INK, HEART & SOUL

PRODUCT SAFETY TRANSPARENCY by SIEGWERK

SIEGWERK

TECHNICAL DATA SHEET

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Range name :

TEMPO PLASTOFFSET 2

Description :

Complete range of vegetable based sheetfed offset: process inks, concentrated bases for mixing, and metallic inks, dedicated to non-absorbent substrates.

Application Fields / Market :

Packaging: non-adhesive and adhesives labels, trays, In mould labelling, cups
Commercial applications: overhead slides, display, and floppy wrapping…

Product safety:

Intended Use for EMEA :
Food packaging for IML and CUPS: YES
Other food packaging applications (incl. pharma and hygiene): to be checked case by case

Compliance Management
these inks are only suitable for use on the non-food-contact side of food packaging, provided that they are applied using the relevant Good Manufacturing Practices (a system for ensuring that products are consistently produced and controlled according to quality standards) and according to the guidelines in this Technical Data Sheet.
The printer, converter and the packer/filler each have a responsibility to ensure that the finished - printed - article 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.
Please refer to Siegwerk's "**Statement of Composition**" for further regulatory information.
In case of specific applications, please contact your technical application service.
For further information, please refer to **Siegwerk's Customer Guidance: Printing Inks for Food Packaging ("Know How")** on https://www.siegwerk.com/en/our-responsibility/product-responsibility/customer-communications/food-packaging-safety.html

- In particular, **TEMPO PLASTOFFSET 2** inks recommended for IML and cups represent a new generation of inks exclusively formulated with selected components, so as to both minimize potential migration of concern through the substrate and the set-off from the printed outer side to the food contact surface in the stack or the reel.

- The formula does not contain the following (except articles non intended for food application, see list on page 5):
  - Basic dye complex ("fanal") pigments and barium-organic pigments with high bleeding tendency,
  - Mineral oils
  - Alkylbenzenes
  - Ketoxime antidriers
  - Cobalt driers

- Certain individual inks belonging to **TEMPO PLASTOFFSET 2** are not recommended for IML nor for cups since they are based on basic dye complex (fanal) and other pigments which bring about risk of migration caused by their bleeding properties (solubilisation), therefore cannot be used for food packaging applications (IML, cups and others)
  They are presented in the table "Complementary inks not intended for food packaging applications".

With this advanced design, a high degree of ink-side safety is provided, enabling the converter to produce packaging, which is minimized in sensory impact and migration of concern according to today's standards

Note that the set-off and migration are dependent on the processing conditions and sufficient barrier properties of the substrate. The residual odour level is particularly dependent on the following parameters: percentage of ink coverage, ink thickness, time between printing and finishing operations (filling) In general we recommend to respect 3-4 days after printing and to ventilate the piles.

Particular consideration for these parameters, and for the selection of non-bleeding ink references with resistant pigment, is required in case of demanding areas such as packaging for :

- organoleptically sensitive foodstuffs in general
- liquid or pasty, fatty and/or aqueous or acid food
- pasty or solid fatty food

You will produce a safe packaging material if you observe good printing practices and restrictions as outlined in the Customer Guidance and the Good Practice Guide mentioned above. In particular, these inks are not approved for direct contact with food, separated from it or not by a varnish layer.
Please contact us if you plan to produce place mats.

The range of **TEMPO PLASTOFFSET 2** inks recommended for IML or cup applications can be used for the printing of containers/trays/cups destined to be heated up in standard microwave oven for which the maximum reachable temperature of the foodstuff is 100°C. On the other hand these inks are not recommended in case the packaging is equipped with susceptor or if the temperature of the food is over 100 °C or if the oven is also using simultaneously a grill or a thermal function.

