


Technical Product Information		
UNIPAK UV 282 004 Silver		
Article-No:  023882..	Product name:  UNIPAK UV 282 004 TC Silver	
REVISION: 1	EDITION: JUNE 2021	IDENT-NO: 00503.E
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#### Product description:

UNIPAK UV inks are radical curing, solvent free, wax containing, stable one-component UV inks, based on aluminium pigments for the coater unit of an offset sheetfed press.

The radiation curing (UV light) ink series UNIPAK UV may release odour-generating by-products during the drying process and is neither low-migration nor low-odour. Therefore it might contain unevaluated substances with the potential to migrate. Further essential measures for food packaging inks like specific raw material selection, analytic control of raw materials and final products on composition and impurities, GMP production, can not be guaranteed for our ink series UNIPAK UV. Due to our production processes for this product, we cannot guarantee necessary measures for FCM (Food Contact Materials), such as special raw material selection, control of raw materials and end products regarding composition and impurities or production according to GMP.

A SoC is therefore not available for this product.

When using this product in indirect food contact, the suitability for this application has to be tested before commercial use by the user through suitable analyses.

#### Application:

UNIPAK UV products are UV curing inks for applications in the coater unit of an offset sheetfed press.

Suitable for printing on paper and carton like packaging and folding carton.

As with all metallic inks the substrate has an influence on the final result. Very absorbent or uneven substrates often cause poor pigment orientation resulting in inferior brilliance. This is true not only for optical properties such as adhesion, transfer and curing. In some cases, the use of primers for an improvement of the substrate surface is advantageous.

Over lacquering reduces the metallic effect. This influence as well as the cohesion depend very much on the laquer and should be tested prior to any commercial use.

#### Product properties:

##### Curing:

UNIPAK UV series shows on many substrates, with using a UV-lamp capacity of 140 Watt/cm and printing speeds of 60-80 m/min, a fast and good curing (MEK-test).

##### Rub resistance:

Completely cured UNIPAK UV inks provide a good rub resistance on almost all substrates. To meet high demands on rub resistance an overprinting varnish should be applied, ideally inline with additional curing. However, any finishing reduces the metallic effect.

##### Adhesion:

A corona treatment is recommended. Also by using highly coated papers, the adhesion can be improved significantly in this way.

The maximum adhesion takes effect after around 24 hours.

#### Intercoat adhesion:

The leafing pigments in the UNIPAK UV inks can cause poor intercoat adhesion properties.

Overlacquers or other types of downstream finishing (i.e. laminates) will cause a decrease in the metallic brilliance and proper testing is recommended before commercial production runs.

#### Chemical resistance:

Resistance to	UNIPAK UV TC series
spirit	+
nitro	+
alkaline	-

The different shades of gold bronze pigments are based on an alloy of copper and zinc (brass) in different ratios. These alloys can react with chemicals or natural materials under a change of colour shade up to a complete decomposition of the metal pigments. Carefully testing of all materials involved in the whole production process, although not directly involved in the printing process, is absolutely necessary before commercial print runs.

#### Additional product properties:

UNIPAK UV TC	282 004 Silver
Pigment content	appr. 11.0 %
Pigment size (D <sub>50</sub> )	appr. 5.0 µm
Solvent content	0 %
VOC	0 %

*For specifications of our products, please refer to the technical data sheet.*


#### Recommended printing parameters:

The coater unit must be equipped with a double blade chamber system with an anilox roller. Recommended are "peristaltic" pumping systems.

Negative: Diaphragm pumps often incorporate a lot of air into the ink, which creates micro foam and a viscosity increase resulting in poor printability.

#### Anilox configuration:

The final choice of the anilox depends on the details of the design. More brilliant effects are possible with high cell volumes. The following parameters have shown to be useful:

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UNIPAK UV series	L/cm	L/inch	Volume cm <sup>3</sup> /m <sup>2</sup>	Volume BCM/in <sup>2</sup>
<b>Solid areas &amp; broad lines</b>	80-120	200-300	12-15	8.0-10.0
<b>Fine lines</b>	140-170	360-440	7-10	4.5-6.5

#### Printing speed:

The maximum printing speed depends on press conditions, substrate and chosen cell volume.  
With sufficient curing power (140 Watt/cm UV-lamp capacity), press speeds up to 12.000 sheets per hour are possible.

#### Printing viscosity:

UNIPAK UV inks are supplied with print viscosity.

#### Dilution:

The inks are already adjusted to printing viscosity. It is not recommended to add reactive diluents as a negative impact to optical effect, curing speed and stability of the ink could occur.

If necessary to adjust the viscosity, this can be achieved by low addition of reactive diluents like HDDA, TPGDA or TMP(EO)TA at. press-side.  
If unavailable, up to 5% of Methoxypropanol or N-Methylporrolidon can be added

#### Additives:

Not recommended. Any modification might impact the stability or the optical properties of the ink and is taken on own risk.

#### Cleaning recommendations:

UNIPAK UV inks can be cleaned by using conventional UV-cleaning agents. Also with esters or ester/alcohol mixtures the uncured inks can be removed easily from the cylinders.

Please refer to the safety data sheet and the safety guidelines given there.

#### Handling:

UNIPAK UV inks are stable, brilliant one-component inks that can be printed without modification. Blending with other components should only be done on ECKART's recommendation in order to avoid a possible decrease in quality.

Metallic inks tend to settle because of the high specific gravity of the pigment. This is normal and not due to a lack of quality. The inks can be easily stirred up and homogenised again. This should be done before viscosity is checked. No pigment settling should be left on the bottom of the container.

When handling UV inks please refer to the safety data sheet and the safety guidelines given there.

#### Storage and transportation:

UNIPAK UV inks should be stored at temperatures below 25°C. Direct sunlight should also be avoided.  
High temperatures can lead to gelling. Low temperatures can result in the separation of low soluble binder components. Opened containers should never be handled in the direct sunlight, since this result in a preliminary polymerisation.

**Shelf life:** 6 months

Important: ECKART strongly recommends disposing of used ink after running on press, as the shelf-life of this material can be greatly reduced due to various factors such as light, heat, contaminants etc.

ECKART cannot guarantee the shelf life of printing ink which has been previously used or modified, nor for ink which has been stored outwith the conditions above.

For further information or samples, please contact:

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The data on this technical information sheet correspond with the current status of our knowledge and experience. The liability for the application and processing of our products lies with the buyer, and he is also responsible for observing any third party rights. We reserve the right to alter any product data as a result of technical progress or further developments in the manufacturing process.