

Technical Datasheet

Issue: November 2020

Product Name

SICURA Flex 39-8

1. Description / Application

Flexo printing inks, curing by radical mechanism with UV-light, for paper, in-line Corona treated polyethylene, varnished/primered polyethylene and varnished/primered polypropylene, PVC and other substrates. **Particularly suitable for processing with all flexo label printing machines equipped with an UV-curing system.**

With series SICURA Flex 39-8, Siegwirk offers the printer a **silicone free** ink system, which can - based on its flow properties fitting for flexo printing - be processed, straight out of the container.

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 printability
- fast curing
- good gloss, high colour strength
- low viscosity
- free of chlorinated binders and additives

Substrates

Adhesion, resistance to scratching and scuffing, water resistance (wet scratch and wet scuff resistance) and very good resistances to cosmetics, lotions, shampoos, alcohol, cleaning agents and solvents are obtained on standard label materials. However, individual tests under original conditions have to be carried-out before printing.

Filling goods resistance

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

Special applications

Except for special new paper qualities, the inks of this series are **not suitable for economic thermal papers** due to the darkening of the thermo-sensitive layer.

The inks of this series are principally **suitable for thermal transfer and hot foil stamping**. However, tests with original material under industrial conditions have to be carried-out, since the result depends largely on the quality of the used substrate.

The inks are all suitable for the shrinking process. Shrinkage behaviour depends on ink adhesion to the substrate. Under optimal conditions and with the correct white (White F Sleeves Series) contractions up to 60% are possible.

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



4. Printing and processing instructions

Overprint varnishes

If better mechanical resistance, improved fastness to packaging contents or moisture and/or other specific properties are required, over-lacquering with a suitable varnish is necessary. Please consult the separate Technical Information (available upon request).

Printing plates

In principle, photopolymer plates are suitable. However, the suitability has to be examined individually.

Anilox rollers

Depending on printing image and substrate e.g. the following or even finer laser-engraved anilox rollers (with doctor blade) can be used:

Application	Screen [l/cm]	Dip volume [cm³ /m²]
Highly concentrated process prints:	360 - 475	2.2 - 3.0
Standard process prints:	300 - 360	3.5 - 4.5
Line images and/or texts:	180 - 195	6.0 - 7.0
Intensive solids:	160 - 180	7.5 - 8.5
Fine lines:	200 - 320	4.5 - 6.0

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.

Fanal shades have a high bleeding tendency, this has to be kept in mind during the selection of inks and suitability tests are recommended.



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 inks can be removed from tools by using methoxypropanol. Reactive UV-thinners are not suitable for cleaning.

5. Shelf life

The inks 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:

80-900374-2 39-8 Process Black HC E03 = **only 9 months!!**
 81-900238-7 39-8 Deep Black E01 = **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	Alkali Resistance	Ethanol Resistance	Solvent Resistance
		DIN ISO 12040	DIN ISO 2836	DIN ISO 2836	DIN ISO 2836
39-8 Process Yellow C E01	80-300357-3	4	Yes	Yes	Yes
39-8 Process Magenta C E01 (***)	80-800698-5	5	No	Yes	No
39-8 Process Cyan C E01	80-110564-4	7-8	Yes	Yes	Yes
39-8 Process Black C E01	80-900214-0	7	Yes	Yes	Yes
39-8 Process Yellow HC E03	80-300530-5	4	Yes	Yes	Yes
39-8 Process Magenta HC E03 (***)	80-801028-4	5	No	Yes	No
39-8 Process Cyan HC E03	80-110905-9	7-8	Yes	Yes	Yes
39-8 Process Black HC E03	80-900374-2	7	Yes	Yes	Yes

(***) These shades are **only limited resistant against water**.



Product name	Product code	Light Resistance	Alkali Resistance	Ethanol Resistance	Solvent Resistance
		DIN ISO 12040	DIN ISO 2836	DIN ISO 2836	DIN ISO 2836
39-8 Greenish Yellow E01 (*)	81-300362-1	6	Yes	Yes	Limited
39-8 Orange 021 C E02	81-700400-5	4	Yes	Yes	No
39-8 Warm Red C E02	81-801536-4	5	Yes	No	No
39-8 Red 032 C E02	81-801537-2	7	Yes	Yes	Yes
39-8 Fast Rubine Red SL E01 (*)	81-800702-3	7	Yes	Yes	Yes
39-8 Rhodamine Red C E01 (**)	81-800707-2	4-5	Yes	Yes	Yes
39-8 Purple E01 (**)	81-100173-4	4-5	Yes	Yes	Yes
39-8 Violet C E01 (**)	81-100175-9	6-7	Yes	Yes	Yes
39-8 Blue 072 C E01	81-113480-8	6-7	Yes	Yes	Yes
39-8 Reflex Blue C E01 (**)	81-110569-1	6-7	Yes	Yes	Yes
39-8 Green C E02	81-500809-9	8	Yes	Yes	Yes
39-8 Yellow light resist. E01	81-300358-9	6-7	Yes	Yes	Limited
39-8 Orange light resist. E01	81-700124-1	6-7	No	Yes	Yes
39-8 Fast Warm Red E01	81-800701-5	6-7	Yes	Yes	Yes
39-8 Fast Red 032 E01	81-800700-7	6-7	Yes	Yes	Yes
39-8 Fast Rhodamine Red E01	81-800703-1	6-7	Yes	Yes	Yes
39-8 Fast Purple E01	81-100174-2	6-7	Yes	Yes	Yes
39-8 Transparent white E03	81-000267-5		Yes	Yes	Yes
39-8 Blending varnish E01	81-000175-6		Yes	Yes	Yes
39-8 Deep Black E01	81-900238-7	7	Yes	Yes	Yes

(*) Special basic inks for particular shades and/or particular fastness properties.

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

UV reactive thinner: 71-470070-5 (ADD Reactive diluent E83)

Fanal-shades are available upon request. Since fanal-dyes have a high bleeding tendency, tests have to be carried out before printing.

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.

This TDS is also valid for all color blends that consist of the listed basic components. The lightfastness and resistances of a blend always refers to the lowest or weakest property of the individual components used.

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.