



Cretaprint®

Inkjet Printing Ecosystem for
for Ceramic Decoration

Digital inkjet decoration for ceramic tile



The only ceramic ecosystem of its kind

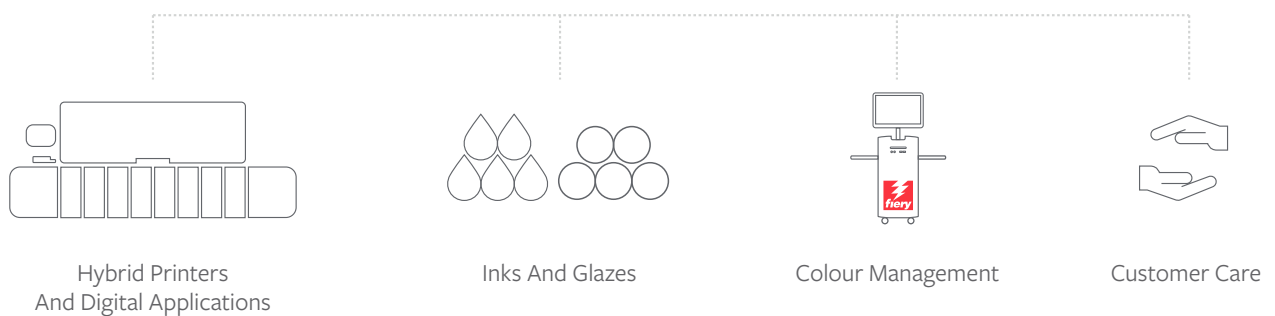


EFI™ is the only company able to offer the ceramic industry a complete solution designed and adjusted for the specific needs of the industry and focused on efficiency and productivity. We offer a range of tile printers, ceramic inks, colour management software, and a complete service programme to help you increase productivity and quality and meet environmental requirements.

A reliable and future-proof solution for tile decoration

- The only hybrid inkjet printers for ceramics that can work with water-based inks as well as current eco-solvent inks
- Digital glazing and digital application of effects
- A unique set of water-friendly ceramic inks and glaze
- EFI Fiery® proServer for ceramics: The world's first colour management software for tile decoration
- A configurable service programme that includes technical assistance, preventive maintenance, ceramic design, and ink plans

HYBRID CERAMIC ECOSYSTEM



EFI Cretaprint offers an end-to-end solution for maximum performance. With operational, technical, and environmental advantages, our solutions are:

- Robust and very easy to operate
- Connected with applications that allow the printers to communicate with the rest of the plant and other tools to advance Industry 4.0.
- Sustainable – our hybrid concept is a greener decoration technology thanks to reduced emissions and waste

Printers

Get the modularity and versatility that have always been EFI hallmarks, together with the advanced technology and robustness of EFI Cretaprint® ceramic printers – all in one sustainable package.



Hybrid technology

EFI Cretaprint printers achieve high levels of performance using water-friendly inks and eco-solvent based inks with our improved ink delivery system. They also have cleaning technology and electronics to efficiently control humidity and prevent sedimentation.

Invest in a non-obsolete technology: A cleaning protocol and a quick software update will allow you to move to water-based technology at the time you decide.

Superb printing technology

Cretaprint Hybrid printers, based on the 5th generation of Cretaprint printers, achieve major improvements in printing technology:

- **Mechanics:** High precision plate for real plug and play that assures better printhead alignment and the avoidance of future adjustments
 - **Ink delivery system:** Refined system that is even more efficient and ready to work with high-productivity and high-discharge printheads, and includes total recirculation, zero sediments, and total temperature control needed to achieve high performance
 - **New software and electronics:** Constant bidirectional communication with printhead enables automatic alignment
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Easy to operate

The multi-language and touch screen user interface makes operation much more intuitive with direct access to main functions, printing bars and transport system, and the alarm status is always on screen.

