

UV-Pad Printing Ink

SERIES 747

UV-curable pad printing ink for decorating plastics & coated materials

747 is a high gloss UV pad printing ink for decorating a vast array of plastics. This user friendly ink is designed for demanding industrial applications that require high level chemical & abrasion resistance.

Substrates

Series 747 is suitable for printing on a variety plastic substrates. The range includes pre-treated Polyolefin's (Polypropylene, Polyethylene), rigid-PVC, Polystyrene and its derivatives such as; ABS, SAN, etc., PMMA, Polycarbonate, Polyamide (also glass-filled), and partly PET-materials, as well as Duroplastic. Furthermore Series 747 can be used for various coated surfaces and works on some metals.

The great variety of plastics and the use of recycled material can cause differences in properties of substrates with the same name. This makes it absolutely necessary for the end user to conduct in-house printing tests to determine suitability of the product for the intended purpose prior to beginning full production.

Note: due to the constant development and optimization of Series 747 the range of practical substrates may increase.

Applications

The operable area for 747 is (nearly) the complete range of plastics used for technical & industrial printing applications; (i.e.: automotive parts, electronic parts, medical devices, appliance panels, power tools, children's toys, etc.).

The 747 ink system combines the advantage of fast curing UV-ink technology with properties exhibiting extremely high resistance (similar or better than 2-Component solvent based inks).

Characteristics

This modern UV pad print ink system is free of critical physiological substances like NVP (N-vinyl-2-pyrrolidone HDDA, TPGDA and TMPTA).

Being a highly reactive ink system, the end-user should be aware of the safe handling requirements of typical UV inks.

Both (screened) polymer clichés and (unscreened) steel clichés can be used for processing.

Additives

Depending on the print job requirements, Series 747 is adjusted with different solvent thinners. For fast printing the accelerator 700-020 is recommended. For slower printing the thinners 700-019 and/or 700-017 can be used. Normally there is no need to use a retarder. Typically you would add 15% to 20% thinner (by weight).

Pigments

The high opaque Series 747 is heavy metal free and mono pigmented. In many cases it's not necessary to preprint a white

background in order to achieve the desired color result. A wide range of high-density colors are available to cover practically the full color chromatic spectrum:

Series 747-1005	MS-Light yellow
Series 747-1205	MS-Dark yellow
Series 747-2005	MS-Orange
Series 747-3005	MS-Red
Series 747-4505	MS-Dark blue
Series 747-8005	MS-Black
Series 747-9005	MS-White

In addition to these opaque color shades listed above we offer five transparent, yet highly pigmented color shades for special mixtures in order to increase the brilliance and to achieve special tinted metallic color shades in combination with metallic pigments:

Series 747-1105	MS-Medium yellow
Series 747-3105	MS-Magenta red
Series 747-3305	MS-Magenta
Series 747-4005	MS-Violet
Series 747-5005	MS-Blue
Series 747-6005	MS-Green

For standard inks we offer these opaque versions:

Series 747-00	ST-white
Series 747-33	ST-black

Four process colors are also available:

Series 747-0950	Cyan
Series 747-0960	Yellow
Series 747-0970	Magenta
Series 747-0980	Black

The varnish and standard binder for metallics:

Series 747-05	ST-Lack
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For metallic effects we offer the standard range:

Series 747-100	ST-Silver
Series 747-101	ST-Britannia silver
Series 747-102	ST-Rich gold
Series 747-103	ST-Rich pale gold
Series 747-104	ST-Pale gold
Series 747-105	ST-Ducat gold
Series 747-106	ST-Copper
Series 747-02299	ST-Coarse Silver

Various special effects are available on request.

Please note that metallic pigments and the functional groups of the UV binder can interfere in a way that reduces the shelf life of the ink. Therefore we recommend ordering binder and metallic pigments separately and mixing them right before printing.

All inks of these series are free of heavy metals and follow the European Regulation EN 71, part 3 (safety of toys, migration of certain elements) and ASTM Standard F 963-2003.

All Pigments used in Series 747 show a light fastness of at least 6-8 according to wool scale (DIN 16525). If color shades are reduced with high amounts of white or transparent inks, light fastness may also be reduced.

Drying/Curing

This UV system is designed for curing with high or medium pressure mercury lamps with at least 80-120 W/cm². Optimum curing and adhesion properties require an energy level of app. 500mJ/sqcm (Kühnast UV-Integrator, 250-410 nm, max. 365 nm) responsible app. 1000 mJ/cm² (Technigraf UV-Integrator). The energy level depends on the opacity and the transferred amount of ink. Double prints are possible without curing in between (at appropriate higher energy levels). Only double prints of highly opaque color shades can be cured reasonably.

Cleaning

Wet pad printing ink or not completely cured inks can be removed with Universal cleaning agents such as 700-URT and 700-BRT.

Storage

Under normal conditions (limited change of temperature, moderate temperatures of 15-25 °C, humidity 20-70%) we guarantee a shelf life of 12 months for standard color shades and 6 months for metallic shades.

Opened cans should be sealed firmly and stored under absence of sun light or other UV light sources.

Packing

Series 747 is available in 1kg HDPE-containers. Cleaned containers can be recycled. Any packaging that contains unhardened residue of ink is subject to special waste disposal regulations.

The Series 747 meets the following regulations:
5th alteration of „Bedarfsgegenständeverordnung“

Guide line 2002/95/EG (RoHS)

Guide line 2002/96/EG /WEEE)

Guide line 2003/11/EG

Directive 76/769 EEC (PAH)

DIN 53160

Free of Formaldehyde

Free of Vinyl chloride and monomer VC

Free of Toluene and Xylem

Free of listed Azo-dyes

Free of chlorinated organic substances

Precautionary measures

Read material safety data sheet prior to processing.

The material safety data sheets according to OSHA form contain indication of hazardous ingredients, TLV-level and instructions for precautions when processing, handling and storing as well as first aid. The information given in the MSDS refers to processing as described in this technical leaflet. The statements in our leaflets have been made to the best of our knowledge and are given without any obligation. They serve to advise our business associates, **but it is absolutely necessary** to make your own printing tests under local conditions, with regard to the intended purpose prior to starting the printing job. In case of any doubts please contact our technical advisors. The application, use and processing of the products delivered by us are beyond our control. This is subject to your responsibility and there is no liability or guarantee on our part.

In case of justified complaints the manufacturer can only be made liable for the countervalue of the used ink system.

Addition of not mentioned products or competitors products are on your own risk and releases Printcolor Screen Ltd. of any later demands, especially in cases of damage and loss caused by alien products.

All former leaflets are no longer valid.

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