



Technical Datasheet

Issue: April 2019

Product Name

SICURA Flex + Nutriflex opaque white for sleeves

1. Description / Application

Radical curing UV-Flexo opaque white inks for reverse printing on shrinking foils. To be applied on a wide range of synthetic substrates.

The optimised gliding properties and scratch resistance of the Sicura Flex opaque white inks from Siegwerk fulfil the high demands of sleeve-applications.

2. Product Safety

Intended Use

Food Packaging: **NO**

Only for Nutriflex Products

Food packaging, pharma, or hygiene: **YES**

Only for food packaging inks

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 chapter 5. "The printer's selection of ink" has to be observed.

3. Properties / Substrates

Substrates

Adhesion, scratch and scuff resistance, water resistance (wet scratch and wet scuff resistance) as well as far reaching resistances to cosmetics, shampoos alcohol and cleaning agents are obtained on following substrates:

- In-line Corona-treated polyester, with a surface tension of at least 40 - 45 mN/m (dyn).
- In-line Corona-treated polyvinyl-chloride, with a surface tension of at least 42 - 45 mN/m (dyn).
- In-line Corona-treated polystyrene, with a surface tension of at least 42 - 45 mN/m (dyn).

Other substrates after proper technical evaluation.

For further information, please contact our technology department.



Guidelines for use

Before the print job is started, new materials must be checked for compatibility with the opaque white 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

The whole printing unit (ink tube, doctor blade and doctor blade axle, pump circulation) has to be cleaned thoroughly with a suitable detergent before printing because slight soiling can interrupt the flow of the ink and cause pinholes.

If the viscosity is too high, it can be adjusted with thinner **71-470099-4** (ADD Reactive diluent E26). Recommended quantity: 5% maximum (**only for non-LM products!**).

Anilox rollers

In practice, ART Anilox rollers from Praxair show very good results, but also other Anilox providers can offer suitable products. With the following specifications we got good results:

Application	Screen [l/cm]	Dip volume [cm ³ /m ²]
Opaque White:	120 - 180	9.0 – 12.0

The white inks also work well on “normal” types of Anilox rollers with less cell volume, however the coverage is a bit worse, due to the low ink transfer.

Please ask your Siegwerk contact person for printing samples of various Anilox specifications.

Base plates

The practise has shown that medium-hard to hard plates in combination with soft tape lead to the best results.

Stir up well each ink or varnish before use. Mainly whites, colours 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.

Cleaning

The inks can be removed from Anilox rollers and 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.

Normal conditions mean:

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

6. Product list

Available are several opaque white inks with different compositions and properties in terms of viscosity, COF. As an example:

Product name	Product number	Viscosity [Pa*s]	Pigment ratio	Wax %	Silicone %	Coefficient of friction (DIN 53375)	
						static	dynamic
Flexo Sleevewhite E02	81-010247-5	0.8	high	-	3.2	0.30	0.20
Flexo Sleevewhite E04	81-010332-5	0.5	very high	1.5	3.5	0.30	0.15
Flexo Sleevewhite E05	81-010537-9	0.75	high	1.5	3.8	0.17	0.13
Flexo Sleevewhite E60	81-011526-1	1.0	high	3.0	-	0.45	0.30
Flexo Sleevewhite E10	81-010304-4	0.8	high	-	3.2	0.50	0.25

Low migration:

Product name	Product number	Viscosity [Pa*s]	Pigment ratio	Wax %	Silicone %	Coefficient of friction (DIN 53375)	
						static	dynamic
Nutriflex Sleevewhite E01	81-010206-1	1.2	high	2.8	-	0.3	0.20
Nutriflex Sleevewhite E02	81-010231-9	1.2	high	-	1	0.2	0.15
Nutriflex Sleevewhite E05	81-010527-0	1.1	high	2.5	2.8	0.2	0.15



Opaque whites		Additives			
Product name	Product code	ADD Reactive diluent E83 Dosage (%)	ADD Initiator E01 Dosage (%)	Nutri-ADD Reactive diluent E10 Dosage (%)	Nutri-ADD Reactive diluent E20 Dosage (%)
		71-470070-5	81-470167-8	85-601859-3	71-470089-5
Flexo Last Down					
Flexo Sleevewhite E02	81-010247-5	max. 5%	max. 3%	no	no
Flexo Sleevewhite E04	81-010332-5	max. 5%	max. 3%	no	no
Flexo Sleevewhite E60	81-011526-1	max. 5%	max. 3%	no	no
Flexo Sleevewhite E10	81-010304-4	max. 5%	max. 3%	no	no
Nutriflex Last Down					
Nutriflex Sleevewhite E01	81-010206-1	no	no	max. 5%	max. 5%
Nutriflex Sleevewhite E02	81-010231-9	no	no	max. 5%	max. 5%
Nutriflex Sleevewhite E05	81-010527-0	no	no	max. 5%	max. 5%

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.