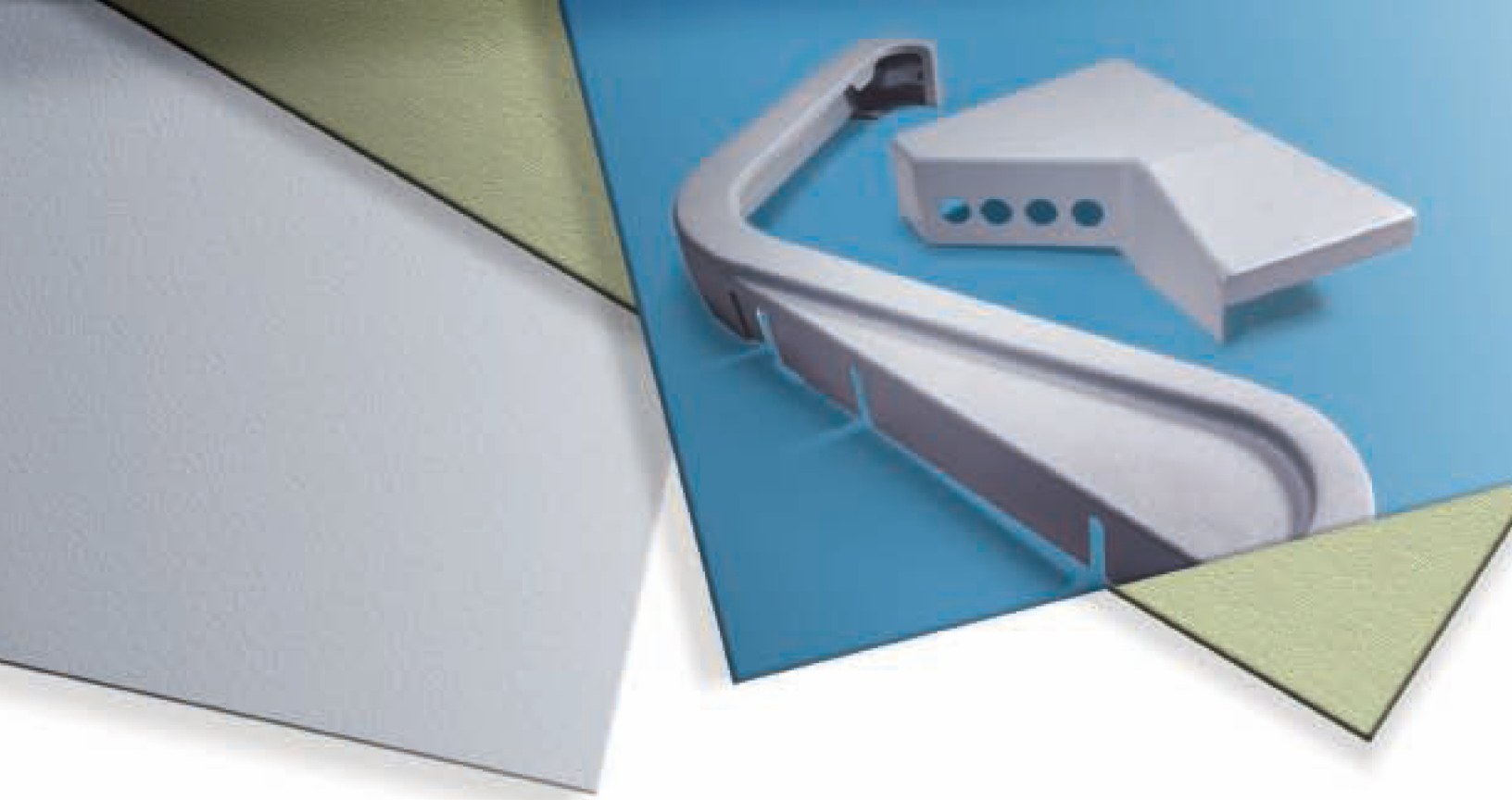
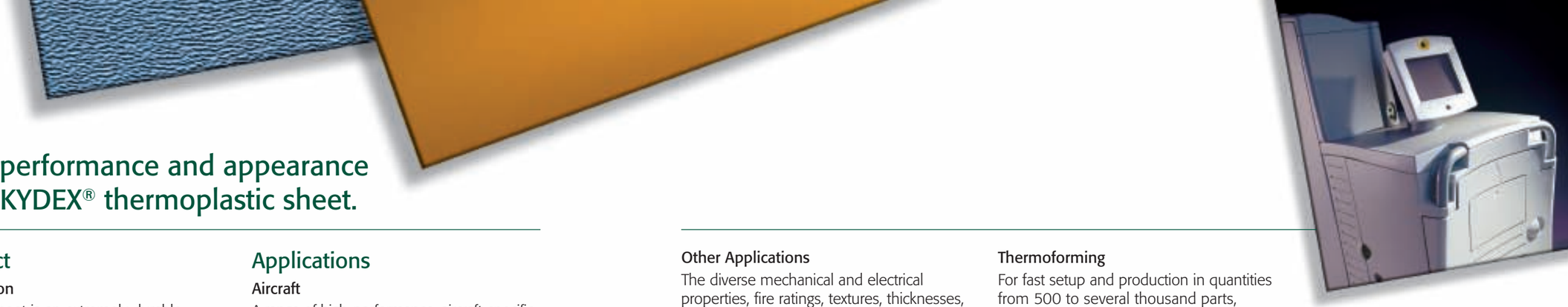


KYDEX®
THERMOPLASTIC SHEET
Durability By Design®

Selection Guide

Thermoplastic sheet in specialised grades for demanding applications



Protect the long-term performance and appearance of your products with KYDEX® thermoplastic sheet.

