

INK, HEART & SOUL

TECHNICAL DATA SHEET

SICURA JET G4 INK SET

High Performance single-pass UV-curable inkjet inks for drop-on-demand inkjet printing

SICURA Jet G4

The SICURA Jet G4 product line is an UV-curable and pigment-based ink set specifically designed for industrial inkjet printing on flexible applications, including direct-to-shape printing, laminated tubes, packaging and label printing.

The standard set includes cyan, magenta, yellow, black (CMYK), white and flushing solution. It is targeted for both large width full color printing and single color coding & marking. Additional colors tailored to extend the color gamut (e.g. OGV) and spot colors are available upon request.

The SICURA Jet G4 has been developed for single-pass, piezo, drop-on-demand industrial inkjet printing at high resolution using printheads from Kyocera, Fuji Samba, Epson or Ricoh (MH5220). The inks are able to generate low droplet volumes at high frequencies.

This inkjet series can be used for printing on thin and flexible materials or in direct-to-object printing projects.

The SICURA Jet G4 is designed for extremely good adhesion on many types of substrates including plastic labels or foils (e.g. PP, PVC, PS) and aluminum based substrates. For many of these substrates pre-treatments (corona, plasma or flame) will have a positive effect on the adhesion of the ink.

This ink series can be customized and adapted to end-user applications. If needed, Siegwerk can tailor ink properties (e.g. viscosity & adhesion), film properties (e.g. color gamut & fastness) and even address further special customer requirements. Depending on the application, Siegwerk can also advise on suitable primers or overprint varnishes (OPV's).



Field of use

The SICURA Jet G4 ink set is designed for single-pass inkjet printing with piezo drop-on-demand printheads including printheads from Kyocera, Fuji Samba, Epson or Ricoh (MH5220) which require low viscosity inks. It is NOT recommended for thermal inkjet, continuous inkjet of any kind or any other print technology systems. In any case of uncertainty, please contact our application technology experts via contact.inkjet@siegwerk.com.

Key benefits

CHARACTERISTIC	BENEFIT
Jetting performance	Inks formulated for high performance piezo drop-on-demand printheads requiring low ink viscosity. Well suited for high resolution jetting at high frequencies. Good storage stability.
Dried film performance	Excellent adhesion and very high flexibility on a broad range of substrates. Suitable for large width full color printing as well as for coding & marking application.
Color performance	Inks are based on safe pigments with high lightfastness. Prints show vivid colors with high contrast. The SICURA Jet G4 CMYK ink set enables a wide gamut, expanded further with the inclusion of Orange, Green and Violet.
Shelf life	Long ink shelf life (12 months from production date)

Functional Specifications

- High flexibility of the dried ink film
- Single-pass wet-in-wet printing or printing using intercolor pinning
- High curing speed with bulbs and/or UV LED
- Ink series allow for prints with vivid colors, sharpness as well as high color strength and contrast. Good barcode / QR-code readability of black
- White ink for printing on colored / transparent substrates; overprinting with CMYK inks
- Printing on a broad range of plastic materials as well as other types of materials
- Ink parameters suited for jetting with industrial piezo print heads requiring low viscosity range
- Very good storage stability, long shelf life
- Good jetting reliability and low print head maintenance need
- Suited for binary print mode (including large drop size) and grayscale printing

Note: the print conditions depend upon the choice of substrate, print mode, print resolution, print speed, printhead, throwing distance, etc.

Shelf life & storage conditions

- Shelf life is 12 months from production date when stored under recommended condition
 - Storage properly closed in Siegwerk bottles/cans
 - Temperature control between 4 °C – 23 °C (39 °F – 73 °F)
 - No direct sun light
 - Not close to heating elements and UV-light containing radiation sources
- Product should be homogenized before usage
- Before filling the SICURA Jet G4 in new ink systems, rigorously flushing is recommended
- Siegwerk products should not be mixed with any other ink products, used together with any non SICURA Jet G2 flush or get diluted
- It is advisable to turn over the inventory according to the delivery date (first in – first out)

Auxiliary products

We recommend our SICURA Jet G2 flush as a cleaning solution. Depending on substrate, printing conditions, drying and final application, a UV-curable primer and/or overprint varnish (OPV) may improve the final printing result. Please consult with our sales team for specific recommendations.

Safety Information

Material safety Data Sheets for SICURA Jet G4 inks are available according to EC regulation 1907/2006, informing in detail about all relevant safety data, including labeling according to the present EEC regulations as to health and safety labeling requirements.

The SICURA Jet G4 ink set is fully compliant with the REACH Regulation including the special provisions concerning SVHC (Substances of Very High Concern - most recent update January 17, 2023).

SICURA Jet G4 ink recipes do not comprise:

- CMR 1 & 2 substances as listed in Annex VI of CLP-regulation 1272/2008
- 2-isopropyl thioxanthone (ITX)
- Benzophenone, 4-Methyl-benzophenone, 4-Hydroxy-Benzophenone
- NMP
- Heavy metals : Lead, Chromium, Cadmium, Mercury

The Ink Safety Portal on our homepage offers condensed knowledge on crucial Product Safety and Regulatory topics with regard to printing ink ingredients, regulatory affairs, exposure assessments and safety evaluations. You can access this via the following link: www.Siegwerk.com/ink-safety-portal

Note: Our technical advice whether spoken, written, or through test trials, corresponds to our current knowledge about our products and their use. This is not meant as an assurance concerning certain properties of the products nor their suitability for each application. Our customers are therefore obliged to conduct their own tests with our supplied products to confirm their suitability for the desired process or purpose. The selection and testing of the ink for a specific application is exclusively the customers' responsibility. This data is communicated for information purposes only and is provided without any warranty on our part. We disclaim any liability for applications for which this ink series is not foreseen. If you have any questions, please do not hesitate to contact us at contact.inkjet@siegwerk.com