Our 5th-generation software supports many user applications, such as:

- TAS for automatic tone adjustment
 - Fine tuning for density balancing
 - Nozzle out for clogged nozzle compensation
 - SCADA application for Industry 4.0
 - EFI Go to monitor your printers from mobile devices
 - ID printing for master tiles and traceability
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Advancing in Industry 4.0

EFI Cretaprint printers include features designed to help the implementation of the Smart Factory:

Communication 4.0

The application included in the EFI Cretaprint printer software provides interfaces with a standard Modbus protocol to allow third party SCADAs and PLCs access to printer parameters, such as machine status, models printed on each line, tile characteristics, ink levels, printed metres, and alarms. Choose this option when configuring the printer at any time or when upgrading.

EFI IQ

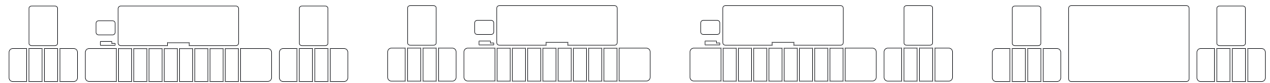
EFI IQ is a suite of cloud applications that will help you make data-driven decisions so you can improve ROI, minimise cost, maximise profit, and boost revenue.

- Visualise key production data and the current status of your printers in near real time from IQ Dashboard
 - Capture and transform print production data into actionable analytics to drive business improvement with EFI Insight Stay connected with your print devices from your iOS or Android mobile devices with EFI Go
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EFI Cretaprint Shield

EFI Cretaprint offers satellite printers for digital glazing and other applications for full digital ceramic decoration.

Complement your equipment by placing them prior to tile printing to apply digital glaze, or after tile decoration to apply glues and other effects.



Each EFI Cretaprint Shield has two bars each 1440 mm in width.

Service programmes

EFI Cretaprint hybrid printers include technical assistance service, as well as preventive maintenance, with our guarantee.

EFI Cretaprint service programmes are configurable. So, you can combine them and enjoy the flat rate that best fits your equipment and be sure your printers are always running at full capacity.

- **Technical assistance service:** extension of the standard guarantee.
- **Preventive maintenance:** periodic maintenance service and replacement of parts that deteriorate over time.
- **Ink programme:** ceramic design, colour management, regeneration, and replacement of printheads.

TECHNICAL DATA

MACHINE SPECIFICATIONS	C5	D5	M5	N5	P5	P5+	SHIELD
Max. printing width	710 mm	710 mm	1138 mm	1138 mm	1440 mm	1440 mm	1440 mm
Number of inks	Up to 8	Up to 12	Up to 8	Up to 12	Up to 8	Up to 12	Up to 2
Print direction	Right / Left						
Min. tile thickness	From 3 mm						
Max. tile thickness	30 mm				60 mm		
Print speed	Up to 60 m/min						
Centering printing precision	<0.3 mm						
MACHINE ASSEMBLY	C5	D5	M5	N5	P5	P5+	SHIELD
External power supply	Variable (380/400/440/480V)						
Max. power consumption (8 colours)	18 KVA	24 KVA	24 KVA	34 KVA	44 KVA	40 KVA	18 KVA
Electrical phases	3F+GND						
Power connection frequency	50/60 Hz						
Pneumatic connection	2 lines 8,5 bar each						
Cabin recommended temperature	22-26 °C						
UPS included	Yes						
DIMENSIONS PRINTER	C5	D5	M5	N5	P5	P5+	SHIELD
Width	1650 mm	1650 mm	2100 mm	2100 mm	2220 mm	2450 mm	2298 mm
Height	1950 mm	2050 mm	2050 mm	2270 mm	2250 mm	2385 mm	2155 mm
Length	4000 mm	5000 mm	4900 mm	6100 mm	6250 mm	10550 mm	3210 mm
DIMENSIONS CABIN	C5	D5	M5	N5	P5	P5+	SHIELD
Width	3700 mm	3700 mm	4700 mm	4700 mm	6500 mm	7050 mm	6500 mm
Height	2800 mm	2800 mm	2800 mm	3300 mm	3300 mm	3300 mm	3300 mm
Length	5500 mm	5500 mm	6500 mm	7700 mm	8000 mm	12000 mm	5500 mm

