

Technische Information

UVALUX® U3 UV Inks for metal decoration

Characteristics

UVALUX® U3 inks are new high concentrated radiation curing offset and dry offset printing inks designed of sheet printing on coated sheet metals.

The ink series meets the technical requirements in terms of great flexibility and resistance to abrasion.

Product range:

Available are process inks, PMS basic inks and special inks.

Technical Data

Properties:

- High reactivity
- Excellent printability
- High pigmentation resulting in good color strength
- High light fastness at least 6
- Temperature resistance at least up to not under 180°C (30 min)
- Can be heat sterilized
- Resistant to overprint varnish
- Very Good curing
- Excellent adhesion on varnished substrates
- Very high scratch resistance
- Flexible ink lay down, good formability
- ITX free
- Very good Abrasion properties

Substrates

Varnished metals : aluminium, sheet steel, tin plate

Technical Service Center

Kindly note that we are ready at any time for competent technical application support on your site.

Kindly contact our technical service center for printing inks:

Ink-Service@Zeller-Gmelin.de

Tel: +49 7161 802 279

Packaging

Standard packaging: 2,5 kg Metal Containers

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Additives and wash up

Additives:

UVALUX® UV reducer U0015, reduces tack and viscosity addition 2 – 5%

UVALUX® UV printing paste U0088, reduces tack, no change of viscosity, addition max. 10%

UVALUX® U3-X60001 transparent white, highly transparent, for reducing of color strength, no change of tack and viscosity, addition unlimited.

Hints

Any addition of any additive might change the overall characteristics of the cured ink.

Storage

Storage conditions:

The inks must be stored in dark conditions. The inks must not be exposed to direct light for prolonged periods. The most favorable temperature is about 20°C ± 5°C. As a general rule, the shelf life increases proportionally to the lowering of storage temperatures.

Hints:

- protect from frost

Guarantee:

If inks are stored correctly, we guarantee a shelf life of 6 months from date of delivery, as our supplier of raw materials guarantee this period to us. However, we can say from practical experience, when stored and used properly, the inks will in many cases perform perfectly for 1-2 years or often much longer.

Product designation

Process inks: U3-S... high light fastness version

Basic inks: U3-Z2... mono pigmented base ink series

Pantone®: U3-P... high light fastness version PMS basic inks

Special inks: U3-X...

Opaque White: U3-X55...

Mono pigmented basic ink series

The UVALUX® U3-Z2...-basic ink series consists of 10 mono pigmented basic inks. It is a system which is ready for printing and is equipped with a maximum of ink intensity. This allows a best matching of Pantone® colour shades. The improved colour strength enables printing at reduced film thickness and therefore reduced dot gain.

Advantages:

- Best matching of Pantone® colour shades.
- The improved colour strength enables printing at reduced film thickness.
- Reduced dot gain at halftone printing.
- More flexibility to adjust colour strength for solids and fine lettering.
- Less colour deviation in view of the printing products under different light sources (metamerism).
- The full Pantone® mixing cross referends system is available.
- Ink dispensing, mixing and measuring systems with different expansion levels.

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Hints for light fastness

Light fastness can change when mixing inks and at halftone printing.

Recommendations for Press Rollers

We recommend using of Ester and Ketone resistant press rollers (EPDM material).

Marking

Marking according to EWG-guide lines:

Our inks are classified according to EG guide lines EG-Richtlinien/GefStoffV.

Kindly ask for safety data sheet.

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Fastness properties of Process Inks						
Color shade	Item number	Light fastness	Spirit	Solvent mixture	Alkali	Color shade
Process Inks						
Gelb	U3-S1100	7	+	+	-	
Magenta	U3-S1200	6-7	+	+	+	
Cyan	U3-S1300	8	+	+	+	
Schwarz	U3-S1400	8	+	+	+	

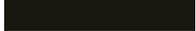
Fastness properties of Pantone®						
Color shade	Item number	Light fastness	Spirit	Solvent mixture	Alkali	Color shade
Pantone®						
Yellow	U3-P100	7	+	+	-	
Yellow 012	U3-P101	7	+	+	-	
Orange 021	U3-P150	6-7	+	+	+	
Warm Red	U3-P200	6	+	+	+	
Red 032	U3-P201	6	+	+	+	
Rubine Red	U3-P202	6-7	+	+	+	
Rhodamine Red	U3-P203	6-7	+	+	+	
Purple	U3-P250	6-7	+	+	+	
Violet	U3-P251	6-7	+	+	+	
Reflex Blue	U3-P300	6-7	+	+	+	
Process Blue	U3-P301	8	+	+	+	
Blue 072	U3-P302	6-7	+	+	+	
Green	U3-P350	8	+	+	+	
Black	U3-P400	8	+	+	+	

