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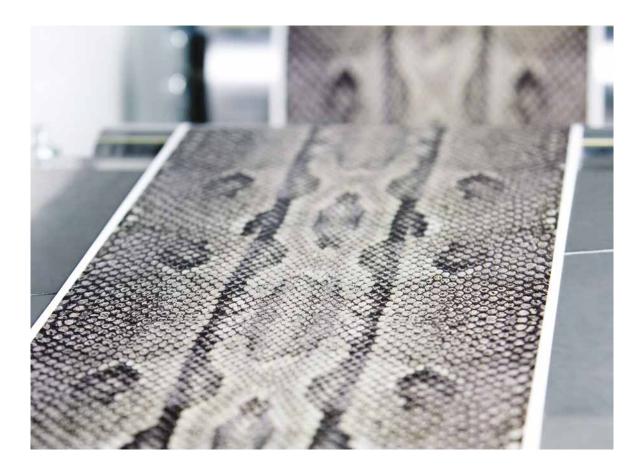

Digital inkjet laminate printing

The décor industry is diverse and includes the decoration of wood laminates, a sector of focus for Xaar. The décor sector also covers glass, vinyl flooring and wallpaper. All sub-sectors are at the early stages of an exciting transition from using traditional analogue printing methods to digital inkjet technology.

Within the laminates sector, Xaar printheads are used to print patterns or images directly onto laminate boards or paper used to produce flooring, furniture and panels. Laminated wood is big business with approximately 7.5 billion square metres produced annually. In such a thriving industry, Xaar printheads enable manufacturers to deliver a far broader range of design variations than traditional print processes can manage. As digital print facilitates short run, on-demand production, Xaar printheads enable rapid design introduction and dramatically reduce inventories and waste due to design obsolescence.

Xaar 1003

Highest productivity

Outstanding print quality

Ultimate versatility

XAAR

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Why digital?

Mass customisation

– With no limit to run length, digital printing enables cost-effective production even for small quantities. This opens up the opportunity for infinite design variations and the capability of producing customised or one-off products

– Image size and pattern lengths are not constrained by the limited repeat distance of analogue plates or rolls, which means that pattern repeats in a floor design, for example, can be eliminated.

Reduced cost

– Digital printing can supply exactly what is needed, when it is needed, so there is no need to manufacture excess volume due to minimum batch sizes. This eliminates the requirement to hold large volumes of stock due to minimum run lengths

– Exact order quantities also help to minimise the cost of obsolete stock due to design change

– The extra cost of set-up time and material incurred with analogue print processes are removed which, with décor paper, can be thousands of square metres.

Fast time to market

– Digital printing offers rapid job turnaround. As soon as a design is approved it can be sent straight to print. There is no need to prepare plates or engrave cylinders prior to printing

– Designs can be changed 'on the fly', at the touch of a button, so there is no time lost between jobs

– Digital printing can significantly reduce production lead times by moving the print operation from a dedicated site to the local conversion product or unit. For example, digitally printing a design directly onto a finished wood laminate product, rather than ordering décor paper on a long lead time from a specialist gravure printer.

Why inkjet?

Superior quality finish

– Digital inkjet printing delivers a high quality, fine detail finish, making it easy to create designs that are faithful to the original, and patterns that are virtually indistinguishable from wood and other materials

– As a non-contact printing process, digital inkjet can tolerate variations in substrate thickness. This ensures total consistency of print finish on substrates such as wood laminates and other décor materials which vary in thickness.

High adaptability

– Inkjet is easily scalable, so that print widths can be varied to meet the needs of different applications: from 50 mm furniture edge banding to 2100 mm wide décor paper

– Inkjet has the capability of printing onto a wide range of substrate thicknesses, from a 60 gsm paper through to 10 mm, glass panels and beyond. In addition it can print onto ridged surfaces or grooves, such as panelled doors or furniture, which gives it great versatility in an unlimited choice of print applications.

Why Xaar?

The printhead of choice for the laminates sector today is the Xaar 1003.

Highest productivity

The Xaar 1003 printhead is designed to deliver maximum production uptime with minimum operator intervention which ensures high production output and a fast return on investment.

– Xaar's TF Technology (ink recirculation) and the unique Hybrid Side Shooter architecture ensure continuous ink flow at a high rate directly past the back of the nozzle during drop ejection. This means that any bubbles and unwanted particles present in the ink are carried away. This radically improves reliability, and ensures artefact-free printing, particularly important for long-run lengths of décor paper rolls and large format boards

– The Xaar 1003 is self-priming, so maintenance cycles are short, in-line recovery is fast and start-up instantaneous. This minimises material wasted, operator intervention and maximises production uptime

– The XaarGuard enables quick recovery from mechanical shock so that production interruptions are minimised.

Outstanding print quality

The Xaar 1003 delivers exceptionally smooth gradations and solid areas across the entire print swathe and in the print direction, ensuring consistent colour and faithful high quality image reproduction during a print run.

– 1000 Optimised Geometry nozzles deliver significantly improved drop placement accuracy and consistent drop volume even with high viscosity fluids

– 360 nozzles per inch, and up to 8 grey levels result in an effective print resolution greater than 1000 dpi

– These combine to give smooth tones, sharp detail and the accurate design reproduction necessary to give true-to-life reproduction of wood and stone patterns.

Ultimate versatility

Fast time-to-market is ensured because the Xaar 1003 is easy to integrate; both Xaar drive electronics and the Xaar Hydra (recirculating) Ink Supply System are easily configured and optimised for the printhead.

– Actuator performance in each printhead is optimised with Xaar's Tuned Actuator Manufacturing. This process ensures full scalability with a simple and quick set up, streamlining printhead replacement, and achieves consistent print quality across long print bars with multiple printheads, at different greyscale levels

– Xaar's systems components including the XPM, XUSB, HPC3 and Xaar's Hydra, are designed to optimise the performance of the Xaar 1003; they are also easy to configure and integrate, reducing time-to-market

– Xaar actively partners with a wide range of ink manufacturers to develop high-quality ink solutions for its printheads

– The Xaar 1003 is designed to be compatible with a range of solvent, oil and UV curable inks.