



## Digital Inkjet Technology

### Environmental Certifications

# A greener approach to more profitable printing

Balancing your business needs with global regulations and your customers' demands for environmentally friendly solutions is becoming increasingly important. EFI digital inkjet printers and inks for the sign and display, packaging, and textile markets bring you closer to achieving a smaller environmental footprint and greater profitability with every print.

Becoming a greener, more profitable business is the sum of many factors, including your printers, inks, consumables, energy consumption, water usage, and waste. You also need a solution that helps your business expand into more applications across many substrates and lowers your printer's total cost of ownership by increasing your productivity and operational efficiency.

## Environmentally friendly Genuine EFI Inks for maximum business impact

EFI LED inks do not contain heavy metals<sup>1</sup>, do not emit VOCs as verified by our GREENGUARD Gold certification<sup>2</sup>, and the inks are optimised for and vertically integrated into our digital LED printers, ensuring their maximum reliability, efficiency, and performance. EFI inks also strive to offer the widest colour gamut in the print industry and to deliver consistent, repeatable results every time.

## UL GREENGUARD and GREENGUARD Gold



EFI GREENGUARD and GREENGUARD GOLD certified UV LED inks meet UL's rigorous standards for low-level emissions of volatile organic compounds (VOCs)

intended to reduce indoor air pollution and the risk of chemical exposure. Our GREENGUARD Gold certified inks meet the highest level achievable for health-based chemical emissions criteria, requiring even lower total VOC emission levels, ensuring that products are acceptable for use in sensitive environments, such as schools and healthcare facilities.

## Green processes to improve sustainability in the textile industry

EFI offers a full range of water-based, environmentally friendly textile printing inks, including reactive, pigment, acid, dye sublimation and disperse inks for all your fabric needs. EFI remains committed to developing innovative textile printing and ink solutions that balance sustainability with machine performance. Our environmentally friendly processes focus on saving energy, water, and ink, minimising waste and inventory, using recyclable materials, and significantly reducing environmental and health impacts throughout the entire textile printing and finishing supply chain.

- **OEKO-TEX ECO PASS** - E1SM1RUN8 Centexbel Textile and leather chemicals. Tested and verified. [www.oeko-tex.com/ecopass](http://www.oeko-tex.com/ecopass)
- **ZDHC - ZDHC MRSL** Conformance Level 3 in accordance with the ZDHC MRSL V2.0. [mrsl.roadmaptozero.com](http://mrsl.roadmaptozero.com)
- **GOTS** - GOTS Approved Additive Approved by Ecocert Greenlife GOTS-ECOCERT -08-01057. [global-standard.org](http://global-standard.org)

## Less energy, waste, and consumables for maximum green

With decreased power consumption, no bulb replacement, and less material waste, EFI LED technology helps you drive down operating costs. LED technology decreases your power consumption by eliminating the need for high power lamps to ensure proper image adhesion and additional heat to evaporate off water from printed images. There's also no warmup time with instant on/off LED, so you use less energy while increasing uptime and productivity. You also won't have to deal with the wasted output associated with uneven curing or colour shifts that often result from mercury bulb degradation or from operators trying to find the right mix of cure energy for ink on a particular substrate.

## Energy efficient LED technology



The energy efficiency of the EFI Nozomi C18000 single-pass printer was rated at the top of its class based on the ISO 20690 Annex A energy standard.

## Substrate versatility for more applications and a maximum competitive edge

Your profitability and customer satisfaction hinge on the number of substrates you can print without creating excessive waste. The combination of LED technology and EFI innovative inks help reduce waste, lower energy use, and satisfy more customer demands. For most applications, EFI LED inks are formulated to print direct to a wide range of rigid and flexible media, eliminating the need for a multi-step process or special coatings to produce rigid applications. You save time and money by consuming less power and using fewer materials. And you won't have to worry about what to do with left over multilayer substances that often are difficult to recycle. You also can print on a broader range of substrates, including environmentally friendly and recyclable materials as well as thinner, less expensive media without heat-induced warping or head strikes.

## TYPE II CERTIFICATION FOR WALLCOVERINGS

EFI roll-to-roll UV LED printers have earned Type II certification for wallcoverings based on the Wallcoverings Association W-101 and ASTM F793 standards. The Type II certification is an indicator for quality, safety, fire retardancy and durability of wallcoverings and, unlike other Type II certifications for digital inkjet printers, EFI's certification covers wallcoverings produced without lamination or coating.

## OCC-E CERTIFICATION FOR RECYCLABILITY AND RE-PULPABILITY



EFI Nozomi UV LED inks for corrugated meet OCC-E certification for repulpability and recyclability (testing performed at Western Michigan University).

## Making a world of difference with the best inks in the business

EFI's ink manufacturing facilities in Bradford, UK and Ypsilanti, MI, US<sup>3</sup> are good manufacturing practice (GMP)-certified, while our facility in Turkey is certified to ISO 9000, ensuring that Genuine EFI Inks are consistently produced and controlled according to quality standards. EFI also develops programs to optimise resources and manage water more effectively within our manufacturing processes. Solvents are not used during the manufacture of our water-based inks. This contributes to more sustainable production by our customers, as emissions are reduced during the printing process.

- The environmental management system (EMS) at EFI's ink manufacturing facility in Turkey is certified to ISO 14001 to reduce its overall environmental impact.
- EFI partners with "Bosques Sostenibles," an environmental company in Spain, to support reforestation initiatives.
- EFI's business operations in Spain (manufacturing as well as office locations) run on 46.8% renewable energy.

