

The transformation of digital ceramic printing



Hybrid Ceramic
Ecosystem

0%

Risks
Technological obsolescence
VOC emissions
Hydro-repellency phenomenon

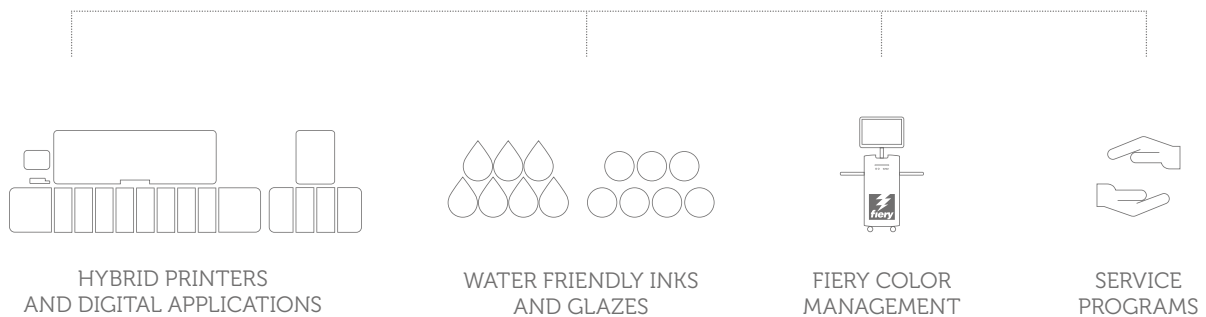
100%

Competitive
Reliable
Robust
Printing quality

The only hybrid ecosystem of its kind

Presenting the new hybrid ceramic ecosystem for tile decoration. It is a complete, integrated, and robust solution that works simply and beautifully.

- Digital glazing and digital application of granilla (glue)
- The only hybrid inkjet printers for ceramics that are able to work with water-based inks as well as current eco-solvent inks
- A unique set of water-friendly ceramic inks and glaze
- The world's first colour management software for tile decoration: The EFI Fiery proServer for ceramics
- A configurable service program that includes technical assistance, preventive maintenance, printhead refill, and financing

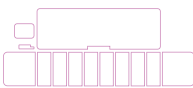


Direct benefits

Experience direct benefits in your manufacturing line and have far less impact on the environment.

- Lower emission of organic components (VOC) into the atmosphere
- More integrated ceramic processes, all occurring in water-based technology
- Optimised manufacturing processes and reduction of costs related to quality issues
- With water-based inks, you can address waste management with water (no chemical solvents for cleaning are needed)
- Facilitate Industry 4.0 thanks to digital processes
- Optimal for decorating large format and mid-slabs
- New added value for your tiles

Hybrid 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.

EFI[™] Cretaprint[®] Hybrid technology

These hybrid ceramic digital printers achieve high performance levels with water-friendly inks as well as eco-solvent based inks through our improved ink delivery system.

They also have the cleaning technology and electronics to efficiently control humidity and prevent sedimentation.

Choose your future technology with confidence: Cretaprint printers are water-friendly, robust, and reliable.

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.

Available in widths from **700 to 1400 mm**, and with up to 12 printing bars, EFI Cretaprint hybrids were developed with 5th-generation Cretaprint software — software that delivers connectivity and user applications that make EFI Cretaprint the smart printers in ceramic decoration.

- *TAS* - automatic tone adjustment
- *Fine Tunning* - for density balancing
- *Nozzle out* - for clogged nozzles compensation
- *Scada application* - for Industry 4.0
- *EFI Go* - for mobile devices
- *ID Printing* - for master tiles and traceability



EFI e-Q5 printhead

e-Q5 printhead, this new hybrid EFI printhead for ceramics has been created with waterproof components.

