



# Technical Datasheet

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## Product Name

SICURA Waterless

### 1. Description / Application

SICURA Waterless ink series is a waterless UV offset system, curing by radical mechanism, showing outstanding adhesion properties on a wide range of substrates

### 2. Product Safety

#### Intended Use

Food packaging, pharma, or hygiene: **No**

Only acceptable for food packaging if the processing conditions rule out the possibility of set-off in the reel or stack and the design of the final printed article ensures reliable functional barrier properties to migration. 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 chapter 5. "The printer's selection of ink" has to be observed.

### 3. Properties / Substrates

#### Properties

Adhesion, scratch- and scuff resistance, water resistance (wet scratch and wet scuff resistance), heat-sealing resistance and far-reaching resistances to cosmetics, lotions, shampoos, alcohol, cleaning agents and solvents are normally achieved on standard label substrates. Adhesion tests have to be carried out before printing.

The inks of this series are only **suitable under limited conditions** for thermal transfer and hot foil stamping. The inks of this series are only **suitable under limited conditions** for printing on thermal-paper.

#### Substrates

**The inks of this series are not suitable for:**

- not in-line Corona treated polyethylene
- not in-line Corona treated polypropylene as well as in-line Corona treated polypropylene
- polystyrol and strongly absorbing paper qualities

#### Filling goods resistance

It is always recommended to approve the resistance against filling goods.

In case of doubt, please contact in time our technical department.



### Guidelines for use

*Before the print job is started, new materials must be checked for compatibility with the inks of this series or with the planned ink-/overprinting varnish combination, even if their suitability on a comparable type of the same substrate group is proved.*

*The test prints, especially on self-adhesive labels, have to be examined after die-punching (in particular at the edges), for adhesion, resistance to scratching and water (resistance to wet scratching and scuffing), adhesion and scratch resistance after heat-sealing, resistance of the printed ink to the packaging contents and other application-specific requirements.*

*Due to the post-curing process, these properties may change during the first 24 hours after printing. Therefore please make a re-check after one day.*

*Consequently, for every new job in which printing is done on a known material, but with untested ink and printing combinations, the aforementioned tests have to be carried out as well.*

## **4. Printing and processing instructions**

### Checklist for start-up

In order to avoid any printing quality issues by starting with the Waterless, we recommend to apply the following procedure:

- All ink chambers have to be completely cleaned.
- Use doctor blade "Longlife" from Daetwiler (also recommended by Codimag).
- New blankets have to be put in (form roller and blanket cylinder). Blankets Conti-Air UV Black are strongly recommended.
- In case of building up on the rollers at start, please follow the cleaning procedure below. If the problem persists, please check the contact points, especially between anilox and form roller, and let them adjust according to standard of the press manufacturer.
- Setting parameter as starting point: Anilox 35°C; Printing plate 18°C.

### Printing plates

Toray plates for waterless inks or Presstek CPT plates are suitable. We recommend using negative plates. We strongly recommend to avoid any contact of the plate with solvents, they can harm the surface of the plate and this can lead to toning.

### Curing

Suitable for curing the inks of this series are medium pressure mercury vapour UV emitters with a power of at least 120-200 W/linear cm. Optimum results can be achieved using high performance quartz coated aluminium reflectors, which reflect almost the total UV radiation across the whole spectrum, but eliminating the infrared portion (e.g. by means of the "cold mirror" technology). Such reflectors yield maximum radiation density at minimum web heat load. For more power, two or more units can be connected in series.

The printing speed depends not only on the curing unit but also on the shade, colour strength and opacity. Generally, black, white and bronze inks will dry slower than yellow, red or varnishes.



### Overprinting

If higher gloss, better mechanical resistance and/or improved fastness to packaging contents or moisture are required, over-printing with one of our varnishes (see separate Technical Datasheets) is recommended. Other varnishes than the ones recommended by Siegwirk can be incompatible (bubbles on the surface).

Stir up well each ink or varnish before use. Mainly whites, colors containing white, varnishes as well as gold and silver inks show sedimentation of essential components.

