

KYDEX® 4545

Ultra low heat release and smoke density aviation sheet

Introduction

KYDEX® 4545 is a proprietary, high performance thermoplastic sheet specifically formulated to exceed the heat release and smoke density requirements in FAR 25.853 making it an ideal material for composite constructions.

General Information

KYDEX® 4545 exceeds the flammability and smoke development requirements outlined in Federal Aviation Regulations (FAR) 25.853 paragraphs (a) and (d). Its low heat release and smoke density offers an enhanced level of safety for interior components while making it an ideal material for composite constructions. Its wide processing window and ease of thermoforming makes it perfect for complex parts.

Suggested Applications

- Seat parts
- Armrests
- Bulkhead laminates
- Moulding strips
- Passenger service units
- Tray tables
- Monitor shrouds
- Kick panels

Features

- Exceeds the stringent requirements of FAR 25.853(d) in all thicknesses and colors
- Excellent formability and fabrication characteristics
- Processes similar to KYDEX® 6565 and KYDEX® 5555
- Allows for tight tolerance control
- Available in a wide range of colors
- Available in P3 – Velour Matte texture

Environmental and Safety Considerations

SEKISUI SPI 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 Technical Service department at 800.682.8758 for resources or visit our website: <http://www.sekisui-spi.com>. For Material Safety Data Sheets, please call 800.325.3133.

SEKISUI SPI

ISO 9001 and 14001 Certified

Customer Service

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Physical Properties

Property	Test Method	Typical Value ¹	
PHYSICAL			
Specific Gravity	ASTM D-792	1.49	
Water Absorption, 24hr	ASTM D-570	0.07%	
Rockwell Hardness, R-Scale	ASTM D-785	113	
MECHANICAL			
Tensile Strength	ASTM D638	54.8 MPa	7,950 psi
Tensile Modulus	ASTM D638	3,689 MPa	535,000 psi
Flexural Strength	ASTM D790	87.6 MPa	12,700 psi
Flexural Modulus	ASTM D790	3,605 MPa	523,000 psi
Compressive Strength, yield	ASTM D695	68.3 MPa	9,900 psi
Compressive Modulus	ASTM D695	3,785 MPa	549,000 psi
Shear Strength	ASTM D732	52.4 Mpa	7,600 psi
Bearing Strength, 4% deflection	ASTM D953	39.5 Mpa	5,730 psi
Bearing Strength, max.	ASTM D953	253.7 MPa	36,800 psi
THERMAL			
Heat Defection Temperature @264 psi (1.8 MPa), annealed	ASTM D-648	75.3°C	168°F
Coefficient of Thermal Expansion	ASTM E-831	56.9 µm/m/°C	31.6 µin/in/°F
ELECTRICAL			
Dielectric Strength, oil	ASTM D149	> 18.7 kV/mm	> 475 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	Total: <45 kW-min/m ² Peak: <45 kW/m ²	
NBS Smoke Density	FAR 25.853(d) Part V	D ₅ (max) <150	
¹ Values based upon 0.125" (3.17mm) sheet unless otherwise specified ² All Thicknesses Not intended for specification purposes.			

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