BRANCHER KINGSWOOD
Parc d'Activité du Saule, 28170, Tremblay-les-Villages
tél 02.37.38.91.00 ● fax 02.37.38.91.01

Technical Data Sheet

Date : 24/11/2016

Version GB 1

FUSION LOLM inks

Foodstuff Packaging Printing Inks

General information

FUSION LOLM inks are suitable for <u>printing on the non-food contact surface</u> of primary and secondary foodstuff packaging requiring a low level of odour and migration.

These inks comply with the following criteria:

1) Formulation and manufacture respecting the "EuPIA Guidelines on printing inks applied to the non-food contact surface of foodstuff packaging"[1].
2) Formulation that minimises both potential migration through the substrate as well as the set-off of the external printed surface on the inner food-contact-surface during stacking or on the reel.

<u>It must be noted that both set-off and migration are strongly dependant on the transformation conditions and the barrier properties of the substrate.</u>

3) Manufacture according to the CEPE/EuPIA Guidelines "Good manufacturing practices for the production of inks used on the non-food contact surface of foodstuff packaging and on articles intended to be placed in contact with food".

In particular, **FUSION LOLM** inks do not contain:

- substances classified as carcinogenic, mutagenic or toxic for reproduction according to CLP Regulation (EC) N° 1272/2008.
- Low molecular weight acrylates
- Low molecular weight photoinitiators and synergists
- pigments which may themselves migrate (in particular Fanal pigments).
- mineral oils.

1. Available on the Website http://www.fipec.org/afei/htm/fr/contact_alim/guide_eupia.pdf

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Reminders:
Recommendations relating to the printing of foodstuff packaging

The design of the packaging is paramount to guarantee the conformity of foodstuff packaging with the Framework Regulation 1935/2004/EC.

This is why it is important to comply with the following:

- The substrate must be suitable for the printing of foodstuff packaging. In particular:

  - ✓ The nature of the substrate, and in particular its porosity, facilitates migration to a greater or lesser extent.
  - ✓ The substrate itself may contain potentially migrant chemical substances (for example, recycled paper and cardboard).
  - ✓ The substrate alone may cause change to the organoleptic properties of the packed foodstuff.

- The amount of potentially migrant substances is proportional to the ink load deposited. This is why we recommend "standard" OD or ink film weights. The maximum deposit must not exceed 2.0 g/m² and the risk of set-off must be controlled.

- The machine used must be kept clean and cleaned only with suitable auxiliary products in order to avoid any contamination. **UV driers systems must be cleaned and monitored frequently in order to avoid loss of efficiency.**

- Some applications may require the use of performance additives. The latter must also be compatible with foodstuff packaging printing conditions.

- The packaging compliance may be compromised if the storage conditions are not suitable (temperature, moisture, etc.).

- Article 17 of Regulation 1935/2004/EC requires complete traceability of the materials and objects. This in particular implies the traceability of all consumables used, the recording of the printing conditions and the identification of the final recipients.

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Responsibility

The packaging manufacturer and the packer are legally responsible for the properties of the foodstuff packaging and for its compliance with the legal requirements.

Compliance of the packaging (in particular with Article 3 of Regulation 1935/2004/EC) must be checked by the printer by means of representative analytical measurements (migration tests and organoleptic tests). The Brancher company is committed to provide the relevant information (identification of the components whose migration must be evaluated), under a confidentiality agreement to an external analysis laboratory, or even a third party involved in compliance control.

It is important to know the nature of the packed food as well as the design of the packaging (with an effective functional barrier or not). Knowledge of the nature of the packed element will make it possible to select the suitable protocol to carry out the migration tests (please refer to Regulation 10/2011/EC(1)) as well as pigments with particular resistance if necessary.

Table 1

List of food simulants

Food simulant	Abbreviation
Ethanol 10 % (v/v)	Food simulant A
Acetic acid 3 % (w/v)	Food simulant B
Ethanol 20 % (v/v)	Food simulant C
Ethanol 50 % (v/v)	Food simulant D1
Vegetable oil (*)	Food simulant D2
poly(2,6-diphenyl-p-phenylene oxide), particle size 60-80 mesh, pore size 200 nm	Food simulant E

(1) : http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:012:0001:0089:EN:PDF

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FUSION LOLM /E

UV Offset ink for non absorbent substrates
Primary foodstuff packaging

Performances

- Formulated to minimize the residual odor and the migration risk after curing thanks to the choice of specific raw materials
- Good adhesion on synthetic and non absorbent substrates
  - > *Versatile, suitable for a wide range of substrates, like those used in IML application*
- Also suitable on absorbent substrate
  - > *Make-ready on paper then switch to more cost effective synthetic substrate*
- Good printing stability
  - > *Easy to use*
- Suitable for hot stamping and lamination after test

FUSION LO LM

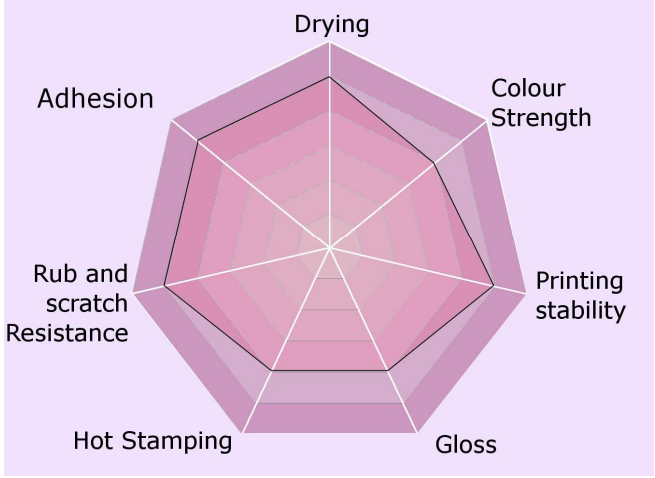
		Fastness		
		Light ISO 2835	*Alcohol ISO 2837*	*Alkali ISO 2838*
	Process Yellow Fusion LOLM	5	+	+
	Process Magenta Fusion LOLM	5	+	-
	Process Cyan Fusion LOLM	8	+	+
	Process Black Fusion LOLM	8	+	+
	Opaque White Fusion LOLM	8	+	+

Substrates

Non coated	**
Matt coated	**
Gloss coated	**
Chrome coated	***
cardboards	**
Thermal Eco paper	▲
Thermal coated paper	**
Metalized substrates	***
Synthetic substrates (1)	***
Tracing paper	***

*** Perfectly suitable
** Suitable
* Test necessary
▲ Not suitable
(1) Synthetics (PE, PP, PET, PVC)

Ink profil



Packing

2,5 kg UV containers

Recommendations

- **NO DIRECT FOOD CONTACT**
- Only use UV auxiliary products dedicated to foodstuff packaging application (anti tack paste, cleaners, thinners…)
- To improve rub resistance, use in-line or out-line UV varnish dedicated for foodstuff packaging.
- In case of synthetics substrates, check the surface has been properly treated (minimum surface tension required = 38 dynes/cm)
- Suitable for hot stamping and thermal overprinting (test before production).
- In case of laser overprinting, it is recommended to print 50% half tones rather than solid print areas.
- Suitable for hot stamping and thermal overprinting (test before production
- Use EPDM UV rollers
- To obtain pastel shades, add maximum 15% Opaque White and make up with transparent White.
- Do not use Opaque White when printing on thermal paper
- Check the compatibility of the ink/substrate/packaged foodstuff
- **Store in original unopened container between 5 and 30°C and protected from direct sun lights during 18 months.**