



Technical Data Sheet **LED STERAFLEX FOOD**

CHARACTERISTIC

The LED STERAFLEX FOOD inks are developed for printing on flexo machines with superb densities and excellent flow properties especially developed for curing with LED UV. These inks are characterised by very low odour and extreme low migration properties.

PROPERTIES

- ☞ *Curing with LED UV*
- ☞ *Excellent printability*
- ☞ *Fast curing*
- ☞ *Good gloss, high colour strength*
- ☞ *Viscosity properties fit for flexo printing*
- ☞ *Low odour*
- ☞ *Optimal resistance properties will be obtained 24 hours after printing*
- ☞ *Formulated without benzophenone*
- ☞ *Formulated without ITX*
- ☞ *Extreme low migration*

APPLICATION AREA

- ☑ *All flexo label and packaging printing machines equipped with a UV-curing system*
- ☑ *LED-UV: LEDs (light-emitting diodes) are based on the principle of electroluminescence: a tiny semiconductor panel emits light when subjected to an electric current. This light consumes very little energy, the diodes have an extremely long working life and they generate no ozone. Unlike conventional UV lamps with mercury tubes, the LED-UV lamp built into the label printing machine consists of innumerable small LED panels arranged across the entire width in multiple rows. The print path can be routed close to the LED panels since very little direct heat is generated. While a conventional UV lamp requires a warm-up phase lasting a few minutes, the LED-UV lamp has no waiting time and is immediately operational after switch-on. The LED-UV lamp emits only a small range of the conventional spectrum of UV lamps. In particular, the high-energy IR radiation and the hazardous UV-B and UV-C radiation are absent. Due to the extremely narrow wavelength window of the LED-UV lamp (peak at 395nm), conventional UV inks cannot be dried using the new lamp. This makes the new LED STERAFLEX FOOD series, developed by Toyo Ink Europe, indispensable for the LED-UV technology.*

UV CURING

LED Steraflex FOOD inks are ideally cured with LED UV lamps of 16 to 22 W/cm² with emission spectrum between 365 to 395 nm

(the curing is also influenced by the substrate, the condition of the lamps, the condition and adjustment of the reflectors, the thickness of the ink layer, colour, etc.)

SUITABLE SUBSTRATES (surface tension see 'Recommended treatment levels')

- ☞ All kinds of coated paper
- ☞ Inline Corona treated polyethylene
- ☞ Selected lacquered/ primered aluminium foils and lids
- ☞ Different kind of plastic films

Preliminary adhesion tests are recommended

RECOMMENDED TREATMENT LEVELS (DYNES / CM)

		PE	PP	PVC	PET	PS	PVDC	PU	ABS	PTFE	Silicone
Flexo and	Min.:	38	40	36	42	42	42	38	40	36	40
Gravure	Max.:	50	50	50	54	48	52	50	52	52	50

AVAILABLE COLOUR SHADES

- ☞ Process colours
- ☞ Opaque white
- ☞ Mixing colors

REFERENCES – LED STERAFLEX FOOD

		IWS	Alcohol	Nitro	Alkali
<u>Process colors</u>					
Yellow	EXC54001XM	5	+	+	+
Magenta	EXC54002XM	5	+	+	-
Cyan	EXC54003XM	8	+	+	+
Black	EXC54004XM	8	+	+	+
Yellow	EXC55021XM	6	+	+	+
Magenta	EXC55022XM	7	+	+	+
<u>Mixing colors</u>					
Opaque white	EXC54901XM				
Yellow F. 6	EXC54913XM	6	+	+	+
Orange	EXC54920XM	5	+	+	+
Rubine red	EXC54940XM	5	+	+	-
Rubine red F. 7	EXC54942XM	7	+	+	+
Violet fast	EXC54961XM	7	+	+	+
Proc. blue	EXC54970XM	8	+	+	+
Green	EXC54980XM	8	+	+	+

REMARKS

- ★ *When laminated afterwards, take care to use the correct fast inks, and to do a preliminary adhesion test.*
- ★ *Cleaning: it is not necessary to wash the press immediately after printing. The LED STERAFLEX FOOD series will not cure in the press and is therefore ready to use for the next day's printing. However, the ink may start to cure in the press if sunlight or UV-light from the bulbs / UV-lamp is allowed to shine on the ink.*
- ★ *Rollers: the following roller material is recommended: EPDM (Ethylene-Propylene-Diene-Monomers). EPDM rollers show excellent performance with UV-inks.*
- ★ *Certain metallic UV-inks may cause swelling of EPDM rollers. We recommend to use nitril rollers for this application.*
- ★ *Shelf life: the LED STERAFLEX FOOD series has a 12-month shelf life guarantee. This guarantee covers 12 months from the date of manufacture (which is mentioned on the label). In order to give this guarantee, certain recommendations must be followed: the LED STERAFLEX FOOD series should be kept on stock at temperatures between 15 – 20°C and they should not be exposed to direct sunlight or heat. If possible, store the ink in a dark room.*

PACKAGING

- 5 kg plastic pails

ADDITIVES

◆ UV Levelling agent		EXC10003
◆ UV Silicone additive		EXC10005
◆ UV Anti-blocking additive		EXC10007
◆ UV Anti-penetration additive		EXC10013
◆ UV Anti-foam additive		EXC10018
◆ UV Slip additive		EXC10029
◆ Wash-up solution	for manual washing	EXC10810
	for automatic washing	EXC10800
	labelling and reg. free	EXC10820
	waterbased	EXC10860
	anilox cleaner	EXC10864
◆ Photoinitiator		EXC10060
◆ Thinner	with photoinitiator	EXC10031

OTHER INFO

These inks and/or coatings (this ink and/or coating) are (is) only suitable for use on the non-food contact side of food packaging, provided they are applied using the relevant Good Manufacturing Practices (GMP) and according to the guidelines in this Technical Data Sheet. The printer, converter and packer/filler each have a responsibility to ensure that the finished – printed - product is fit for the intended purpose(s) and that the ink and coating components do not migrate into the food at levels that exceed legal, regulatory and industry defined requirements.