

SEKISUI KYDEX

New Approaches to Railway Interiors

Rolling stock interiors are embracing a design renaissance, focused on being sustainable, safe, and smart.

Designers are bursting with new ideas and concepts, but one thing is constant, meeting new passenger expectations. Rail interiors will need to focus on circular design and the feel of a comfortable and clean cabin. Rather than fixed solutions, the architecture will be easily modified for the seasons, traveller desires, and rail operators' interior brands. The journey will become as exciting as the destination.

Karyn McAlphin, Design Director and Ruben Bake, International Business Manager for SEKISUI KYDEX along with Christiane Bausback, Head of Design and Managing Director for N + P Innovation Design, are collaborating to explore new ways to deliver on the passenger journey. Their goal is to bring forward thinking and flexible design solutions to rolling stock.

“The mobility ecosystem is interconnected and agile, changing faster than ever, including in rolling

stock. This connectivity will shape passenger journeys and result in new wishes, demands and solutions. In the future, cross-industry and purpose-driven solutions are the key. It will no longer be about the journey itself as a highlight, but about the experience of mobility with all senses and its integration into everyday life. The most successful companies will provide seamless experiences,” said Bausback.

The critical step effecting change in rolling stock design is with the supply chain. Traditionally colour, material and finish are some of the last decisions made for rolling stock interiors. By including CMF designers and material suppliers early on in project development, new approaches present themselves, including circular design and custom colours and patterns.

There is an increased obligation and preference for sustainable materials within the industry and among passengers.

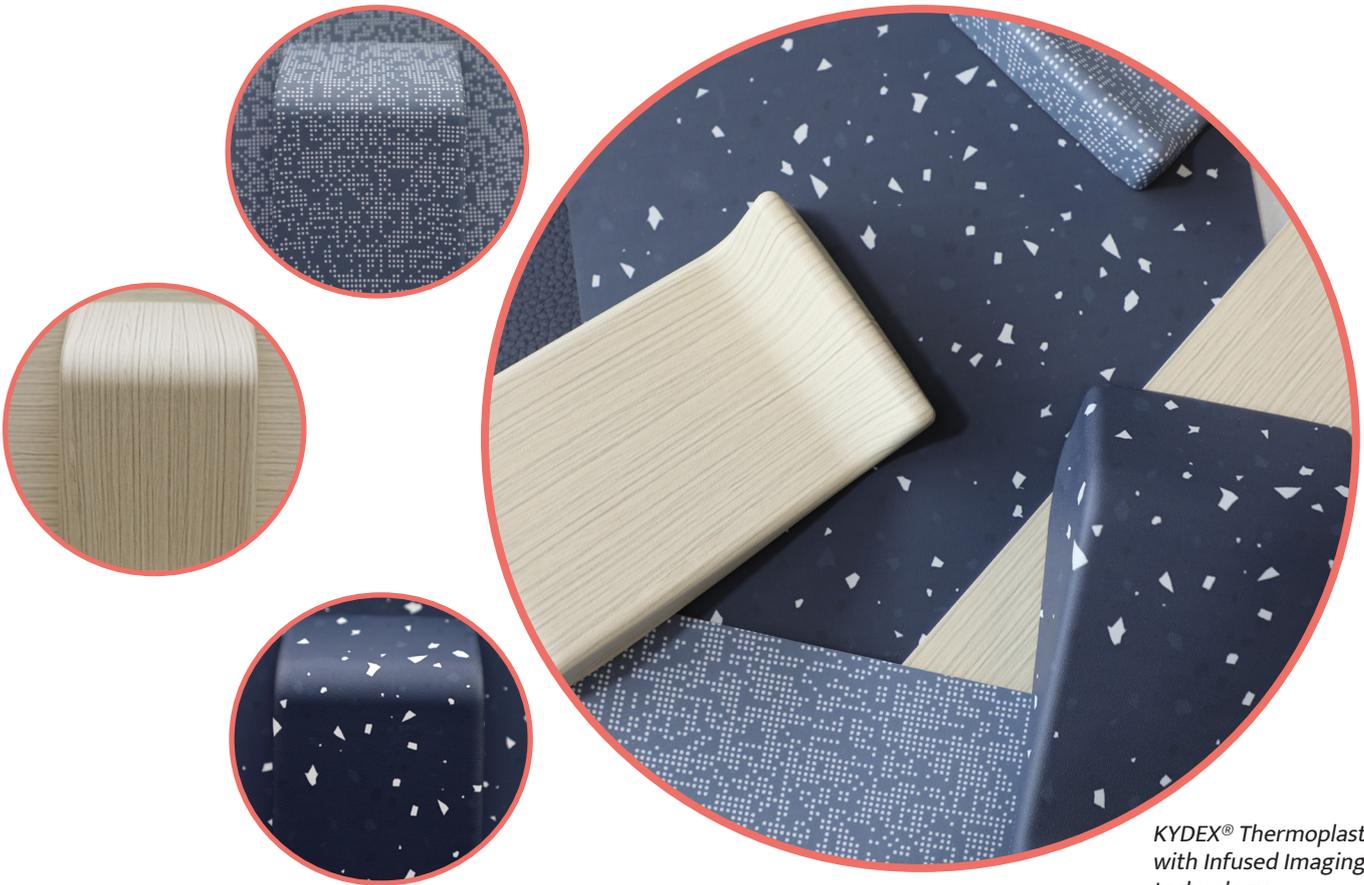
According to McAlphin, “The rail industry appears to be at a tipping point thanks to the interest in sustainability. It is no longer enough