SOFTWARE	
Image file type	TIFF and RPF
Rendering time	VARIABLE
Image loading time	1 - 15 s
Image changing time during production	1 s
Parallel RIPing and printing	Yes
Number of images per model	100
Print an image without stopping	Yes
Cretavision: relief recognition system	Optional
Double tile printing	Optional

PRINTHEADS			
Printhead type *	Printing		Effects
Printhead width	108.3 mm	108.3 mm	108.3 mm
Number of nozzles	1536	1536	1536
Native resolution (dpi)	360	360	360
Drop size (pL)	13 - 98	23 - 100	22 - 225
Greyscale levels	Up to 8	Up to 6	Up to 10
Firing frequency (kHz)	10,2 - 28	Up to 41	Up to 41
gr/m ²	Up to 45	Up to 55	Up to 80

Printer in development, specifications subject to change without notice.

Ceramic inks and glazes

EFI offers unique water-based and eco-solvent ceramic inks that work simply and beautifully.

Eco-solvent inks are formulated with solvents of vegetal origin, without hydrocarbons and esters. They are a superior option because of their high performance and stability, so they don't dry out in the printheads.

Water based inks provide direct benefits:

- The lower amount of organic component formula translates into a reduction of more than 90% of VOC emissions to the atmosphere
- Reduction of carbon emissions by an average of 73%
- Reduction of chemical solvents used for cleaning for a more sustainable manufacturing process
- Less drying time
- Greater integration with the rest of the ceramic processes in the plant and elimination of hydro-repellence phenomena
- Higher print quality due to better definition of the image with respect to solvent-based inks
- Greater chromatic range as it is not necessary to limit the colour

		C*	M*	Y*	K*
VOC SOLVENTS (% in total ink)	4,5% average	3%	5%	5%	4%
WATER CONTENT (% in total ink)	33% average	40%	30%	30%	32%

(*) Equivalent colour coordinates

EFI digital glazing gives you a sustainable ceramic decoration process that provides savings.



BENEFITS



More stable and controlled process.

No chemical solvents used for cleaning.



Reduction of carbon footprint

Less glaze applied per square metre.



Respectful to the environment

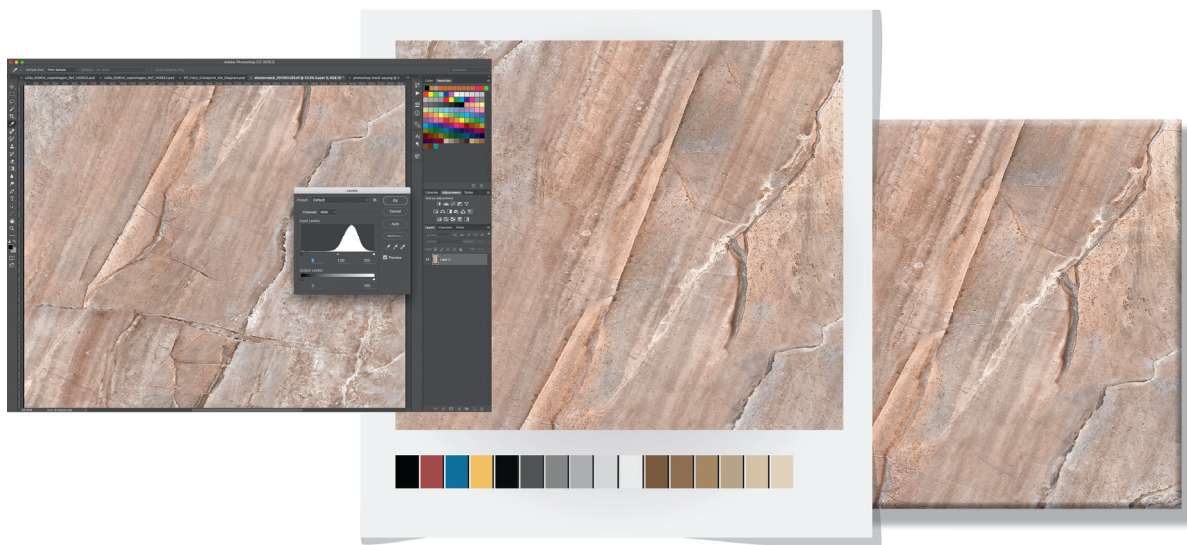
Reduction of carbon and VOC emissions to the atmosphere.