Substrates:

OPP for IML, other plastics, foils, metallized paper, greaseproof papers, tracing papers…
PE coated board for cups
We always recommend realizing a preliminary short run in order to check adhesion and drying before final printing

Features - Performances:

⇨ **ON THE PRESS SIDE**

- Particularly easy to use: very good stability and water / ink balance
- Suitable for all dampening systems with or without alcohol
- Good stability but not a stay open system
- High speed runnability
- No misting

⇨ **ON THE PRINTING SIDE**

- High colour intensity
- No substrate distortion
- Excellent adhesion
- Over-printability and lamination (see fastness on the next page)
- For Overprintability in line with water based varnishes, we recommend to use specific water based varnish : 15-600611-6 for IML and standard applications
- For beer label printings, we recommend to use fast alkali inks (4/5) and specific water based varnish: 15-600457-4 / 15SI039314.
- For Overprintability with a UV varnish, contact our technical department

Warning:

- These inks are drying by oxidation which is a chemical process generating odour. For food packaging applications it is mandatory that the printing part does not alter the sensorial properties of the foodstuffs. So, we highly recommend to regularly ventilate the printed sheets and to respect enough time between the printing end and the post-processing operations (2 to 4 days)

-pH-dampening solution should be maintained between 5.5 and 6 and water settings should be kept to the minimum.

- In case it is necessary to increase drying speed and scratch resistance of Tempo Plastoffset 2 series, we recommend to add: 2% of Dryer 65-470105-1 (see below additive list). Note that this addition may impact the level of residual odour so it has to be minimized in case of IML printing or any food application.

- With high room temperatures, the ink may dry on the rollers when the press is stopped for several hours. Therefore, it is recommended to spray some anti-oxidant on the rollers before stopping for a longer period. Please consider that most of the anti-oxidant spray products available on the market are containing mineral oils/hydrocarbons and so may contaminate the first printed sheets after the re-start. In case of IML/cups printing or other food packaging application, we recommend you to contact our technical department to implement an alternative safer solution.

-The use of an IR drier or warm air may improve the setting and the gloss but it is recommended to respect 30°C maximum in the stack in order to avoid set off or blocking.

- These inks are not suitable for thermal oven usage.

- For toy applications, please contact our technical department.

- For final applications having to be stored in cool and humid conditions and/or requiring sterilization resistance and/or destined to dairy/cheese food, a blending issue may occur. We recommend to switch from the standard magenta to the alkali rubine red. Please conduct preliminary tests and contact our technical department.

- These inks have a shelf life of 2 years from the date of production. This has to be interpreted as a warranty of "the best use" concerning the printing properties of the inks, providing the cans are not opened and stored at room temperature. After this date the inks are still usable on the press but their printing properties could eventually be altered in terms of transfer, trapping, optical density and to a certain extend in term of shade by consequence of the transfer.

Auxiliary printing additives :

When certain substrates or machine conditions imply adjustments of the ink properties, the additives should be chosen in function of this substrate and of the further processing of the printed matter.

Role	Designation	New code numbers	Proportioning
Thinner	Gloss thinner	65-003818-5	2 % maxi
Tack reducer	Stargel	61-470080-5	2 to 4%
Hardener	Liquid dryer	65-470105-1	2%

For Fountain additives and Cleaning products please contact our technical department.

Packing size:

✓	Vacuum Metallic Tins	2.5 kg	Packaging code	1200

The range :

COMPLIANT INKS FOR IML AND CUP PRINTING

- **PROCESS INKS:**

Colours	Reference numbers	IWS (1)	Alcohol	Solvents	Alkali	Lactic acid	Butter	Overprint WB	Food Compliance IML & cups	Microwave ability until 100°C
Yellow	60-302634-5	5	5	4	5	5	5	Yes	Yes	Yes
Magenta	60-804846-8	5	5	5	3	2	5	Yes	Yes	Yes
Cyan	60-113897-7	8	5	5	5	5	5	Yes	Yes	Yes
Black	60-902017-7	8	4	4	5	5	5	Yes	Yes	Yes
Intense black	60-902016-9	8	5	5	3	2	5	Yes	Yes	Yes