to just introduce lightweight, durable materials that can be used in innovative ways. Collectively, we have a responsibility to develop products that can be taken apart, recycled, and reused.”

So when choosing materials, considering what happens to those materials at the end of their life-cycle is just as important as their time in use. One material of choice, KYDEX® Thermoplastics, is fully recyclable, so when a seatback shell or tray table has outlived its usefulness, it can be processed into new sheet.

Designers can bring custom design elements to life through carefully chosen materials. When CMF is left to last, designing for the passenger is often restricted to in-stock items and leaves much to the imagination. By bringing the supply chain together early, designers can use materials that feature texture, pattern and custom colour, allowing the passenger to enjoy a curated space that feels customised.

“We want to create environments which make you feel at home and that passengers can enjoy throughout their whole journey. In the past, most rolling stock



KYDEX® Thermoplastics with Infused Imaging™ technology

operators concentrated on efficiency rather than on comfort and wellbeing. Due to the latest innovations in material and manufacturing processes, this has changed. We have more flexibility to use inspiration from contemporary architecture and art and implement these into our train designs. While on the one hand we want to create this feel-at-home effect, on the other hand colours, materials and finishes have to work in different situations, such as eating, working, relaxing or socialising,” says Bausback.

Bausback is already exploring what these new cabins can look and feel like. One of her recent concepts features light woodgrain accents, dark terrazzo surfaces and pixelated aisles.

“The light woodgrain is a nice contrast to the dark blue and

terrazzo surfaces. It combines warmth and brightness. As a result, the natural contrast guides the eye to functional areas, which would normally be visualised by rather loud artificial colour tones. The pixelated pattern is inspired by digital art. The irregular yet repetitive pattern creates a monochrome appearance that lets seating shine, whereas from nearby it communicates technological sophistication,” shared Bausback.

The SEKISUI KYDEX team brought Bausback’s designs to life using KYDEX® Thermoplastics with Infused Imaging™ technology, a proprietary process that embeds imagery into thermoplastic material. Designers can use this technology to realise bespoke environments using colour, images and texture without sacrificing strength and durability. Artwork is produced to meet colour

requirements and fit a variety of applications including seatback shells, tray tables, privacy dividers, window shrouds and more.

“Because it’s made of KYDEX® Thermoplastics, the material will meet strict performance guidelines, is available with antimicrobial properties, and has graffiti resistance, exceeding a wide range of material expectations. By combining the material performance and leading design to provide greater value to OEMs and operators, we are pushing the boundaries of rail interiors,” said Bake.

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