlam EP Tr. Yellow	5-6	27
EPY 3903 - 04	Tru Superlam EP Pro Yellow	3-4	27
EPC 3904 - 00	Tru Superlam EP Pro Cyan	7	26
EPM 3905- 00	Tru Superlam EP Pro Magenta	3-4	26
EPM 3905- 01	Tru Superlam EP AR/SR Magenta	6	26

## Standard Range:

<b>Product Codes</b>	<b>Product Description</b>	<b>L.F. (1-8 Scale),Full Shade</b>	<b>% Solids(±2)</b>
EPY 3903 - 01	Tru Superlam EP Greener Yellow	5	26
EPY 3903 - 02	Tru Superlam EP Warm Yellow	6	26
EPR 3906 - 01	Tru Superlam EP Warm Red	3	28
EPO 3907 - 00	Tru Superlam EP Orange	5	26
EPO 3907 - 01	Tru Superlam EP HF Orange	6-7	26
EPG 3908 - 00	Tru Superlam EP Green	7	26
EPV 3909 - 00	Tru Superlam EP Non AR/SR Violet	5,D	26
EPV 3909 - 01	Tru Superlam EP AR/SR Violet	7	26

### White ,OPV and Extender Medium:

<b>Product Codes</b>	<b>Product Description</b>	<b>L.F.(1-8 scale),Full Shade</b>	<b>% Solids</b>
EPW 3900 - 00	Tru Superlam EP Extender Medium	N. A.	19
EPW 3901 - 00	Tru Superlam EP White	7	42

### Support Additives:

<b>Product Codes</b>	<b>Product Description</b>	<b>% Active Material</b>
*EPE 3910 - 00	*Tru Superlam EP BOPP Adhesion Promoter	80
EPE 3910 - 01	Tru Superlam EP Anti blocking Additive	10
EPE 3910 - 03	Tru Superlam EP Reducer	NA
EPE 3910 - 04	Tru Superlam EP Retarder	NA

*\*Add 2-3 % of this material in case of BOPP Substrates only, Not for PET*

### Printing And Processing:

<b>Cup Used:</b>	DIN Cup 4	AFNOR Cup 4	Ford 4 Cup	Zahn 2 cup
<b>Viscosity :</b>	15-19 sec	16-21sec	14-18 sec	20-23 sec

*\*The above figures are given for guidance only.*

Viscosity adjustment should be undertaken only after the ink is well mixed and the ink is at room temperature. Viscosity is adjusted by adding solvents slowly in small quantities. (See under “Dilution”).

The Actual ink viscosity employed will depend on a number of factors, including print design, press conditions, the machine running speed and the desired colour characteristics.

### Dilution:

Solvent and solvent blends used for dilution may need to be adjusted in accordance to printing conditions: Namely, printing process, printing speed, oven capability, and graphics such as solids, lines, half tone, vignette and process printing.

**To achieve good DOT RE-PRODUCTION for below 7 % dot sizes,  
Use Extra Retarder**

Depending on printing conditions, the following solvents may be used as retarder or accelerator:

**Accelerator: - Ethyl Acetate**

**Medium: - N Propyl Acetate', Absolute Ethanol**

**Slow: - N-Propanol, , IPA**

**Retarder: - D-PM, Methoxy Propyl Acetate, Ethoxy Propanol**

It is essential to ensure solvent removal, especially with slow drying solvents, to avoid blocking and to maintain the low odour properties of **these inks**. High retained alcohol levels are known to interfere with the performance of the laminating adhesive.

## Reducing Systems:

We recommend as a basic ratio:

<b>Reducer-1</b>	ETHYL ACETATE	80
	N-PROPANOL	20

<b>Reducer-2</b>	ETHYL ACETATE	80
	IPA	20

<b>Reducer-3</b>	ETHYL ACETATE	70
	ABSOLUTE ETHANOL	30

<b>Reducer-4</b>	ETHYL ACETATE	40
	ETHANOL	40
	DOWANOL PM	20

**\*It is always better to mix the solvents before adding to the ink.**

No guarantees for our ink can be given if the above solvent reduction is not followed. The use of other solvents and solvent blends are known to cause problems such as blocking, odour and reduced bond strength. In extremely severe cases the wrong solvent can cause “Ink Curdling or Chuck Out”.

## Shelf Life:

The inks and varnishes of this series have under normal conditions a shelf life of at least 6 months. Normal conditions means:

- Storage in tightly closed containers
- No admixtures
- Temperature not exceeding 25°C for weeks or 30°C for days.

Short time excess-temperatures e.g. at transport are not harmful. The products are not sensitive to frost.

“Over-stored” inks (typical symptoms : fall in gloss, shift in shade, formation of odour and / or viscosity increase) may normally – *off colour being exceptions* - be used the same way as residual inks by controlled admixture to fresh inks

Increased viscosity due to long-time storage of inks may generally be adjusted by addition of a slightly higher amount of thinner than the usual.

### ***Please take notice of the following:***

*1. The performance results indicated in this literature are only indicative under controlled conditions of laboratory with virgin & standard packaging grade films. Please do not use lower grades or substandard films. Tirupati Ink Ltd., will not take any responsibility for abnormal results*

*2. Liability: While the information outlined is given in good faith, it does not constitute a guarantee and neither is one implied as to the specific end use suitability of any product. The customers should always evaluate the suitability of products to their own satisfaction*

*2.1. Tirupati Inks is responsible only to the tune of replacing the ink consumed in case of any printing related problems clearly assigned to in-compatibility with the ink system recommended by Tirupati Inks for the print job under consideration.*

*If you require any further information please do not hesitate to contact us or visit our website.*



**Tirupati Inks Limited**

ISO 9001:2000 & ISO 14001:2004 Company

D-109-112, Industrial Area GNEPIP, Site-V,  
Kasna, Greater Noida (U.P.)-INDIA

Telephone: 91-120-2341227 , Fax: 91-120-2341229

E-Mail: [linfo@tirupatiinks.com](mailto:linfo@tirupatiinks.com).

Website: [www.tirupatiinks.com](http://www.tirupatiinks.com)