



TORACUR W71 Ink Series

Low-Migration Ink Series for Waterless UV Offset

Characteristics

With the TORACUR W71 Ink Series we present a low-migration series for waterless offset printing. It is suitable for use on food packaging as well as for non-food applications and allows high-quality picture prints, e.g. for labels or special applications such as customer loyalty cards and mousepads.

Technical Data

- **Drying/Curing:** UV-Hg (Mercury Vapour)
- **Substrate:** Film - Paper Plastic Coated - Paper Metalized - Paper Coated - Paper Uncoated
- **Printing Process:** Waterless Offset
- **Formulation:** Low Migration - VOC-free
- **Press Performance:** Wide temperature range (22°-30°C, depending on motive) - Low increase of tonal value
- **Surface Properties:** Adhesion Optimized
- **Further Processing:** Overvarnishing - Thermal Transfer - Thermal Direct
- **Application:** Folded Box - Flexible Packaging - Self Adhesive Labels
- **End Application:** Food - Cosmetics - Pharmaceuticals
- **Market:** Packaging - Labels
- **Conformities:** Nestlé, Guidance Note on Packaging Inks
- **Available Systems:** 4 Colour Process - PSO Process Colours - PANTONE® Base Colours - Z Base Colours
- **Mixing Lists Basis:** PANTONE® Base Colours - Z Base Colours

Packing Units

- 1 kg plastic can (black)

Technical Service Center

Kindly note that we are ready at any time for competent technical application support on your site. Please contact our technical service centre for printing inks:

Ink-Service@Zeller-Gmelin.de
Tel: +49 7161 802-279

Additives

TORASTABIL V932 Anti-Toning Additive

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Addition max. 0,1%-0,5%
Increases the viscosity and the tack.

UVALUX® U0012 UV Reducer

Addition max. 3%
Reduces the viscosity and the tack.

UVALUX® U0088 UV Printing Paste

Addition max. 5%
Reduces the tack without reducing the viscosity significantly.

TORACUR W71-X60001 Transparent White

Addition unlimited
Highly transparent, for reducing colour strength, tack and viscosity remain at a comparable level.

TORACUR W710020 Silicone Fluid

Only for rubbing into plates, not suitable as ink additive
Reduces scumming problems

W963 UV Wash Up with Lemon Smell

Suitable for cleaning inking systems, sleeves, plates, blankets, etc.
Not approved for automatic washing units

UV Roller Cleaning Paste UV866

Only for rubbing into ink rollers, not suitable as ink additive
For cleaning of the ink rollers in offset and letterpress printing units from UV inks. Distribute paste with spatula on the oscillating rollers, let machine run without printing for several minutes, scrape off and wash again.

Remark:

The addition of any additive might change the overall characteristics of the printing ink.

Storage

Optimal storage conditions:

The optimal storage temperature is 20°C. Higher storage temperatures reduce the shelf-life.

Remarks:

- protect from frost

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- store in a cool and dark place
- stir well before use
- can should be closed immediately after usage

Warranty:

If the inks are stored correctly, we guarantee a shelf life of 6 months from date of delivery, as our raw material suppliers guarantee this period to us. However we know from practical experience our products can remain usable for 1-2 years or longer if they are properly handled and stored.

Service

Complete PANTONE® mixing recommendations. Ink formulation systems, mixing systems and dispensing systems are possible in different expansion levels.

Base ink basis for mixing recommendations:

- TORACUR W71-P... PANTONE® base inks
- TORACUR W71-Z... high intensity monopigmented base inks

Practice Remarks

Printing Materials

We recommend using ester and ketone resistant rollers (EPDM-material). The inking roller, rubber blanket and printing plate have to be resistant against UV-inks and UV-detergents (see manufacturers instructions).

Temperature Adjustment

Depending on the motive the temperature of printing plates and oscillating rollers should be within the range of 22°-30°C. Generally the plate temperature should be as high as possible. This improves transfer, density, printout and laydown of the ink.

