

Ultraset UVOS



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UV-curable 4-colour process shades for waterless offset printing

Press-ready, high pigmentation, very fast curing of the ink - also in the case of high printing speeds

Field of application

Ultraset UVOS is a UV-curable and waterless offset ink suitable for printing onto all optical disc formats; CDs and DVDs, DVD-R, DVD-RW, Blu-ray, as well as surfaces pre-printed with white.

All UVOS shades can be processed on modern screen/offset printing combination presses either following the 'wet-on-wet' or 'wet-on-dry' concept.

Since the different opaque whites pre-printed are subject to a certain post-curing, overprinting with Ultraset UVOS should generally be carried out as soon as possible. Preliminary trials as to the compatibility of the spin coat and the printing ink are essential.

The curing speed of the ink is generally depending on the kind of UV-curing unit (reflectors), number, age, and power of the UV-lamps, the printed ink layer thickness, colour shade, substrate in use, as well as belt speed of the UV curing unit.

Resistances and pigment quality

UVOS generally distinguishes itself through excellent adhesion and scratch resistance. Further characteristics are as follows:

Reference	Pigment quality Blue wool scale	Resistance to alcohol	Resistance to alkali
Process-Yellow 425/429	5	+	+
Process-Red 435/439	5	+	+/-
Process-Blue 455/459	8	+	+
Process-Black 485/489	8	+/-	+

Characteristics

Ink characteristics

Ultraset UVOS colour shades have a satin gloss and are very transparent/brilliant. By using these 4-colour process shades, it is possible to achieve strong and lively colours at a contemporaneously lowest possible ink deposit.

UVOS further excels due to its trouble-free ink transfer as well as to its very stable ink viscosity during printing. It is suited for extremely high productions speeds of up to 135 sequences/min.

UV-curing

Ultraset UVOS is a fast curing UV offset ink. A UV curing unit with 2 medium-pressure mercury lamps (150-200 W/cm) cures UVOS.

Processing recommendations

- Waterless offset printing with the 'wet-on-dry' method (e.g. Kammann K15-40) requires constant processing temperatures between 13° C and 15° C. This is the only way to guarantee the right viscosity necessary to counteract a possible toning of the ink.
- For wet-on-wet printing with a short ink system (e.g. Metronic CD Printer), we recommend a temperature adjustment of 20-40° C.
- For Asian offset machines (e.g. Hanky, Lamin or Gyann Way), the recommended room temperature is max. 27° C and the temperature of the plates should be between 14° C and 17° C.

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- An exact adjustment of the printing cylinder is of further importance. This means that e.g. processing errors within the printing unit must be avoided as otherwise they are possible to lead to an higher number of milling processes, to an increase in temperature of the printing ink, as well as to an additional wear of the plate. All this can give rise to a toning.
- The compressive strain between plate and rubber blanket cylinder must be kept low so that the mechanically sensitive printing plate is not damaged. An excessive incidence of light, long interruptions, and frequent washings may also deteriorate the printing plate again leading to a toning.

UVOS may be used, by an appropriate printing process, to print on to the non food-contact surface of any material or article intended to come into contact with foodstuffs. However, full compliance with the regulation (EC) Nr. 2023/2006 must be ensured. In case of any queries please contact our Marabu product safety department directly.

Range

4-colour process shades

high density and higher viscosity, suited for offset printing machines and “wet-on-wet” printing

UVOS 429 Process Yellow
 UVOS 439 Process Magenta
 UVOS 459 Process Cyan
 UVOS 489 Process Black

modified rheology and lower viscosity, suited for Kammann offset printing machines (K15-40 and K15-40HS)

UVOS 425 Process Yellow
 UVOS 435 Process Magenta
 UVOS 455 Process Cyan
 UVOS 485 Process Black

The pigments used in the above mentioned standard shades, based on their chemical structure, correspond to the EEC regulations EN 71/part 3, safety of toys - migration of specific elements.

Opaque whites for flat bed printing

Prior to the printing of the offset 4-colour process shades, an opaque white is always to be applied in full-area printing. The following opaque whites are available, all highly reactive and exposing a best possible white shade:

Ultradisc UVOD 170 Opaque White

Glossy, suited for DVD/CD. Excellent tilt results and very good offset over-printability (up to 135 passes/min).

Ultradisc UVOD 171 Opaque White

High gloss, suited for DVD/CD. Good offset over-printability (up to 135 passes/min).

Ultradisc UVOD 172 Opaque White

Satin gloss, suited for DVD/CD. Very good tilt results and excellent offset over-printability. Smooth surface, squeegee marks and mesh structures are hardly visible (up to 135 passes/min).

Ultradisc UVOD 173 Opaque White

High gloss, suited for DVD/CD. Especially for High-Speed machines with up to 135 passes. Highly reactive, best offset over-printability (up to 135 passes/min).

Ultradisc UVOD 179 Opaque White

Glossy, well-priced, excellent printability with a very good homogeneous ink flow, suited for CD/CD-R printing (up to 135 passes/min).

Ultradisc UVOD 270 High gloss White

High gloss, suited for Blu-ray discs, low radial deviation values and very good offset over-printability (up to 135 passes/min).

Ultraset UVOS



Opaque whites for rotary printing

Ultrastar UVS 170 Opaque White

High-viscosity opaque white used in rotary screen printing or flexo printing, very good off-set over-printability.

Additives

UVOD 912 Print Varnish

High-glossy, transparent overprint varnish for the coating of offset and 4-colour process screen prints.

Shelf life

Shelf life depends very much on the formula/ reactivity of the ink system as well as the storage temperature.

It is 18 months for an originally closed ink can if stored in a dark room at a temperature of 15-25° C. Under different conditions (particularly higher storage temperatures), shelf life will be reduced. In such cases, Marabu's warranty expires.

Labelling

For our ink type Ultraset UVOS and its additives and auxiliaries there are current Material Safety Data Sheets according to EC-regulation 1907/2006 informing in detail about all relevant safety data including labelling according to the present EEC regulations as to health and safety labelling requirements.

Such health and safety data may also be derived from the respective label.

Safety rules for UV screen printing inks

UV-inks contain some substances which may irritate the skin. Therefore, we recommend to take utmost care when working with UV-curable screen printing inks. Parts of the skin dirtied with ink are to be cleaned immediately with water and soap. Please pay also attention to the notes on labels and safety data sheets.

Note

Our technical advice whether spoken, written, or through test trials corresponds to our current know-ledge to inform about our products and their use.

This is not meant as an assurance for certain properties of the products nor their suitability for each application. You are, therefore, obliged to conduct your own tests with our supplied products to confirm their suitability for the desired process or purpose. The selection and testing of the ink for specific application is exclusively your responsibility.

Should, however, any liability claims arise, they shall be limited to the value of the goods delivered by us and utilized by you with respect to any and all damages not caused intentionally or by gross negligence.