

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

### Tests reveal that not all thermoplastics resist staining

Major Airlines approached SEKISUI KYDEX about yellowish/orange staining issues in the thermoplastic parts used in their seatbacks, tray tables and other plastic components. They also reported that staining had occurred as soon as one week after installation.

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

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.

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

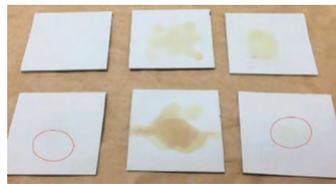
Conducting these tests on behalf of the industry, our goal was to ensure that thermoplastics are reliable solutions for aircraft interiors and to illustrate differences in quality by the manufacturer.



Competitor seatback tray, stained



Competitor seatback tray, stained



Competitive PVC/PMMA product: constant surface exposure test



KYDEX® Thermoplastics: constant surface exposure test

### Aviation interior cleaning products

	Effective against COVID19	Stained competitor product	Safe to use on KYDEX® Sheet
Bon-Ami (tallow, sodium salts)			✓
Callington Aero Glass Cleaner (ethanol)	✓		✓
Callington CH2200 (ethanol, alcohol solvent)	✓		✓
Callington Fresh n Clean (alcohol, denatured)	✓		✓
Celeste Biozyme EX3 (bacillus spores)			✓
Celeste MicroGreen™ AGR ((d)-limonene)	✓	■	✓
Celeste MicroGreen™ NG (proprietary ingredients)		■	✓
Celeste SP-NG85000 Interior Cleaner Complete (alcohols, ethoxylated)	✓	■	✓
Celeste Sani-Cide 32 (ammonium chloride (quat))	✓	■	✓
Celeste Sani-Cide EX3 (lactic acid) <i>Recommended by the CDC</i>	✓	■	✓
Celeste Sani-Cide FSC (ammonium chloride (quat))	✓	■	✓
Celeste Sani-Com® (ethanol)	✓		✓
McGean Cee-Bee 90 (n-butoxypropanol)		■	✓
Palmolive and water (ammonium lauryl sulfate isodecyl alcohol ethoxylate)			✓

For more information about SEKISUI KYDEX and KYDEX® Thermoplastics, visit us at [kydex.com](http://kydex.com), contact appLab™ at 1.800.682.8758 or 1.570.387.6997, or email [appLab@kydex.com](mailto:appLab@kydex.com).

### Testing parameters

- Samples were tested for general exposure, immersion, surface exposure, and cleaning.
- Testing based on the ASTM D543 standards and meets or exceeds their practices for evaluating the resistance of plastics to exposure and chemical reagents
- Changes in tensile strength and sample weight were measured.
- We tested two aviation-specific KYDEX® Thermoplastics and two PVC/PMMA competitor products

### Results

After 28 days of extended exposure to a range of aviation industry disinfectants and cleaners, results showed:

- KYDEX® Thermoplastics exhibited no significant staining or loss of tensile strength
- Competitive PVC/PMMA products exhibited yellowish/orange staining

### Conclusion

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