To find the optimal temperature we recommend the following procedure:

- Starting point: Plate temperature of 22°C.
- Increase the temperature gradually in 1°C steps until the plate starts scumming or the print starts smearing.
- Reduce the temperature in 1°C increments until scumming stops.
- The temperature of the oscillating rollers should be adjusted to approximately 27°C.

Information about Light Resistance

All light resistances are indicated according to the blue wool scale (BWS) and are based on the product specifications of our pigment suppliers. Light resistance can change when mixing inks and when printing halftone. Depending on the mixing ratio and on the fineness of the screen the light resistance can be lower than the pure solid colour.

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Resistance requirements when using dispersion varnishes

Inks overprinted with dispersion varnishes should be resistant against alkali according to DIN 16524. Exception: Although the standard Magenta pigment of our TORACUR W71 Ink Series is not alkali resistant it can be overprinted with common dispersion lacquers without problems.

Preliminary Tests Recommended

Before beginning to print we recommend practice oriented pretests on your substrate, in order to test the desired characteristics of the finished product.

Marking

Marking according to EC legislation:

Our inks are classified and marked according to EC legislation and the German "Gefahrstoffverordnung" (German dangerous substances regulation).

The material safety data sheet (MSDS) is available on request.

Product Designation

Process Inks CMYK:

W71-S... Standard Process Inks

W71-S...S standard process inks, high light resistance

W71-S4... PSO process inks according to DIN ISO 2846-1

Zeller+Gmelin Base Inks:

W71-Z... high intensity monopigmented base inks

PANTONE®:

W71-P... PANTONE® base inks

W71-P...S PANTONE® base inks, high light resistance

W71-C... PANTONE® mixed shades "coated"

Special Colours: W71-X...

Covering White: W71-X55001

Transparent White: W71-X60001

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Monopigmented Base Inks

For ink mixing we recommend our mono-pigmented base inks. It is a print-ready system, with maximum colour strength. These base inks contain only one pigment respectively.

Advantages:

- Ink formulations are better reproducible
- Higher production security
- The higher colour-intensity makes printing with reduced ink lay-down possible
- Reduced dot gain
- More flexibility when adjusting colour strength for solids or fine texts
- Mixing recommendations are available for all PANTONE® mixed shades
- Ink dispensing, mixing and measuring systems with different expansion levels available

Product designation of the monopigmented base inks:

- TORACUR W71-Z... high intensity monopigmented base inks

Resistance Properties

Colour Name	Article Number	Light Resistance	Spirit Resistance	Solvent Resistance	Alkali Resistance
4 Colour Process					
Yellow	W71-S1100	5 BWS	+	+	+
Magenta	W71-S1200	5 BWS	+	+	-
Cyan	W71-S1300	8 BWS	+	+	+
Black	W71-S1400	8 BWS	+	+	+
Intense Black	W71-S2400	8 BWS	+	+	+
4 Colour Process (High Light Resistance)					
Yellow	W71-S1100S	6 - 7 BWS	+	+	-
Magenta	W71-S1200S	6 - 7 BWS	+	+	+
PSO Process Colours					
Yellow	W71-S4100	4 BWS	+	+	+
Magenta	W71-S4200	5 BWS	+	+	-
Cyan	W71-S4300	8 BWS	+	+	+

