Coates Lorilleux

Technical Information

LOTUS-ECO *PLUS*

Duct stable offset inks using vegetable oil derivatives for productivity and quality in sheetfed printing

High productivity and print quality, exceptional runnability, and based on vegetable oils, are some of the *"Plus"* factors when printing with **Lotus-Eco *Plus*** from **Coates Lorilleux**.

For printers using the latest generation of high speed automated presses including multi-unit convertible perfecting machines, **Lotus-Eco *Plus*** gives excellent results under the widest range of press conditions.

Characteristics

- Stable in the duct.
- Excellent lithographic performance and exceptional ease of use under a wide range of press conditions ensuring high print quality. The fast make ready and start up times achievable with **Lotus-Eco *Plus*** allow a reduction in print waste.
- The superior emulsion stability of **Lotus-Eco *Plus*** gives outstanding inking stability, resulting in consistent print quality on all run lengths.
- Excellent performance on multi-unit convertible perfecting presses.
- Fast setting with minimum risk of set off, provides high stack capability with reduced spray powder, allowing fast work and turn on all types of sheetfed press.
- With high levels of gloss, combined with good mechanical resistance and dot sharpness, **Lotus-Eco *Plus*** assures high print quality.
- **Lotus-Eco *Plus*** dries quickly and effectively even without auxiliary drying assistance (Infra Red, hot air etc.). Nevertheless, it is responsive to this type of equipment. Note that when using such drying equipment, to reduce the risk of set-off or blocking in the stack due to softening of the ink film, the stack temperature should not exceed 35°C.

Recommendations for use

Lotus-Eco *Plus* is designed to meet the needs of the sheetfed commercial and publication markets. **Lotus-Eco *Plus*** can equally be used to print packaging.

Lotus-Eco *Plus* is:

- four inks for 4-colour process printing (process colours and black),
- specific additives containing the maximum of raw materials from renewable resources.

Finishing

Lotus-Eco *Plus* already provides high gloss levels. However using print finishing techniques such as film lamination and over varnishing **Lotus-Eco *Plus*** can provide even more added value to the final print.

Lotus-Eco *Plus* can be over varnished with our range of **Aquasol** water based coatings in-line or off-line. For advice on their use please refer to the technical information leaflets on the **Aquasol** products.

For UV varnishing or film laminating it is essential to ensure that the print is properly dry. For UV varnishing please refer to our technical information leaflets concerning **Ultracure** UV varnishes and to the leaflet **UV varnishing on dry conventional inks**.

For lamination we advise:

- When using solvent based adhesive select the inks indicated in the table to have appropriate solvent resistance (ISO 2837).
- When using water based adhesive select the inks indicated in the table to have appropriate alkali resistance (ISO 2838).

Whichever form of print finishing is to be used, avoid excessively high ink film weights and see the paragraph on *Resistances.*

Substrates

Lotus-Eco *Plus* has been designed for sheetfed printing on gloss coated papers and more particularly on modern coated papers.

Benefiting from a balanced tack and viscosity, **Lotus-Eco *Plus*** can also be used on a number of other paper substrates (uncoated, gloss coated, semi-matt and some matt coated) or carton board.

Lotus-Eco *Plus* is not designed to be used on non-porous substrates or synthetic papers.*

* Due to their surface porosity and certain specific surface characteristics some substrates such as those noted below can present particular difficulties:

For example;

- certain low porosity coated papers (notably certain chrome coated),
- certain highly absorbent papers where the rate of ink absorption is very high (notably certain uncoated papers) giving a risk of powdering,
- certain matt-coated substrates which can be particularly abrasive giving marking, set-off or print finishing problems.

These specific difficulties can increase with increasing substrate weight and thickness and can occur equally on carton board. In these and other cases where mechanical handleability and rub resistance are a particular requirement, we recommend a consultation with our technical services or a test printing to confirm suitability before embarking on a full print run.

Machines

Lotus-Eco *Plus* can be used for offset lithographic printing on all types of sheetfed machine irrespective of the dampening system used (conventional, alcohol or integrated).

Lotus-Eco *Plus* is particularly well adapted to give trouble free printing on all multi-unit presses including 8, 10 or even 12-unit convertible perfecting sheetfed machines equipped with alcohol damping systems.

Machine stability

Lotus-Eco *Plus* inks need not be cleaned from ink ducts and inking rollers at the end of the print run under normal conditions. Nevertheless, for particularly long stops cleaning of the roller train is advised. Stability on the press can be further increased by using an appropriate antioxidant spray.

Additives

Lotus-Eco *Plus* is supplied ready for use. Under some conditions (fragile or delicate substrate, coated papers, difficult impression, low ambient temperature) it may be necessary to adjust the inks characteristics.

