

# EvoJet 3100 UV

Thermoformable EvoJet 3100 UV ink series is a reliable solution for use with print heads with 7pl definition and higher such as Ricoh GEN 4 & 5, Konica Minolta > 7pl, and others

Evojet 3100 shows perfect adhesion on glass with no need of primer and post heating

## SUBSTRATES & APPLICATIONS

Especially formulated to print on thermoformable substrates such as Polycarbonate, PET, PETG, polystyrene sheets.

This ink can be also printed on :

- Treated polypropylene sheets such as Akylux®, Coroplast®
- Glass

## ADVANTAGES OF INK

EvoJet 3100 offers an expanded substrate compatibility through an improved and superior adhesion.

EvoJet 3100 series offers an expanded color gamut. Pigment particle size is sub-micron defined for extra fine resolution and controlled dot gain avoiding a maximum of satellite over spray. Evojet 3100 can be thermoformed

## INK ADHESION ON GLASS

This ink shows very good adhesion to the glass without the use of primer and without post curing. Due to its formulation, the ink surface will remain slightly tacky for a few hours. It is therefore advisable to wait 24 hours after printing to obtain perfect adhesion and a perfectly cured surface.

### Surface tension

(± 0,5 mN/m) at a temperature of 25 °C (Krüss K11 tensiometer)

- Evojet 3100 Cyan : 23mN/m
- Evojet 3100 Magenta : 23.5 mN/m
- Evojet 3100 Yellow : 23 mN/m
- Evojet 3100 Black : 23 mN/m
- Evowhite 3100 : 22.5 mN/m

### Viscosity

Measures done at 45 °C/shear rate between 100 and 1000s-1

Rheometer Anton Paar MCR 102 Evojet 3100 Cyan : 8,5 – 9,5 mPa.s

- Evojet 3100 Magenta : 8,5 – 9,5 mPa.s
- Evojet 3100 Yellow : 8 – 9 mPa.s
- Evojet 3100 Black : 9 – 10 mPa.s
- Evowhite 3100 : 9 – 10 mPa.s

## Particles sizes

For all colors, Di50<400nm and Di90<1000nm (Cordouan Vasco DL 135 particle sizes analyser)

### Density at 25 °C (Krüss K11 tensiometer)

- Evojet 3100 Cyan : 1,07
- Evojet 3100 Magenta : 1,07
- Evojet 3100 Yellow : 1,07
- Evojet 3100 Black : 1,08
- Evowhite 3100 : 1,17

## OUTDOOR DURABILITY

Color variance should be of minimum impact for a 2 years period for a proper use of EvoJet 3100 UV inks.

EvoJet 3100 is formulated to adhere on substrates with surface tensions higher than or equal to 42 mN/m, but it is highly recommended that all substrates are tested before use.

## PRINT PARAMETERS

- Temperature: 18 to 25 °C
- Optimum humidity: 40 to 60% (without condensation)
- Operating humidity: 30 to 70% (without condensation)

## CONVERSION

For optimal performances, it is recommended to thoroughly clean the ink system and jet assemblies with EvoClean flushing solvent. It is highly recommended to replace all filters. For further detailed info on how to proceed converting a printer with EvoJet 3100 series, please consult our appropriate documentation.

## CURING

Maximum adhesion, chemical and scratch resistance will not be reached before 48 hours after initial curing.

EvoJet 3100 inks are formulated for optimum curing conditions at 300 to 400 mj/cm<sup>2</sup> UV dose with mercury lamps and 395 nm, >7,5W/cm<sup>2</sup> for LED curing.

## HEAD TENSIONS

Tension too high:

Volume of droplets too big, needs more ink to flow through the subtank and high risks of ink shortness in the subtank; results in ink gradually fading out (ink starvation) during printing. Very difficult to align printing heads especially when not all heads are over charged with the same % voltage. Ink droplets are fired with a deviation.

Over tension of the head will cause air bubbles in the print head causing firing problems at start up and beginning of every printing file. Need to respect the voltages indicated on the printing heads. Strongly recommended to 'match' the printing heads in function of tension on one and the same printer.