Do not handle products without having consulted the corresponding safety data sheets. We supply them together with the first shipment.

### Light Resistance

The light fastness values refer to a solid tone printing. Light fastness decreases when colour strength is reduced or if colours are intermixed.

This applies also to other resistances mentioned in the product list.

### Cleaning

The inks can be removed from tools by using methoxypropanol.

Do not use solvents to clean the plates, this can harm the surface of the plate and lead to toning.

For the cleaning, inappropriate cleaners can destroy the surface of the blanket.

UV reactive thinners are not suitable for cleaning purpose.

In case of doubts please contact your Siegwirk contact

## **5. Shelf life**

The inks and varnishes of this series have under normal conditions a shelf life of **at least 12 months**. Within this period the products are usable in conformity with the indications of this data sheet.

Normal conditions mean:

- Storage in firmly closed, not yet tapped containers.
- Temperatures not exceeding 20°C for weeks or 25°C for days.
- Do not expose open containers to direct sunlight or strong light sources.



6. Product list

Product name	Product code	Light Resistance WS DIN ISO 12040	Alkali-Resistance DIN ISO 2836	Ethanol-Resistance DIN ISO 2836	Solvent-Resistance DN ISO 2836
WL Process Yellow E01	70-301010-8	5	Yes	Yes	Yes
WL Process Magenta E01	70-802219-9	5	No	Yes	Yes
WL Process Cyan E01	70-111515-6	7 - 8	Yes	Yes	Yes
WL Process Black E01	70-900771-0	7	Yes	No	Yes
WL Orange 021 C E01	71-700647-3	5	Yes	Yes	Yes
WL Warm Red C E01	71-802392-3	5	Yes	No	No
WL Rubine Red E01	71-802393-1	5	No	Yes	Yes
WL Red 032 C E01	71-802396-3	6	Yes	Limited	Limited
WL Rhodamine Red C E01	71-802400-3	6	Yes	Yes	Yes
WL Purple C E01	71-100573-6	7	Yes	Yes	Yes
WL Violet C E01	71-100572-9	7	Yes	Yes	Yes
WL Process Blue E01	71-121000-5	8	Yes	Yes	Yes
WL Reflex Blue Fast C E01	71-120998-2	7	Yes	Yes	Yes
WL Reflex Blue C E01	71-121004-7	3	No	No	No
WL Blue 072C E01	71-121002-1	7	Yes	Yes	Yes
WL Green C E01	71-501342-2	8	Yes	Yes	Yes
WL Neutral Black E10	71-900834-4	7	Yes	Yes	Yes
WL Fast Process Magenta E01	71-802398-9	6	Yes	Yes	Yes
WL Yellow light resist. E10	71-301080-9	7	Yes	Yes	Limited
WL Base Yellow E01	71-301078-4	5	Yes	Yes	Yes
WL Opaque White E01	71-010501-6	8	Yes	Yes	Yes
WL Transparent White E01	71-000380-8	-	Yes	Yes	Yes

<b>Additives:</b>	Antiton-Additive	<b>71-470064-8 ADD Levelling agent E53</b>	0.5 - 2 %
	Antitack-Additive	<b>71-470085-3 ADD Antitack Paste</b>	1 - 3 %
	Photoinitiator	<b>71-470108-3 ADD Photoinitiator</b>	1 - 2 %

Add the antitoning-additive only just before starting the print job because it reduces the viscosity and tack value. The addition of additives to an existing ink influences curing, please check the curing level.

Light Resistance

The light fastness values refer to a solid tone printing. Light fastness decreases when colour strength is reduced or if colours are intermixed.

This applies also to other resistances mentioned in the product list.

Because of the differences in materials for printing, processing conditions and test criteria this Technical Data Sheet can only be of an advisory nature. Our data reflect the latest state of our knowledge and are based on the characteristics established in the laboratory and on practical experience. Your own tests with the original materials under the respective conditions are indispensable. We disclaim any liability for applications for which this ink series is not foreseen.