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Fastness properties of UVALUX® Z2-basic ink series

Color shade	Item number	Light fastness	Spirit	Solvent mixture	Alkali	Color shade
Yellow	U3-Z2100	7	+	+	+	
Yellow	U3-Z2102	7	+	+	-	
Orange	U3-Z2150	6-7	+	+	+	
Red	U3-Z2202	6	+	+	+	
Red	U3-Z2204	6-7	+	+	+	
Red	U3-Z2205	6-7	+	+	+	
Violett	U3-Z2251	6-7	+	+	+	
Blue	U3-Z2302	8	+	+	+	
Green	U3-Z2350	8	+	+	+	
Black	U3-Z2400	8	+	+	+	
Transparent White	U3-Z2600					
Opaque White	U3-Z2500	8	+	+	+	

The colors shown are only for illustration. The colors are not a binding color sample!

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Product declaration

UVALUX® – printing inks, including additives

UVALUX® inks are UV reactive letter press, web and sheet fed printing inks for printing of several substrates of paper and films. The curing process under UV light is a radical reaction of polymerisation.

We only use a careful selection of raw materials under the terms of the CEPE "Rohstoff-Ausschlußliste für Druckfarben" which provide the best possible characteristics alongside security at the workplace according to the latest available technology. This excludes the application of the following materials in our printing inks: cancer producing materials, genetic changing materials, reproducing endangering materials and toxic materials. The mentioned materials listed in the regulation 67/548 EWG (changed by the regulation 2006/121/EG) and in 76/769/EWG are **not part of our UV printing inks!**

Our UV printing inks adhere to all regulations and limits as described by CONEG, i.e. CONEG limit of 100 ppm as sum value for total content of four heavy metals lead, cadmium, mercury, chromium VI, is not only met but also shortened as several spot-tests prove. Also the boundary values of the DIN EN71-3 regulations regarding the "security of toys" are also fulfilled.

For primary packaging, the following is valid:

Providing the professional handling of our printing inks and a design of the foods packaging in such a way that direct contact of the printing ink with the filling will never take place, we can herewith declare that our printing inks are suitable for regulations EU guide line 1935 / 2004. Impact on the migration on substances out of the ink into the food has amongst other things printing speed, ink layer, UV power, substrate etc.

As Zeller+Gmelin do not effect the production of packaging, the manufacturer of packaging has to produce in accordance to the EU guide line 1935 / 2004. Furthermore the producer of consumer goods has to prove that with Zeller+Gmelin inks and with the production terms of manufacturer, the EU guide line 1935 / 2004 is achieved. We would like to draw your attention to the fact that according to current law, the producer and not the supplier is responsible for his products to fulfil all legal requirements.

Please note all announcements of „Verband der Deutschen Druckfarbenindustrie“ to the subject „printing inks for food packaging“.

In addition we herewith confirm that our printing inks comply with the following EC directives: 2002/72/EG, 2002/16/EG, 2002/95/EG.

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Heavy Metals

CONEG stands for Coalition of North-Eastern Governors in the USA . One of their legislations, adopted by 18 states as of 1998, requires reductions in the amount of four heavy metals (specifically, mercury, lead, cadmium, and hexavalent chromium) in packaging and packaging components sold or distributed in their member states. For Zeller+Gmelin printing inks the limits for heavy metals as listed in the CONEG-Regulation (USA) are met.

The Euro Norm 71.3 refers to the max level of heavy metals in childrens toys. For Zeller+Gmelin printing inks the limits for heavy metals as listed in the EN 71.3 are met.

Heavy metals are no part of our formulations.

Hazardous substances

Substances mentioned in the **Directive 95/2002** (RoHS) are not intentionally used in our formulations / printing inks.

SVHC-substances (substances of very high concern). In our products no substances are used which meet the criteria of SVHC-substances (substances of very high concern). SVHC-substances are substances which are classified as CMR 1 & 2, PBT (PBT pollutants are chemicals that are toxic, persist in the environment and bioaccumulate in food chains), vPvB (Substances that are potentially very persistent and very bioaccumulative) und endocrine disruptors (artificial hormones).

ISO 9001

The production site of Zeller+Gmelin / Germany is certified according to DIN EN ISO 9001:2000 and DIN EN ISO 14001:2005 (corresponds to EN ISO 14001 edition Nov. 2004).

Please note:

The manufacturer of the finished article and the filler have the legal responsibility to ensure that it is fit for its intended purpose.

There are many types of final package and the printing ink is only one constituent. Since the parameters in the printing, packing and storage processes are not under the control of the printing ink manufacturer, the printing ink suppliers are not able to issue certificates or declarations of compliance which cover the legal responsibility of the entire packaging chain Text fom EuPIA-PIFOOD May 2007)

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