## TEMPERATURE

The temperature of the subtank and the print heads needs to be ideally the same.

## VACUUM

If tension of the printing head is too high, it needs to be compensated with up scaling the negative pressure. Very difficult to set negative pressure especially when not all heads are over charged with the same voltage.

## PROFILE

To have a good printed dot resolution and optimum adhesion, the ink channel linearization and ink limit need to be set very carefully.

To have a maximum color gamut, the ink channel linearization and ink limit need to be set very carefully before calculating the ICC profile.

In order to obtain good printing results following settings are critical:

Print head tension as indicated. Temperatures:

- Subtank 40 °C
- Print heads 38 – 42 °C

## NEGATIVE PRESSURE

Profiling especially the ink channel linearization and ink limit.

## MACHINE STOPPAGE

To avoid print head degradation, the inks should be flushed from the print heads before putting the printer at rest for longer time periods.

## PACKING

Available in 1L and 5L bottles

## STORAGE

For optimum performances and durability EvoJet 3100 ink series has to be stored under 30 °C. Shelf life from date of manufacture is :

- All colors : 24 months
- White : 9 months
- Evoclean : 36 months

Always stir the ink well before use, especially the whites (risk of sedimentation during long-term storage).

## HEALTH AND SAFETY

The vast majority of printing inks and related products formulated by Encres DUBUIT contain no substances of very high concern. Our products comply with the requirements of Directives 2011/65/EU (RoHS 2), 2015/863/EU (RoHS 3) and 94/62/EC (heavy metal concentration levels present in packaging). For more information about our regulatory compliance, please consult our Eco System document, available on request.

PRODUCT	ARTICLE CODE	ARTICLE CODE	DESCRIPTION
<b>PROCESS COLOURS</b>	<b>1 L</b>	<b>5 L</b>	
EvoJet 3100 Cyan	BEVO42961L	BEVO42961Q	
EvoJet 3100 Magenta	BEVO42960L	BEVO42960Q	
EvoJet 3100 Yellow	BEVO42959L	BEVO42959Q	
EvoJet 3100 Black	BEVO42962L	BEVO42962Q	
<b>WHITE</b>			
EvoWhite 3100	BEVO42963L	BEVO42963Q	
<b>MAINTENANCE</b>			
EvoClean solvent HLM 3556	D3556L		Cleaning and «flush» solvent
Wipers Superpolx	N1200A0909		9"x 9" per boxes of 150 formats
Swab	NTX712A		Large rectangular printing head swab for printing head cleaning



### MEASURING LIGHT FASTNESS

Light Fastness is usually measured by exposing ink prints under light radiation produced by Xenon tube in comparison with master prints.

Those witness are called Blue Wool.

A standard blue wool textile fading test card is placed in the same light conditions as the sample under test.

A rating between 1 and 8 is awarded by identifying which one of the eight strips on the blue wool standard card has faded to the same extent as the sample under test

1 - denotes extremely poor colour fastness while 8 - is credited as being lightfast and permanent.



### EVOJET PROCESS COLOURS RATING:

Evojet Process Colors	
Cyan	7/8
Magenta	7/8
Yellow	7/8
Black	8
Light Cyan	7
Light Magenta	6/7

These values mean that EVOJET inks are suitable for outdoor use for 2 years if placed vertically and referred to the middle European climate.

It is recommended to test the final print in real outdoor conditions.

The Light Fastness of a print is the result of the combination:  
Ink light fastness + printing conditions + life cycle conditions

*Encres DUBUIT guarantees the quality of our products. However, we cannot guarantee the final result, because we exercise no control over individual operating procedures. Our responsibility is limited solely to the exchange of ink or varnish. The quality of a substrate to be printed can vary, as well as an overprinted ink; therefore, the above information is given in good faith based on the state of our art and prior experience. This statement also applies to our technical assistance. When using our inks and varnishes on a new substrate or when changing operating procedures, we strongly recommend testing first a full-scale production to ensure compatibility. Please refer to our General Conditions of Sales.*