We do not recommend to use above process inks for mixing system

- **MIXING SYSTEM :**

Colours	Reference numbers	IWS (1)	Alcohol	Solvents	Alkali	Lactic acid	Butter	Overprint WB	Food Compliance IML & cups	Microwave ability until 100°C
Yellow	61-302624-4	5	4	5	5	5	5	Yes	Yes	Yes
Yellow 012	61-302621-0	5	4	5	5	5	5	Yes	Yes	Yes
Fast Yellow	61-302620-2	6	5	5	5	5	5	Yes	Yes	Yes
Orange 021	61-701273-7	5	5	4	5	5	5	Yes	Yes	Yes
Fast Orange	61-701274-5	6	5	5	5	5	5	Yes	Yes	Yes
Fast Warm red	61-804884-7	6	5	5	5	5	4	Yes	Yes	Yes
Red 032	61-804886-2	5	5	3	5	5	3	Yes	Yes	Yes
Rubine red	61-804890-4	5	5	5	3	2	5	Yes	Yes	Yes
Fast Rubine red	61-804887-0	6	5	4	3	3	5	Yes	Yes	Yes
Alkali Fast rubine red	61-800847-8	6	5	5	5	5	5	Yes	Yes	Yes
Fast Rhodamine	61-804885-4	7	5	5	5	5	5	Yes	Yes	Yes
Fast Purple	61-101251-9	7	4	4	5	5	5	Yes	Yes	Yes
Fast Violet	61-101254-3	7	4	4	5	5	5	Yes	Yes	Yes
Fast Blue 072	61-113889-2	7	4	4	5	5	5	Yes	Yes	Yes
Fast Reflex blue	61-113885-0	7	4	4	5	5	5	Yes	Yes	Yes
Process blue	61-113921-3	7	5	5	5	5	5	Yes	Yes	Yes
Green	61-502450-2	8	5	5	5	5	5	Yes	Yes	Yes
Neutral black	61-901998-7	8	5	5	5	5	5	Yes	Yes	Yes
Opaque white	61-010012-5	7	5	5	5	5	5	Yes	Yes	Yes
Opaque Extra white	61-010013-3	7	5	5	5	5	5	Yes	Yes	Yes
Transp. white	61-003813-5	/	5	5	5	5	5	Yes	Yes	Yes
Transp.white low yellowing	61-000113-6	/	5	5	5	5	5	Yes	Yes	Yes

- **METALLIC INKS :**

Metallic shades	Metallic paste reference number	% of paste	Transp. white reference number	% of varnish	Toning with Plastoffset 2 base ink Reference	%	IWS (1)	Alcohol	Solvent	Alkali
Rich Gold	61-400048-7	**50**	61-003813-5	**50**	-	-	7	5	5	5
Rich-Pale Gold	61-402455-2	**50**		**50**	-	-	7	5	5	5
Pale Gold	61-400049-5	**50**		**50**	-	-	7	5	5	5
Gold PMS 871	61-400048-7	**50**		**50**	-	-	7	5	5	5
Gold PMS 872	61-400048-7	**50**		**47**	Fast orange 61-701274-5	**3**	5	5	5	5
Gold PMS 873	61-402455-2	**50**		**47**	Fast orange 61-701274-5	**3**	5	5	5	5
Gold PMS 874	61-402455-2	**50**		**46**	Fast orange 61-701274-5	**4**	5	5	5	5
Gold PMS 875	61-400049-5	**50**		**50**	-	-	7	5	5	5
Gold PMS 876	61-400049-5	**50**		**45**	Fast orange 61-701274-5	**5**	5	5	5	5
Silver	61-400046-1	**30**		**70**	-	-	7	5	5	5

(1) These light fastness values refer to a solid printing. Light fastness decreases when colour strength is reduced or if colours are intermixed.

Metallic inks are suitable for water based coating and are food compliant with IML & cup applications. To not use metallic inks for microwave applications

COMPLEMENTARY INKS NOT INTENDED FOR FOOD PACKAGING APPLICATIONS

Colours	Reference numbers	IWS (1)	Alcohol	Solvents	Alkali	Lactic acid	Butter	Overprint WB	Food Compliance IML & cups	Microwave ability until 100°C
Warm red*	61-804892-0	3	5	4	2	3	4	No	No	No
Rhodamine*	61-804891-2	4	1	1	2	3	5	No	No	No
Purple*	61-101252-7	4	1	1	2	3	5	No	No	No
Violet*	61-101253-5	4	3	3	4	5	5	No	No	No
Blue 072*	61-113886-8	3	2	3	4	4	5	No	No	No
Reflex blue*	61-113888-4	3	2	3	5	5	5	No	No	No

* Do not use for any application requiring resistance to sterilization and/or humidity condition storage.