

## KYDEX® Thermoplastics do not stain after exposure to aviation industry cleaners.

### Tests reveal that not all thermoplastics resist staining

Recently, several major airlines approached SEKISUI SPI about staining issues in the thermoplastic parts used in their seatbacks. They reported that yellowish/orange staining had occurred, mostly on tray tables, but was observed on other plastic components as well. They also reported that staining had occurred as soon as one week after installation—and that the problem was, in fact, not a new one.

SEKISUI SPI did not produce the stained sheets—both airlines acknowledged that they were made by another thermoplastics manufacturer. They asked us to research how this might have happened.

Immediately, we utilized our 28-day battery of tests comparing aviation-grade KYDEX® Thermoplastics to two competitors' products. The result: our products were unaffected by a wide range of reagents and commercial aviation cleaners commonly used to keep aircraft clean, while the competitors' products exhibited the staining and discoloration observed by the airlines.

We designed KYDEX® Thermoplastics to withstand the relentless demands that aircraft endure as thousands of passengers board, use, and disembark. We assess and assure quality every day because we understand that our sheet represents not just SEKISUI SPI, but also the airlines themselves.

**Conducting these tests on behalf of the industry, our goal was two-fold:** to ensure that thermoplastics are reliable solutions for aircraft interiors and to illustrate differences in quality by the manufacturer.

### Testing parameters

A variety of samples were tested for general exposure, immersion, surface exposure, and cleaning. All testing was based on the ASTM D543 standards and meets or exceeds their practices for evaluating the resistance of plastics to exposure and chemical reagents commonly used in the aviation industry. Changes in tensile strength and sample weight were also measured. Products tested were two aviation-specific KYDEX® Thermoplastics as well as two PVC/PMMA competitor products.

### Results

After 28 days of extended exposure to a wide range of aviation industry disinfectants and cleaners, results showed that KYDEX® Thermoplastics exhibited no significant staining or loss of tensile strength, while a competitive PVC/PMMA product exhibited the same type of staining observed by the airlines.

### Conclusion

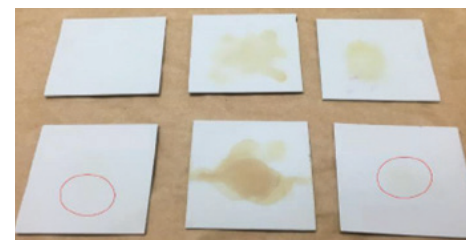
A broad range of aviation interior cleaners have no effect on KYDEX® Thermoplastics but cause staining on competitive PVC/PMMA products.



Competitor seatback tray, stained



Competitor seatback tray, stained



Competitive PVC/PMMA product: constant surface exposure test



KYDEX® Thermoplastics: constant surface exposure test

### Cabin appearance cleaning product list

The following cleaners have been proven to be safe to use on KYDEX® Thermoplastics without negative effects on colour or strength.

Callington CH2200
Callington Aero Glass Cleaner
Palmolive and water
Celeste Biozyme EX3
Celeste MicroGreen™ AGR
Bon-Ami
Callington Fresh n Clean
Celeste Sani-Cide EX3 Disinfectant
Celeste SP-NG85000 Interior Cleaner Complete
Celeste Sani-Com®

**For more information about SEKISUI SPI and KYDEX® Thermoplastics, visit us at [sekisui-spi.com](http://sekisui-spi.com), contact our Technical Services Team at 1.800.682.8758 or 1.570.387.6997, or email [techservice@sekisui-spi.com](mailto:techservice@sekisui-spi.com).**