KYDEX® 5555HI-ION

High impact, low heat release aviation sheet with advanced antimicrobial protection

INTRODUCTION

KYDEX® 5555HI-ION is a proprietary, high performance thermoplastic sheet with integral colour specifically engineered to improve aircraft passenger safety. Its built-in antimicrobial protection continuously fights the growth of stain and odor causing bacteria on its surface.

GENERAL INFORMATION

KYDEX® 5555HI-ION is designed to provide material deformation when used in components subjected to HIC (Head Injury Criterion) testing for increased passenger safety. It exceeds the flammability and smoke development requirements outlined in Federal Aviation Regulations (FAR) 25.853 paragraphs (a) and (d). KYDEX® 5555HI-ION exceeds a 55/55 heat release level and 150 smoke development. Its KYDEX ION Technology™ is integral to the sheet. It will not wash or wear away and will last for the life of the product.

SUGGESTED APPLICATIONS

- Seat parts
- Bulkhead laminates
- Life vest shrouds
- Monitor Shrouds
- Armrests
- Moulding strips
- Tray tables
- Kick panels

FEATURES

- Improved impact properties over traditional thermoplastics for HIC compliance seating requirements
- Reduces cost of compliance by decreasing the total number of expensive and time consuming 16g tests
- Increases design freedom to create more complex seat geometries
- Decreases weight by eliminating the need for heavy reinforcements or thick gauges
- Exceeds the stringent requirements of FAR 25.853 paragraphs (a) and (d) in all thicknesses and colours
- Excellent formability and fabrication characteristics
- Allows for tight tolerance control
- Available in a wide range of integral colours
- Antimicrobial protection inhibits the growth of bacteria on the sheet surface
- Antimicrobial protection is built-in to the sheet so it won't wash or wear away and lasts for the life of the sheet
- Antimicrobial protection keeps the surface cleaner between cleanings

ENVIRONMENTAL & SAFETY CONSIDERATIONS

SEKISUI KYDEX, LLC is committed to ensuring that its products can be manufactured, transported, stored, used, disposed and recycled with an appropriate regard for safety, health, and environmental protection. We support the safe handling of our products.

Contact SEKISUI KYDEX appLab™ team for more details about KYDEX ION Technology™, resources, and Safety Data Sheets at 800.682.8758 or visit our website: www.kydex.com.

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*KYDEX® Thermoplastics incorporate an advanced EPA-registered antimicrobial for the protection and preservation of our polymeric and plastic materials. KYDEX® Thermoplastics are treated only to protect the polymeric and plastic materials and do not confer protection from bacteria to users of our products. Always clean the product thoroughly after use.

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PHYSICAL PROPERTIES

PROPERTY	TEST METHOD	TYPICAL VALUE[1]	
PHYSICAL			
Specific Gravity	ASTM D792	1.48	
Water Absorption, 24hr	ASTM D570	0.07%	
Rockwell Hardness, R-scale	ASTM D785	100	
MECHANICAL			
Tensile Strength	ASTM D638	41.9 MPa	6,070 psi
Tensile Modulus	ASTM D638	3,220 MPa	467,000 psi
Poisson's Ratio	ASTM D638	0.376	
Flexural Strength	ASTM D790	65.4 MPa	9,480 psi
Flexural Modulus	ASTM D790	2,965 MPa	430,000 psi
Compressive Strength, yield	ASTM D695	52.9 MPa	7,670 psi
Compressive Modulus	ASTM D695	3,047 MPa	442,000 psi
Shear Strength	ASTM D732	39.6 MPa	5,750 psi
Bearing Strength, 4% deformation	ASTM D953	28.8 MPa	4,180 psi
Bearing Strength, max	ASTM D953	193 MPa	28,000 psi
Gardner Drop Dart Impact, GE	ASTM D5420	25.4 J	225 in-lbf
THERMAL			
Heat Deflection Temperature (HDT) @ 264 psi (1.8 MPa), annealed	ASTM D648	73.9°C	165.0°F
Coefficient of Thermal Expansion	ASTM E831	62.1 µm/m/°C	34.5 µin/in/°F
ELECTRICAL			
Dielectric Strength, oil	ASTM D149	20.3 kV/mm	515 V/mil
FLAMABILITY[2]			
Vertical Burn, 60-second	FAR 25.853(a)(i)	Pass	
Vertical Burn, 12-second	FAR 25.853(a)(ii)	Pass	
OSU Heat Release	FAR 25.853(d) Part IV	≤ 55/55	
NBS Smoke Density	FAR 25.853(d) Part V	≤ 150	

1 Values based upon 3.20mm (0.125") sheet unless otherwise specified. Preliminary in-house testing, values may changed with third party validation testing.
2 All thicknesses and colours
Not intended for specification purposes.

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This information supersedes all previously published data.

