

# SEKISUI KYDEX

## Elevating Sustainable Rail Interiors with Harmonised Materials and Thoughtful Design

Rail interiors present a complex design challenge: balancing regulatory requirements, material constraints and evolving passenger expectations within confined, high-traffic spaces.

Traditionally, materials like fibreglass and sheet metal have limited the design freedom necessary to create inspiring and sustainable environments. But today, as passengers increasingly demand both environmental responsibility and elevated aesthetics, the opportunity is clear: sustainable KYDEX® thermoplastics can shape the next generation of rail travel.

For designers committed to both beauty and sustainability, selecting the right colour, materials and finish (CMF) is essential. CMF strategy enables a seamless blend of form and function, offering passengers a modern experience where comfort,

technology and ecological responsibility coexist. The material palette must do more than perform – it must inspire.

### Unifying Aesthetics with Seamless Integration

A common challenge in rail interiors is visual inconsistency across different materials and manufacturing methods. Infused Imaging™, a proprietary technology from SEKISUI KYDEX, allows for rich, high-resolution patterns to be embedded directly into KYDEX® Thermoplastics without compromising recyclability or performance. This ensures visual depth, material cohesion and customisation while maintaining environmental responsibility.

Additionally, KYDEX® offers a family of harmonised materials, KYDEX® P2200 profile extrusion and KYDEX®



KYDEX® P2200 profile extrusion parts



*KYDEX® Thermoplastics with matching Injection Molding Resin*

## Built for Transit. Suitable for Advanced Design.

Beyond aesthetics and sustainability, KYDEX® materials are engineered to meet rigorous mass transit safety standards, including flame, smoke and toxicity regulations set by the FRA and ASTM. This ensures designers can push creative boundaries without compromising on safety or compliance.

KYDEX® Injection Molding (IM) resins match the physical properties of KYDEX® sheet, delivering the same durability and aesthetic consistency. KYDEX® P2200 profile extrusion is purpose-built for structural components that must comply with SMP800C or BSS7239 standards, offering high-performance capabilities in forms that are visually and materially aligned with the rest of the design.

## A Sustainable Future for Rail Design

For sustainability-minded designers, KYDEX® Thermoplastics represent more than a material choice – they enable rail interiors that are not only compliant and durable but also beautiful and environmentally responsible. As we envision the future of rail travel, it's clear: sustainable design isn't a limitation, it's the new standard for creative innovation.

For more information visit [www.kydex.com](http://www.kydex.com).

**SEKISUI**  
**KYDEX**

2200 injection moulding resins – all manufactured under one roof. This ensures consistent colour and texture across various parts and fabrication methods, creating a visually unified interior space without the need for secondary finishing like painting or coating. The result: cohesive, seamless design with a smaller ecological footprint.

## Designing for Sustainability with Thermoplastics

KYDEX® Thermoplastics offer a future-forward solution for sustainable CMF design. Fully recyclable – even with advanced visual effects like Infused Imaging™, KYDEX® materials are manufactured without plasticisers and designed to meet the demands of modern transit interiors.

Thermoplastics present a lighter, more efficient alternative to legacy materials, reducing environmental impact without compromising on performance or design freedom. Their durability reduces the need for frequent replacements while their resistance to chipping, discolouration and cracking ensures longevity in high-touch, passenger-facing environments.

From injection moulding to profile extrusion and thermoforming, KYDEX® materials allow designers to work across multiple processes with ease, depending on the part design and need, while maintaining the integrity and harmony of the same base material. They enable lighter structures that contribute to sustainable transport design.

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# The material solution for rail interiors

DURABLE

SUSTAINABLE

CUSTOMIZABLE

[kydex.com](http://kydex.com)

InfusedImaging™