

NuviINK[®]

KUH BLACK HD Ink

Is Formulated to Deliver Very High Neutral Black Density
for Marking and Coding at High Printing Speeds



NuviINK KUH BLACK HD Ink

is formulated to deliver very high neutral black density for marking and coding at high printing speeds.

- Designed to be used for single-pass printing with Kyocera KJ4A printheads
- Designed for UV-LED curable applications
- High density black for marking and coding
- Formulated to comply with standard inkjet requirement
- Fast UV cure for high production output
- Wide range of substrates with good adhesion

Order Codes

Type	Code	Spec
Black HD	IKUU000099	U-1L-K-KJ4A
	IKUU000100	U-4L-K-KJ4A

D50, 2° observer, (Absolute colorimetric) measured by standard spectrodensitometer 24 hours after printing.

Actual color gamut will depend on the print mode, substrate, etc.

Physical Properties

Specifications	BLACK HD
Static surface tension (dynes/cm at 25°C)	24-26
Viscosity (cps at 45°C)	5-7

Ink	600×600	600×1200
L*	27.62	7.86
a*	-1.86	-1.22
b*	3.72	1.33

Color Values

The color value for each ink of the set gives an indication of the potential color space.

The average color values (CIELAB color system) are given in the table below of prints with resolution of 600×600 and 600×1200 DPI Middle drop (100% density) using Kyocera KJ4A printhead on photo-grade micro porous inkjet paper ($L^* = 96.6$, $a^* = 1.65$, $b^* = -8.67$).

Field of Application

Good Adhesion	Uncoated Paper, Coated Paper Stock, Treated Plastics
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Printing Conditions

Recommended printing parameters:

<i>Printer</i>	<i>AMICA Morpho Printers</i>
<i>Printhead</i>	<i>Kyocera KJ4A</i>
<i>Optimal Temperature</i>	<i>38-42°C</i>
<i>Optimal Voltage</i>	<i>Nominal</i>
<i>Drop Size</i>	<i>Grey Scale</i>

* The print conditions depend upon the choice of substrate, print mode, print resolution, print speed, printhead, printhead to substrate distance, etc.

Curing

NuviINK KUH BLACK HD ink is UV-curable. Best curing is achieved with UV-LED lamps at a wavelength range of 365-400nm.

Recommendations:

<i>Wavelength</i>	<i>395nm</i>
<i>Dosage</i>	<i>$\geq 400\text{mJ}/\text{cm}^2$</i>
<i>Printhead to substrate distance</i>	<i>$\sim 1.0\text{mm}$</i>
<i>Lamp to substrate distance</i>	<i>$\sim 2.0\text{mm}$</i>

* Recommendations are based on 10µm coating printed with:

<i>Printhead</i>	<i>Kyocera KJ4A</i>
<i>Printer</i>	<i>AMICA Morpho Systems</i>

The curing speed of the ink is generally dependent upon the age and power of the UV lamps, printed ink thickness, color-shade, substrate in use, printing speed, and the distance between the lamp and the substrate.

Auxiliaries

NuviINK F-UAC Flushing fluid

NuviINK F-UAC Flush is recommended to be used for cleaning printheads and other ink-carrying components. This cleaner has been chemically adjusted to be used with Kyocera KJ4A printhead.

Flush	IKUU000105	U-1L-F-Unlimited PH
	IKUU000106	U-5L-F-Unlimited PH

Shelf Life

12 months from production date when stored under recommended conditions.

Storage

Recommended storage conditions:

Temperature: 10-25°C

Relative Humidity: 50-65%

Store in a dark, dry and well-ventilated room. Avoid direct sunlight, UV light and heat.

* Storage outside of the recommended temperatures may lead to stability issues and deterioration in the performance of the ink product.



Maintenance

Printhead, that is filled with ink, should be protected with capping unit when idle to avoid radiation exposure, dust, and to keep printhead moist.

Printhead and other ink-carrying components can be purged and cleaned with NuviINK F-UAC flushing fluid. Flushing and cleaning are recommended when printhead is left idle.

* When print heads are idle, make sure the heating for print head and sub-ink-tank is turned off. Ink being exposed to high temperature will have shorter shelf life and damage the print head.

In order to ensure high printing quality using NuviINK KUH BLACK HD ink, please also follow the guidelines in AMICA printers' *Operation Manual*, especially regarding to the ink supply system and printhead maintenance.

Maintenance Schedule

Idle Period	Maintenance	Fluid in Printhead	Fluid in Ink Channel
During Production	Purge and wipe every 2 hours	Ink	Ink
30 min to 7 days	Cap printheads	Ink	Ink
7 to 10 days	Flush ink out and cap the printhead	Flush	Flush
Above 10 days	Uninstall printheads from printer and install to its original package	Flush	Flush

Change-over

* Compatibility between inks must be confirmed by the customers before a change-over.

* Frequent change-over between types/ colors of ink is not recommended.

For the ink change-over, it is recommended to use NuviINK F-UAC for printheads and all other ink-carrying components.

When converting a system to NuviINK KUH BLACK HD ink, use the appropriate flush designed for the remaining ink in the system, followed by flushing with NuviINK F-UAC to minimize contamination.

When converting a system from NuviINK KUH BLACK HD ink to another ink, use NuviINK F-UAC flush to flush the printheads and system until the lines are clear.

Safety & Handling

Avoid exposure to skin/eyes with NuviINK KUH BLACK HD ink and wear protective gloves / protective clothing / eye protection.

Comprehensive information on the safety and handling of KUH BLACK HD ink is given in the *Safety Data Sheets*.

Remarks

Technical advices are provided based on current knowledge, information and belief through continuous test trials at the date of this publication. The information given is designed only as a guide and is not to be considered as a warranty or quality specification.

AAMICA SYSTEMS only sells NuviINK series products as consumables for AMICA SYSTEMS printers and/ or printing engines. AMICA SYSTEMS does not warrant inks being used for any other purposes.



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