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Black	W71-S4400	8 BWS	-	-	+
PANTONE® Base Colours					
Yellow	W71-P100	5 BWS	+	+	+
Yellow 012	W71-P101	5 BWS	+	+	+
Orange 021	W71-P150	5 BWS	+	+	+
Warm Red	W71-P200	3 BWS	+	+	-
Red 032	W71-P201	6 - 7 BWS	+	+	+
Rubine Red	W71-P202	5 BWS	+	+	-
Process Blue	W71-P301	8 BWS	+	+	+
Green	W71-P350	8 BWS	+	+	+
Black	W71-P400	8 BWS	+	+	+
PANTONE® Base Colours (High Light Resistance)					
Warm Red	W71-P200S	5 - 6 BWS	+	+	+
Rhodamine Red	W71-P203S	6 BWS	+	+	+
Purple	W71-P250S	6 - 7 BWS	+	+	+
Violet	W71-P251S	6 - 7 BWS	+	+	+
Reflex Blue	W71-P300S	6 - 7 BWS	+	+	+
Blue 072	W71-P302S	6 - 7 BWS	+	+	+
Rubine Red	W71-P202S	5 BWS	+	+	-
Z Base Colours					
Yellow	W71-Z2100	6 - 7 BWS	+	+	+
Yellow	W71-Z2101	5 BWS	+	+	+
Orange	W71-Z2150	5 BWS	+	+	+
Red	W71-Z2200	3 BWS	+	+	-
Red	W71-Z2201	6 - 7 BWS	+	+	+
Red	W71-Z2202	6 - 7 BWS	+	+	+
Red	W71-Z2203	5 BWS	+	+	-

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Red	W71-Z2204	6 - 7 BWS	+	+	+
Violet	W71-Z2251	6 - 7 BWS	+	+	+
Blue	W71-Z2302	8 BWS	+	+	+
Green	W71-Z2350	8 BWS	+	+	+
Black	W71-Z2400	8 BWS	+	+	+
Covering White	W71-Z2500	8 BWS	+	+	+
Transp.White	W71-Z2600				

Remarks on Migration and Conformity

The following remarks are valid for the production of food packaging which conforms to the regulations in the European Union. We can not make any statements concerning food packaging legislation of countries outside the EU.

Regulation (EC) No. 1935/2004 requires that the one responsible for the “placing on the market” of a packaging article must have an appropriate documentation available to demonstrate the compliance with the rules related to food processing and distribution.

Not only the used materials have an influence on the food-legislation related properties of a packaging. The production process of the packaging has a significant impact as well.

Therefore we recommend that you send your finished products to a recognized analytical institute for examination and certification. That way you can prove that your products comply with the legal requirements.

The transfer of substances from the packing into the filling is called migration. The following production parameters have a significant influence on the grade of migration:

- correct processing, especially the complete through-cure of the ink film
- type of substrate and substrate thickness (sufficient barrier effect of the substrate)
- prevention of a direct contact of the printing ink with the food
- use of low-migration printing inks

The TORACUR W71 Ink Series

has a special low-migration formulation. Therefore we recommend these products for printing of materials for food-packaging. The EuPIA designation "FCM" stands for products which are generally suitable for the production of food-packaging. Please note that our FCM products are designed for use on the packaging outside (Non-DFC). A direct contact of the filling with the printed image has to be avoided.

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Due to the low migration formulation it is reasonable to assume that with these products migration limit of the European Union should be well achievable (Regulation (EU) 10/2011 and Regulation (EU) 1183/2012). Therefore it should be possible with these products to fulfil the legal requirements of EC regulation 1935/2004.

We produce our low-migration products in accordance with the EU regulation 2023/2006 (Good Manufacturing Practice, GMP). The resulting demands on printing ink manufacturers are detailed in the EuPIA-GMP (see www.eupia.org).

Generally you should ensure with a migration analysis that no migration through the entire packaging system takes place. Due to the multitude of packaging materials and their completely different barrier properties we are unable to make any statements regarding through-migration.

However please note that migration can also occur by set-off when the printed surface is pressed against the food-contact surface of the packaging in the stack or reel.

We formulate our low-migration products in such a way that potential migration is as low as possible, both through the substrate and by set-off from the print-surface to the food contact surface in the stack or reel.

The TORACUR W71 Ink Series is formulated in accordance with the Nestlé Guidance Note on Packaging Inks.

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