## Recyclability of prints

The ability to recycle materials printed with UV inks is highly dependent on the substrate and the recycling technology, and availability varies based on country and state. EFI inks have been formulated with sustainability in mind and do not contain hazardous materials (listed below). UV inks printed on paper-based substrates have been shown to be deinkable and repulpable, and do not adversely affect recycling processes.<sup>4</sup> Corrugated containerboard substrates printed with EFI Nozomi UV LED inks and V5 primers have been independently tested and certified to be recyclable and provide good repulpability.<sup>5</sup>

## Genuine EFI Inks meet global regulations and the highest industry standards

EFI UV LED inks and EFI Reggiani aqueous inks meet the following regulatory standards:

- Conflict Minerals compliance
- EU 94/62/EC Heavy Metals in Packaging NIA
- EU Directive 2002/96/EC (WEEE)
- EU Directive 2011/65/EC (RoHS 2) (NIA)
- EU Directive 94/62/EC (Packaging Waste) (NIA)
- Restriction of Use of Certain Hazardous Substances in Electronic Equipment (GBT 26572-2011 Requirements on concentration limits for certain restricted substances in electrical and electronic products)
- U.S. CONEG
- USA Regulation, Environmental Protection Agency Toxic Substances Control Act (EPA TSCA) compliant
- Zero Discharge of Hazardous Chemicals (ZDHC)<sup>6</sup> Program. Manufacturing Restricted Substances List compliant
- Noncombustible
- Nonflammable
- OEKO-TEX<sup>®</sup> ECO PASSPORT<sup>6</sup>
- GOTS<sup>6</sup>

The following chemicals and substances are not intentionally added or known to be present in EFI UV LED and EFI Reggiani aqueous ink formulations<sup>7</sup>:

- Azo colorants
- BADGE (Bisphenol A-diglycidylether) (CAS 1675-54-3)
- Biocides
- Bisphenol A (CAS 80-05-7)
- Bisphenol F (CAS 620-92-8)
- Bisphenol S (CAS 80-09-1)
- Bisphenols
- Chlorinated paraffins
- Components derived from genetically modified organisms (GMO)
- Crystalline silica and leucophyllite minerals containing crystalline silica
- Hazardous air pollutants (US EPA - Clean Air Act Section 112(b)(1))
- Toxic heavy metals
- Isocyanates
- Mineral oil saturated hydrocarbon (MOSH) / Mineral oil aromatic hydrocarbon (MOAH)
- Ozone depleting substances
- Perfluorooctanoic acid (PFOA), Perfluorooctane sulfonates (PFOS), and other PFAS<sup>8</sup>
- Persistent organic pollutants (POPs)
- Phthalates
- Polychlorinated biphenyl (PCB)
- Polycyclic aromatic hydrocarbons
- Radioactive substances
- Volatile organic compounds (VOCs)<sup>9</sup>

- 1 Toxic heavy metals Arsenic, Cadmium, Hexavalent Chromium, Lead, and Mercury are not intentionally added to our formulas.
- 2 A list of products with GREENGUARD Gold certification is available upon request.
- 3 Good Manufacturing Practice (GMP) certification at the EFI ink facility in Ypsilanti, MI US is underway.
- 4 RadTech Report, "Recyclability of UV and EB Printed and Coated Paper," David J. Korn, May/June 2005.
- 5 Independent testing conducted by Western Michigan University for US recycling regulations, and the Fachgebiet fur Papierfabrikation and Mechanische Verfahrenstechnik (PMV) in Germany.
- 6 EFI Reggiani aqueous inks only.
- 7 Information based upon product formulation and data provided by raw material suppliers. Laboratory analysis was not performed.
- 8 PFAS chemicals absence statement: PFOS (Perfluorooctane sulphonate), PFOA (Perfluorooctanoic acid) or its salts, other PFAS (Per or Polyfluoroalkyl substances) and Pentachlorophenol or derivatives are neither intentionally added nor known to be present in materials used to manufacture any of the EFI inks identified herein.
- 9 Small residual amounts from raw material producers may be present.

## Let's be brilliant. Together.

We understand you want breakthrough technologies to lead you through your digital journey. That's why we're passionate about driving your business growth with a scalable portfolio of products, solutions, services, support, and world-class partnerships for the manufacturing of signage, packaging, textiles, ceramic tiles, and building materials with a wide range of printers and inks. Our unwavering commitment is to increase your profits, cut costs, improve productivity, and optimise efficiency — job after job, year after year. We're obsessed with your success. And we definitely believe we have the right people, technology and experience to help your business achieve its goals. Visit [www.efi.com](http://www.efi.com) or send an email to [info@efi.com](mailto:info@efi.com) for more information.



Nothing herein should be construed as a warranty in addition to the express warranty statement provided with EFI products and services.

BDR, Cretachrom, Cretaprint, the Cretaprint logo, Cretaprinter, Cretaroller, Divisional Graphics, Distancing Graphics, EFI, the EFI logo, Electronics For Imaging, FabriVU, Fast-4, Inèdit, Inkintensity, Inkware, neoCatalog, neoStampa, neoTextil, PressVu, ProGraphics, Rialco, Riaplas, SDC, SafeGuard Graphics, UltraDrop, UltraPress, UltraTex, UltraVu, UV Series 50, VUTEk, and the VUTEk logo are trademarks or registered trademarks of Electronics For Imaging, Inc. and/or its wholly owned subsidiaries in the U.S. and/or certain other countries.

All other terms and product names may be trademarks or registered trademarks of their respective owners and are hereby acknowledged.