

Bisley Gets Printing on Steel Down to a Fine Art

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British furniture manufacturer Bisley has pioneered a printing technique that makes printing on steel easier and much more durable.

British home and office furniture supplier Bisley has managed to stay relevant and in demand throughout its 90-year history by evolving its steel-focused business with the times. It started out in 1931, supplying the car industry with sheet metal. In the lead-up to World War II, it moved into defense products and then became primarily known for its iconic filing cabinets and other office supplies. It has now expanded its color range and developed a revolutionary print option to appeal to residential consumers.

Developing this printing process, however, wasn't easy, explains Mark Shatford, Bisley's design manager.

"Printing on steel is notoriously challenging due to the nature of the material. Unlike porous substrates, like paper or wood, steel is non-absorbent and has a smooth, reflective surface. This means traditional printing methods don't adhere well — inks can slip, smudge or fail to bind properly, especially under the intense conditions steel is exposed to during manufacturing. Additionally, when steel is used in furniture, it has to be durable — which means any applied finish must withstand scratching, cleaning, and general wear and tear. So, the print not only has to look good, it has to last."

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The World Steel Association
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Printing on Steel With Staying Power

To solve this problem, Bisley partnered with a local printer based in Bristol, who use the latest Swiss-engineered Signracer SR-200+ flatbed printer. This advanced digital process uses low-VOC, UV-curable inks cured by energy-efficient LED lamps, which produce less heat and consume less power than traditional curing methods.

“We begin by supplying the printer with pre-primed sheets of steel, which helps with adhesion and later folding,” says Shatford. “The printing process then starts with two layers of eco-friendly, low-VOC, UV-curable white ink for coverage and vibrancy, followed by extended gamut CMYK, plus special orange and violet inks, allowing for a wide and luminous color range. This process is then repeated for the reverse of each door, resulting in a high-resolution, scratch-resistant and fade-resistant finish. Notably, the inks used are GREENGUARD Gold Certified to UL 2818 standards and the yellow ink is nickel-free to reduce allergen risk.

“Once printed, the panels are returned to us for forming. To prevent damage during this step, we use a specialist marking prevention tape, which allows the steel to form cleanly without the tools damaging the surface. Applying this method helped overcome previous issues where the print would delaminate slightly during folding. We also use high-strength adhesive instead of welding to apply the door stiffeners, since the printed surfaces can’t be subjected to heat treatments post-print. The steel doors are printed in pairs, side by side, in a single operation to ensure precise alignment across the image.”

Bisley Collaborates With RISOTTO Studio

To showcase its new steel-printing technique that enabled it to apply high-resolution prints to functional steel furniture in a way that preserves quality and durability over time, Bisley partnered with Scottish designer RISOTTO Studio, who created a series of limited edition prints for Bisley’s furniture.

“The RISOTTO Studio collaboration brought this to life, using vibrant graphics and patterns never before applied to our steel panels in this way,” says Shatford. Thanks to the extended color gamut — CMYK plus special orange and violet inks — laid over two layers of white base ink, we’ve been able to achieve high-fidelity color reproduction that truly makes the designs pop. This result is bold, vivid surfaces that hold exceptional luminosity, as seen across the RISOTTO graphics.

“What’s unique is that we now understand how to manage the process end-to-end: from blanking, priming, and printing, to forming and final assembly. That level of control means we can repeat the process to a high standard — but it’s still only suitable for very limited runs.”

Being able to print directly onto steel has helped to expand Bisley’s remit and gives the company the opportunity to collaborate with more brands, designers and artists on highly expressive, limited-edition pieces. Shatford concludes: “It elevates steel as a material — shifting perceptions from purely industrial to artistic and individual.” ♦