We recommend :

Alkali refined linseed oil

Drying vegetable oil, which softens the ink while retaining the ink body. Use 1 to 3 %.

HMP Tack Off

Gelled reducer giving a reduction in tack. Use 3 to 5%.

Fountain solutions

Lotus-Eco *Plus* is compatible with a wide range of fountain solutions with and without isopropyl alcohol (0-12%). It is necessary however to choose the fount additive best suited to the type of water and the printing conditions: the concentration must be carefully

controlled by measuring conductivity and pH. If help is needed in choosing the fount additive best suited to the printing conditions and water, consult our technical services.

Plates, blankets and rollers

Lotus-Eco *Plus* is compatible with all plates, blankets and rollers which are resistant to vegetable oils.

Washing up

Lotus-Eco *Plus* can be cleaned up with the help of cleaning solvents currently in use : see the technical data sheet from the supplier. For advice on the most appropriate product or for specialised cleaning agents consult our technical services.

Health and safety

Health and safety data sheet available on request.

Environment

Our **Lotus-Eco *Plus*** inks have been formulated with respect to appropriate environmental issues and to allow the printer to comply with associated regulations through:

- the use of raw materials from renewable resources where applicable;
- the choice of liquid components with very low volatility (cf. Directive 1999/13/CE);
- low heavy metal content (Toy Regulations EN 71/3, CONEG regulations) and minimal impact of our inks on the use of printed matter as a secondary raw material for recycling, composting or incineration in accordance with the Directive 94/62/CE.

Further detailed information can be found in our brochure **Safety, Health and the Environment** or contact our technical services.

Ink packaging

Lotus-Eco *Plus* is supplied in vacuum packed tins of 2.5 kg. Other ink packaging available to order.

Resistances

The pigments used in **Lotus-Eco *Plus*** inks are not necessarily fully resistant to all post printing conditions that may be encountered. It is therefore necessary to indicate the resistance required at the time of ordering (see table overleaf). For each product the table gives resistance values corresponding to the different ISO standards for solid prints made under standard conditions (ISO 2834).

Remarks

For lightfastness of prints (ISO 2835) we mean their resistance to daylight without the direct influence of bad weather conditions measured by comparison to a calibrated set of 8 examples of blue dyed wools of increasing resistance to light fading. The use of apparatus equipped with a Xenon lamp permits accelerated testing. The resistance times can vary in practice caused by a number of important factors: pigment compositions, substrate, colour strength, film weight used, format (solid, half-tones), storage conditions, exposure time, etc. In mixtures it is the component with the lowest resistance that defines the overall resistance value: in the same way the resistance is reduced the more the strength of the shade is reduced.

Resistance to alkali (ISO 2838) is used to assess, in a general way, resistance to alkaline products. Even if resistance to the standard ISO 2838 conditions is a necessary requirement, this result alone may not give sufficient confidence and some additional specific tests may be necessary (for example, resistance to soap or other cleaning products, resistance to adhesives, etc.) This standard can equally be used, together with the resistance to solvents (ISO2837), to assess to a first approximation the varnishability when using certain acrylic or certain UV varnishes.

Resistance to solvents (ISO 2837) is used to assess to a first approximation, the ability of the print to resist solvents and certain print finishing processes (varnishing, lamination, etc.) However, the composition of the materials used can be extremely variable and complementary tests may sometimes be necessary.

For further advice please consult our technical services.

Lotus-Eco *Plus* references

PRODUCT CODES		☼ Standard ISO 2835	ALCALI Standard ISO 2838	ALCOHOL Standard ISO 2837	NITRO Standard ISO 2837
PROCESS YELLOW 4th unit	LEP26	4	+	+	+
PROCESS MAGENTA	LEP27	4/5	-	+	+
PROCESS CYAN	LEP25	7/8	+	+	+
BLACK	LEP46	7	-	-	-

The resistances indicated in the table correspond to the following conditions:

☼ Lightfastness
Standard ISO 2835

Alkali resistance
Standard ISO 2838: 5 minutes at 20°C in 2.5 % caustic soda.

Alcohol resistance
Standard ISO 2837: 5 minutes at 20°C in denatured ethanol.

Nitro resistance
Standard ISO 2837: 5 minutes at 20°C in a mixture corresponding to a solvent for nitrocellulose varnish, in volumes Acetone 10/Ethyl Glycol 10/Ethyl Acetate 30/Ethanol 30/Toluene 30.

Lightfastness (full strength)
1 = very poor lightfastness
8 = outstanding lightfastness

Alkali, Alcohol, Nitro
+ = resistant
- = not resistant

COATES LORILLEUX
89-91 AVENUE DU MARECHAL JOFFRE - 92027 NANTERRE - FRANCE
TEL : (33) 01 55 47 71 21 - FAX : (33) 01 55 47 71 31