KYDEX® 5555HI

High impact, low heat release aviation sheet

INTRODUCTION

KYDEX® 5555HI is a proprietary, high performance thermoplastic sheet with integral colour specifically engineered to improve aircraft passenger safety.

GENERAL INFORMATION

KYDEX® 5555HI 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 exceeds a 55/55 heat release level and 150 smoke development that allows the product to be used as a stand-alone material or within bonded build-up constructions.

SUGGESTED APPLICATIONS

- Seat parts
- Bulkhead laminates
- Life vest shrouds
- Passenger service units
- Monitor Shrouds
- Armrests
- Moulding strips
- Tray tables
- Kick panels
- Bonded build-ups

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 required
- 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, which allows for bonded build-up constructions
- Excellent formability and fabrication characteristics
- Processes similar to KYDEX® 5555
- Allows for tight tolerance control
- Available in a wide range of integral colours

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.

Please contact our appLab™ department at 800.682.8758 for resources and Safety Data Sheets or visit our website: www.kydex.com.

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PHYSICAL PROPERTIES

Property	Test Method	Typical Value[1]	
PHYSICAL			
Specific Gravity	ASTM D792	1.48	
Water Absorption, 24hr	ASTM D570	0.08%	
Rockwell Hardness, R-Scale	ASTM D785	106	
MECHANICAL			
Tensile Strength	ASTM D638	45.1 MPa	6,540 psi
Tensile Modulus	ASTM D638	3,261 MPa	473,000 psi
Poisson's Ratio	ASTM D638	0.385	
Flexural Strength	ASTM D790	71.7 MPa	10,400 psi
Flexural Modulus	ASTM D790	3,151 MPa	457,000 psi
Compressive Strength, yield	ASTM D695	58.3 MPa	8,450 psi
Compressive Modulus	ASTM D695	1,958 MPa	284,000 psi
Shear Strength	ASTM D732	48.5 MPa	7,030 psi
Bearing Strength, 4% deflection	ASTM D953	32.2 MPa	4,670 psi
Bearing Strength, max.	ASTM D953	207.5 MPa	30,100 psi
Gardner Drop Dart Impact, GE	ASTM D5420	62.9 J	557 in-lbf
THERMAL			
Heat Deflection Temperature (HDT) @ 264 psi (1.8 MPa), annealed	ASTM D648	76.9°C	170.4°F
Coefficient of Thermal Expansion	ASTM E831	61.5 µm/m/°C	34.2 µin/in/°F
Electrical			
Dielectric Strength, oil	ASTM D149	19.7 kV/mm	500 V/mil
FLAMABILITY2			
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.
2 All thicknesses
Not intended for specification purposes.

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