- A more homogeneous application of glaze delivers first quality in large format pieces and slab manufacturing
- Less loss of glaze both in application as well as cleaning
- Leaves staff more time to focus on greater value tasks

EFI Fiery proServer for ceramics



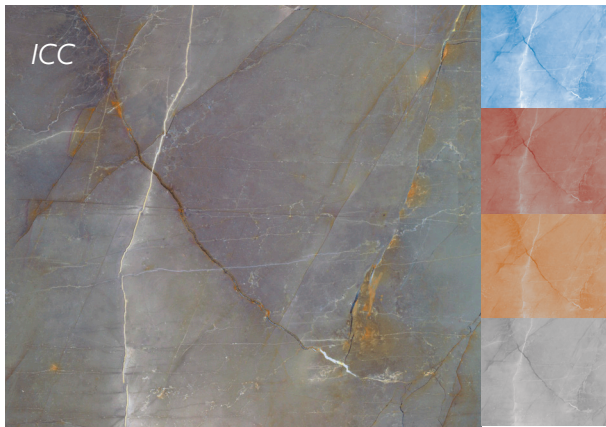
The EFI Fiery proServer pioneered colour management for digital ceramic printing and includes powerful tools to control the tile decoration process, helping to make a smooth transition to water-friendly technology and ink savings.



Accelerate tile design development

Reliable inkjet proofing reduces new product development time and reduces associated costs.

Fiery proServer's client / server architecture allows an unlimited number of operators to perform accurate on-screen design edits from any location. Adobe® Photoshop® editing is directly accessed through the client interface. EFI's exclusive Fiery Image Editor tool for EFI Cretacolor inks allows the accurate editing of final multi-channel separations, allowing on-screen changes to be made accurately and easily right up until production.

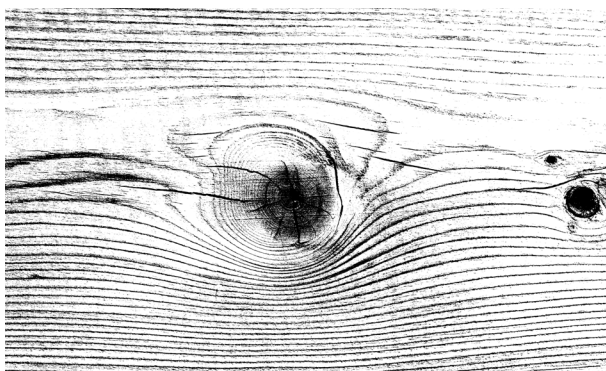


Ink consumption reduction

EFI's innovative ColorWise separation technology is engineered specifically for digital ceramic tile decoration to produce sharper and more detailed output versus conventional ICC colour management methods. This efficient technology also uses less ink versus ICC colour management production, resulting in cost savings of up to 30% when combined with the use of EFI Cretacolor inks, with no loss of colour accuracy, gamut, or definition.

With the Smart Ink Saving tool, users can configure real ink prices and produce total cost savings of up to 40% whilst finding the perfect balance between colour and cost for each individual design.

Ink set, printer, glaze, or kiln differences can be compensated with conversion tools, guaranteeing accurate results no matter where production happens. This will result in faster turnaround times to meet tight deadlines and optimised ink consumption.



Specialised ceramic decoration functionalities

Special effect layers can be automatically calculated from design files for use with reactive, gloss, matte, or luster inks.

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, building materials, commercial print, and personalised documents with a wide range of printers, inks, digital front ends, and workflow software. 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 or call 0808 101 3484 (UK only) for more information.



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

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