



Technical Datasheet

Issue: March 2018

Product Name

SICURA Screen 78-3

1. Description / Application

Universal screen printing inks, curing by radical mechanism with UV-light, for a wide range of synthetic substrates (in-line Corona treated polypropylene included) and for paper, with high gloss and good fastness properties. SICURA Screen 78-3 series meets, due to its versatility, the various demands required by the producers of self-adhesive labels which print by rotary screen systems a broad spectrum 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

- excellent lay-down-properties
- standard applications for normal requirements on in-line corona treated polypropylenes need no addition of hardener
- with hardener **71-470074-7** (Nutri ADD Hardener E 90): for die-cutting resistance, water resistance and other enhanced requirements, in particular if critical substrates are used

Substrates

Adhesion, resistance to scratching and scuffing, water resistance (wet scratch and wet scuff resistance), and far reaching resistances to fats, acid or alkaline products, cosmetics, lotions, shampoos, alcohol, cleaning agents and solvents are normally obtained on standard label substrates. Suitability of each substrate has to be tested before print run.

Filling goods resistance

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

Special applications

These inks are normally **not hot stampable** and **not overprintable with the thermo-transfer method**.

The inks of this series are **not suitable for economic thermal papers** due to the darkening of the thermo-sensitive layer. Their **suitability on top-coat thermal papers is limited** mainly due to the comparably thick ink coat which may affect the thermal response.

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



4. Printing and processing instructions

- The inks of 78-3 contain silicone. Overprinting with inks not containing silicone is not possible – reticulation will occur!
- Please do not mix 78-3 inks and opaque whites with any other inks or 78-6 opaque whites.
- For combination printing please contact your Siegwerek partner.

Screens

Any rotary screen printing form developed according the photo-polymerization process resp. any polyester flat-bed screen with a solvent resistant emulsion may be used.

Rotary screen form recommendations

	Rotamesh,	Stork Mesh	Screeny, Open area (%)	Gallus Type
Line images and/or texts:		305	13	KS or KM
Intensive solids:		305	13	HV or KS
Fine lines:		305	17	KM or KF
Overprinting varnishes:		305	13	KM
Relief:		75	40	BZ

UV-Curing

Suitable for curing the inks of this series are medium pressure mercury vapour UV emitters with a power of at least 140 - 160 W/cm.

Under normal conditions it is possible to print at a speed of 30 - 60 m/min.

UV-Hardener 71-470074-7 (Nutri ADD Hardener E90)

Enhanced requirements such as cold and hot water resistance, die-cutting resistance or sterilization resistance can be achieved by admixture of 1 – 2 % of hardener **71-470074-7** (Nutri ADD Hardener E90). In particular on in-line Corona pre-treated polypropylenes and other critical substrates.

This 2-comp. system has a maximum pot life of 6 hours, which can vary depending on the ambient air temperature and humidity. It is recommended to first check the compatibility of the used ink-system with the hardener before printing.

The chemical crosslinking process and therefore the development of the required resistance takes about 24 hours at room temperature.

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.

PVC and un-primed polyethylene and polypropylene substrates may contain lubricants, which can migrate to the surface e.g. during storage. Such substances may be present even if the measured surface tension is higher than 42 mN/m; they can negatively influence the adhesion, the scratch and water resistance of the printed inks.

Stir up well each ink or varnish before use. Mainly whites, colours containing white, varnishes, mat 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.

Cleaning

The varnish can be removed from tools by using methoxypropanol.
UV reactive thinners are not suitable for cleaning.

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.

Exceptions:

80-909689-4, Euro Black C E01 + 80-909713-2, Black faster drying E51 = **only 9 months!!**

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 on wool scale DIN ISO 12040	Alkali Resistance DIN ISO 2836	Ethanol Resistance DIN ISO 2836	Solvent Resistance DIN ISO 2836
78-3 White E01	81-011485-0	8	Yes	Yes	Yes
78-3 Opaque White E11	81-011515-4	8	Yes	Yes	Yes
78-3 Greenish Yellow E01	81-321639-7	5-6	Yes	Yes	Yes
78-3 Euro Yellow C E01	80-321618-3	4	Yes	Yes	Yes
78-3 Orange 021 C E01	81-706081-7	4	Yes	Yes	Yes
78-3 Warm Red C E01	81-844084-4	4	Yes	Yes	Yes
78-3 Red PMS 032 C E01	81-844087-7	6-7	Yes	Yes	Yes
78-3 Rubine Red C E01	80-844042-4	5-6	Yes	Yes	Yes
78-3 Rhodamine Red C E00 (**)	81-844060-4	6-7	Yes	Yes	Yes
78-3 Red 07 E01	81-844124-8	8	Yes	Yes	Yes
78-3 Purple C E01 (**)	81-106596-0	6-7	Yes	Yes	Yes
78-3 Violet C E01 (**)	81-106593-7	6-7	Yes	Yes	Yes
78-3 Reflex Blue C E01 (**)	81-113277-8	6-7	Yes	Yes	Yes
78-3 Euro Blue C E01	80-113231-7	7-8	Yes	Yes	Yes
78-3 Green C E01	81-514488-6	8	Yes	Yes	Yes
78-3 Euro Black C E01	80-909689-4	7-8	Yes	No	Yes
78-3 Black faster drying E51	80-909713-2	4	Yes	Yes	Yes
78-3 Varnish E24	85-600744-8		Yes	Yes	Yes
78-3 Overprinting varnish E01	85-601643-1		Yes	Yes	Yes

(**) These shades are less pure due to the avoidance of the poorly resistant “fanal” pigments.

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.