Uvijet KV

UV Curing Ink System for Acuity Select, Select HS and Acuity F Inkjet Printers

PRODUCT INFORMATION

Uvijet KV inks are exclusively designed for use to produce decorative print involving deep-draw thermoforming, line bending and dome blowing applications when printed on Acuity Select, Select HS and Acuity F UV inkjet printers.

Features

- Cured by conventional UV lamps
- Developed for deep-draw thermoforming
- Outstanding adhesion range
- High elongation
- Excellent finishing properties, bending, creasing, routing, guillotining
- Fast cure for immediate use
- CMYK colour set for near photographic print quality
- Recommended for internal and external applications
- Anti-reflective, low satin finish

Ink Properties

The Uvijet KV ink range is a high quality UV curable inkjet system designed for piezo drop-on-demand printheads. The inks offer superb dot reproduction, light-fast colours with excellent adhesion and elongation on a wide range of materials commonly used in thermoforming applications.

Colour Range

KV052 Yellow
KV867 Magenta
KV215 Cyan
KV004 Black
KV021 White
KV255 Light Cyan
KV335 Light Magenta
Supplied in 2 litre sealed pouches.

QV017 UV Flush
Available in 1 litre containers.

Application Range

Uvijet KV inks are formulated specifically to maximise the benefits of Fujifilm's range of Acuity UV curing flatbed printers (with the exception of the Acuity Advance 2504)**.** Uvijet KV inks are designed to decorate rigid plastic materials commonly used in thermoforming.

Some forming applications on clear materials may require a white back-up print. In these cases, the use of white as a back-up layer on clear materials can be undertaken with KV021 White or if a screen printing solution is required, with Omniplus UL021 which has been designed for thermoforming applications.
The Quality Density print mode on the Acuity Select printer is recommended when overprinting with KV021. However where Uvijet KV is overprinted with UL021 the Quality Density print mode is not recommended.

In some cases the use of KV021 can lead to excessive sticking to the mould after forming, especially with thin materials. Where this occurs ZEA09, a silicone release agent, should be wiped on the mould prior to forming in order to optimise release.

The use of wooden moulds is not recommended when printing sub-surface designs as Uvijet KV may stick to the mould. But are okay for surface printing.

It is recommended that if Uvijet KV is used for a non-thermo forming application, that prints are only stacked in small numbers to minimise the weight in order to reduce the risk of blocking. Ideally prints should be racked.

Uvijet KV inks are not compatible with Uvijet KN391 Clear ink.

THE END USER MUST DETERMINE THE SUITABILITY OF THIS PRODUCT FOR THE INTENDED USE PRIOR TO PRODUCTION.

Curing

Excellent cure and adhesion are achieved immediately upon print and UV curing. However, maximum adhesion, chemical, scuff and scratch resistance may not be obtained until 24 hours after initial curing.The actual level of cure will depend upon ink thickness, substrate and the output of the UV curing lamps being used. Superior through cure may be obtained by reducing the print speed to increase the overall UV dose.

Pre-production Tests

Uvijet KV ink has been engineered primarily for thermoforming applications; its use as a general purpose graphic ink needs to be carefully assessed.

	Adhesion	Forming (Outside)	Forming (Inside)
White Substrate			
PS	✓✓✓	✓✓✓	-
HIPS	✓✓✓	✓✓✓	-
ABS	✓✓✓	✓✓✓	-
PVC	✓✓✓	✓✓✓	-
Transparent Substrate			
PETG	✓✓✓	✓✓✓	✓✓
PC	✓✓✓	✓✓✓	✓
Cast Acrylic	✓✓	✓✓✓	✓

Key: ✓✓✓ = Excellent, ✓✓ = Good, ✓ = Fair, X = Poor

Plastics

Cast acrylics need to be dried out for approximately 24 hours at 80ºC. Failure to do so may cause the print to blister when formed.

Certain plastics may contain lubricants which, like plasticisers, migrate impairing adhesion and block resistance. There may also be residues from glues and adhesives used on backing sheets. This can be overcome by wiping the surface with isopropyl alcohol (IPA) before printing.

To reduce the risk of problems generated by the build-up of static electricity it is advisable to pass an earthed anti-static brush over the material prior to printing. Allow static generated from protective sheets to dissipate before printing. Ensure that the printer is sited as per recommended humidity/temperature recommendations 40-70% RH, 18-30 ºC.

Chemical and Abrasion Resistance

Uvijet KV inks have good water and abrasion resistance.

Outdoor Use

Accelerated weathering tests have been carried out in a Xenon Arc Weatherometer set to the SAEJ 1960 Standard. Under these conditions the accelerated weathering of Uvijet KV inks equates to approximately 24 months outdoor exposure in a temperate climate such as Northern Europe.

Storage

Uvijet KV ink should not be stored in direct sunlight or near heat sources and should be kept away from peroxides. For optimum shelf-life, products should be stored at moderate temperatures between 5ºC and 30ºC. Storage outside of these temperatures may lead to deterioration in the performance of the products.

When stored in a cool environment the inks are expected to have a shelf-life of 12 months from date of manufacture.

Fujifilm Speciality Ink Systems Limited:

- Has certification to the International Environmental Standard ISO 14001.
- Has certification to the Quality Management Standard, ISO 9001.
- Has certification to the Occupational Health and Safety Standard, OHSAS 18001.
- Is committed to minimising the risk to users of our products, and also to minimising the impact of our activities on the environment, from formulation through to production and supply.
- Research and development team , work to an in house Health Safety and Environmental policy, termed ‘Design for Health, Safety and Environment’, with the aim of proactively developing products with the least impact on health, safety and the environment.
- Regularly review and monitor our impacts and activities, setting objectives and targets as part of a continual improvement process.
- Is committed to reducing waste through better use of raw materials, energy, water, re-use and recycling.

Safety and Handling

Uvijet KV Inks:

- Have a flash point greater than 60ºC and are therefore not classified as ‘dangerous substance’ under the Dangerous Substances and Explosive Atmospheres Regulations (DSEAR).

Comprehensive information on the safety and handling of Uvijet inks is given in the appropriate Safety Data Sheets.
Local exhaust ventilation should be used over forming unit to remove unwanted materials generated from the heating process.

Environmental Information

Uvijet KV Inks:

- Do not contain ozone-depleting chemicals as described in the Montreal Convention.
- Are formulated free from aromatic hydrocarbons.
- Are free from any volatile solvent and can therefore be considered to have less impact on the environment when compared to solvent-based products.

Uvijet KV has gained UL GREENGUARD Gold Certification. This helps manufacturers create - and helps buyers identify - interior products and materials that have low chemical emissions. GREENGUARD Certification is part of UL Environment, a business unit of UL (Underwriters Laboratories). GREENGUARD Certification. More detail here: ul.com/gg.

Uvijet KV inks are approved for Nordic Swan Ecolabelled printers. The Nordic Ecolabel is a well-established and internationally recognised environmental labelling scheme that contributes to sustainable consumption and helps consumers identify environmentally-friendly products.

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