Features		
Printhead width (mm)	108.3	 <ul style="list-style-type: none">• Hybrid• Robust• Plug&play• Print quality
Number of nozzle	1536	
Native resolution (dpi)	360	
Drop size (pL)	13 - 98	
Grayscale levels	Up to 8	
Firing frequency (kHz)	10,2 - 28	
gr/m ²	Up to 45	

Digital applications



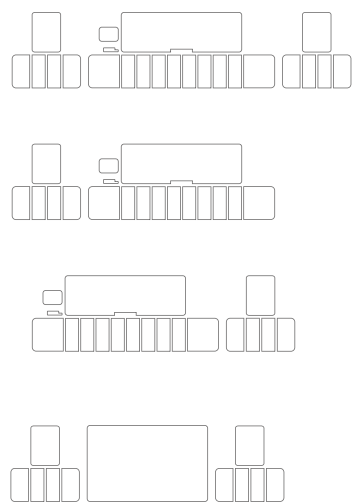
EFI offers satellite bars for digital glazing and other applications to do full digital ceramic decoration.

EFI™ Cretaprint® Shield

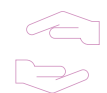
Choose one or more of these to complement your equipment. Place one prior to tile printing to apply digital glaze, or after tile decoration to apply glues and other effects.

Each EFI Cretaprint Shield has 2 bars of 1440 mm width. And best of all, they don't need a cabin, so they offer great flexibility.

EFI e-G5 printhead	
Printhead width (mm)	108.3
Number of nozzle	1536
Native resolution (dpi)	360
Drop size (pL)	25 - 225
Firing frequency (kHz)	Up to 41
gr/m ²	Up to 80 per bar



Services programs



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

EFI™ Cretaprint® service programs 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 program:** color management, regeneration and replacement of printheads.
- **Financial services:** printer rental with purchasing option.

Water-friendly inks and glazes



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

Water based inks are a source of 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 color coordinates

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

- 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

Advantages of digital glazing in ceramic decoration

Savings	Benefits
<p>-14-17%</p> <p>Cost reduction thanks to digital glazing you can reduce costs from 14-17% per square metre.</p> <p>Savings calculations</p> <p>Commodity tile pieces using matt and semi-matt glazes</p> <p>Several glazes: 2 pre-print + 1 post-print</p> <p>Slab and large formats</p> <p>Where reduced amount of glazed is applied: 1 pre-print + 1 post-print</p>	<p>Process: More stable More controlled More sustainable</p> <p>Cleaning with water</p> <p>Reduction of carbon footprint</p> <p>Less glaze applied per square metre.</p> <p>Respectful with environment</p> <p>Reduction of carbon and VOC emissions to the atmosphere.</p>



(*) Estimated for an average tile production of 5,000 sqm/day considering devaluation of equipment as well as rest of manufacturing costs such as water, supply, labour, and also considering non-quality costs.

Fiery Proserver for ceramics



Fiery proServer for ceramics pioneered colour management for digital ceramic printing. Powerful tools to control tile decoration process. Helps 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.

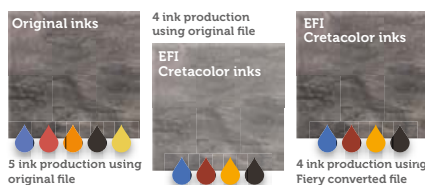
Fiery proServer's client / server architecture allows an unlimited number of operators to perform accurate on-screen design edits from any location. Adobe® Photoshop® editing is directly accessed through the client interface. EFI's exclusive Fiery Image Editor tool of EFI Cretacolor inks, with no loss allows the accurate editing of final multi-channel separations, meaning on-screen changes can 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.

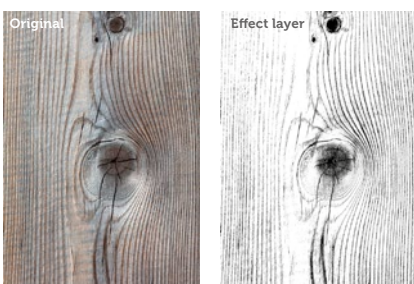
With the Smart Ink Saving tool, users can configure real ink prices and produce total cost savings of up to 40% whilst finding the perfect balance between colour and cost for each individual design.



Precision and color consistency

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 shorter deadlines and optimise ink consumption.



Specialized ceramic decoration functionalities

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

Technical Data

MACHINE SPECIFICATIONS	C5	D5	M5	N5	P5
Max. printing width (mm)	Up to 710	Up to 710	Up to 1138	Up to 1138	Up to 1440
Number of inks	Up to 8	Up to 12	Up to 8	Up to 12	Up to 8
Max. tile length (mm)	1450	1450	1650	1650	2400
Print direction	Right / left				
Min. tile thickness (mm)	From 3 mm				
Max. tile thickness (mm)	Up to 30 mm				Up to 60 mm
Print speed (m/min)	Up to 60			Up to 50	Up to 60
Centering printing precision	<0.3 mm				

MACHINE ASSEMBLY					
External power supply	Variable (380/400/440/480V)				
Max. power consumption (8 colours)	18 KVA	24 KVA	24 KVA	34 KVA	44 KVA
Electrical phases	3F+GND				
Power connection frequency	50/60 Hz				
Pneumatic connection	7 BAR			Line 1: 5–8,5 bar Line 2: 7–8,5 bar	8,5 BAR
Cabin recommended temperature	22-26°C				
UPS included	Yes				

DIMENSIONS PRINTER	C5	D5	M5	N5	P5
Width (mm)	1650	1650	2100	2100	2220
Height (mm)	1950	2050	2050	2270	2250
Length (mm)	4000	5000	4900	6100	6250

DIMENSIONS CABIN	C5	D5	M5	N5	P5
Width (mm)	3700	3700	4700	4700	6500
Height (mm)	2800	2800	2800	3300	3300
Length (mm)	5500	5500	6500	7700	8000

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 model	e-Q5	Seiko RC1536 water
Printhead width (mm)	108.3	
Number of nozzle	1536	
Native resolution (dpi)	360	
Drop size (pL)	13 - 98 pl	
Grayscale levels	Up to 8	
Firing frequency (kHz)	10,2 - 28	
gr/m ²	Up to 45	
Water compatible	Yes	Yes
Oil compatible	Yes	No
Controlled waveform	Yes	No

Printer in development, specifications subject to change without notice.

For more information

For more information on EFI Cretaprint products or to speak to an EFI Cretaprint specialist directly, please call +34 964 340 264 or email cretaprintsales@efi.com.



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

The APPS logo, AutoCal, Auto-Count, Balance, Best, the Best logo, BESTColor, BioVu, BioWare, ColorPASS, Colorproof, ColorWise, Command WorkStation, CopyNet, Cretachrom, Cretaprint, the Cretaprint logo, Cretaprinter, Cretaroller, DockNet, Digital StoreFront, DocBuilder, DocBuilder Pro, DocStream, DSFdesign Studio, Dynamic Wedge, EDOX, EFI, the EFI logo, Electronics For Imaging, Entrac, EPCount, EPPhoto, EPRegister, EPStatus, Estimate, ExpressPay, Fabrivid, Fast-4, Fiery, the Fiery logo, Fiery Driven, the Fiery Driven logo, Fiery JobFlow, Fiery JobMaster, Fiery Link, Fiery Prints, the Fiery Prints logo, Fiery Spark, FreeForm, Hagen, Inkintensity, Inkware, Jettrion, the Jettrion logo, LapNet, Logic, MiniNet, Monarch, MicroPress, OneFlow, Pace, PhotoXposure, Printcafe, PressVu, PrinterSite, PrintFlow, PrintMe, the PrintMe logo, PrintSmith, PrintSmith Site, Printstream, Print to Win, Prograph, PSI, PSI Flexo, Radius, Rastek, the Rastek logo, Remoteproof, RIPChips, RIP-While-Print, Screenproof, SendMe, Sincolor, Splash, Spot-On, TrackNet, UltraPress, UltraTex, UltraVu, UV Series 50, VisualCal, VUTEK, the VUTEK logo, and WebTools are 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.

Printed on recycled paper