Product

Description

KYDEX® sheet is an extremely durable thermoplastic alloy sheet extruded to withstand levels of abuse from moderate to extreme. It is available in grades designed to optimise long-term performance, appearance, and cost effectiveness across demanding and diverse end-use applications.

- 3,500+ custom colours
- Thicknesses: 0.56mm–12.70mm (0.022"–0.500")
- Multiple textures
- Granite patterns, wood grains, metallics

KYDEX® Sheet Properties

- Impact Resistance
- Dimensional Stability
- Weatherability
- Flame Retardancy
- Chemical Resistance
- Cleanability

Design Flexibility

KYDEX® sheet offers unprecedented design and manufacturing flexibility, with a choice of grades available to provide properties and certified ratings required to fit a broad range of applications. An unlimited variety of flat and three-dimensional effects can be achieved through techniques including thermoforming, membrane pressing, post forming, brake forming, laminating, machining, and miter folding. This allows different parts to be produced using the most efficient technique yet still match in appearance.

Applications

Aircraft

A range of high-performance, aircraft-specific grades of KYDEX® sheet satisfy FAR fire retardancy requirements and exhibit outstanding physical, mechanical, and thermal properties for aircraft interior components.

Mass Transit, RV, and Marine Interior Components

KYDEX® sheet is available in specialised grades that meet all performance criteria for flammability and smoke emission according to standards documented by regulatory authorities.

Medical Products and Clean Rooms

From equipment housings to building products to sanitary, fire-rated ceiling panels, specialised grades of KYDEX® sheet offer the durability, cleanability, and versatility required by the most demanding medical applications.

Equipment Housings

Outstanding physical properties, fire ratings, formability, and a wide selection of specialised grades make KYDEX® sheet a premier material for high-performance equipment housings.

Commercial, Building and Industrial Materials

KYDEX® sheet can be used to produce a wide range of components including displays, signage, wall coverings and food processing guards. Meeting Class 1/A and NSF requirements, KYDEX® sheet withstands high traffic, resists harsh chemicals and overcomes the drawbacks of conventional surfacing methods, making it ideal for use in a variety of commercial and industrial applications.

Other Applications

The diverse mechanical and electrical properties, fire ratings, textures, thicknesses, colours, and patterns available with KYDEX® sheet make it suitable for a limitless range of demanding applications, from gun holsters and channel buoys to hospital beds and ice hockey targets.

Production Methods

Laminating and Miter Folding

Lamination with KYDEX® sheet results in a protective, attractive surface that does not chip, crack, break, or snap like high-pressure laminates, to withstand abuse in high-traffic retail, institutional, and commercial interiors.

- Integral colour (depending on grade) to eliminate dark edges
- Available in a range of thicknesses
- Can be laminated to a wide choice of substrates, such as wood, metal, gypsum, and rigid foam
- Use of commercially available adhesives and hot- or cold-pressing production methods
- Ability to miter fold to produce seamless outside corners

Forming, Fabricating, and Machining

The diversity of methods to effectively form, fabricate, machine, and join KYDEX® sheet—without the cracking, chipping, or snapping associated with many thermoplastic and thermoset sheet products—opens limitless application possibilities.

- Machining with conventional power tools (saw, die cut, shear, rout, drill, sand, file, mill)
- Post forming, brake forming, and heat welding
- Joining with screws, rivets, other common fasteners, or commercially available adhesives
- Appropriate for formed and/or laminated products requiring simple or complex secondary operations

Thermoforming

For fast setup and production in quantities from 500 to several thousand parts, thermoforming is commonly selected over injection molding—for tooling costs up to 90 percent lower and parts completed up to two or three times faster. KYDEX® sheet is well established as a premier thermoforming sheet, offering processing advantages.

- Extreme formability
- Superior hot tear strength
- Ability to maintain uniform wall thickness
- A choice of forming methods to produce sharp edges, undercuts, and other close tolerance details

Membrane Pressing

With membrane pressing, an inflated bladder (or membrane) is used to physically press heated plastic sheet onto a wood or composite substrate (or core), eliminating the need for molds. The outstanding formability of KYDEX® sheet is ideally suited to membrane pressing.

- Conforming fully to the core
- Ability to create three-dimensional contours and seamless edges with compound curves
- Preservation of sharp edges and surface detail
- Maintenance of uniform wall thickness on high spots, low spots, and sharp corners
- Ability to laminate and heat-weld bottom edges for total encapsulation

Standard Grades Overview

Application																									
Aircraft					Mass Transit							Medical	Equipment Housings				Commercial/Building/Industrial Materials				Properties				
Certification																									
FAR 25.853(a)	FAR 25.853(d)	ABD-0031	BSS 7239	D6-51377	FMVSS 302	DIN 5510 (-2 S4, ST2, SR1 or 2)	ASTM E-162	ASTM E-662	EC 95/28/EG	Docket 90A	SMP 800C	UL Std 94 V-O	UL 94	UL 746C	NSF Std 51-Food	NFP 92-501	ASTM E-84	DIN 4102	BS 476 Part 7	BS 476 Part 6	Impact Resistance at 73° F [ASTM-D256]	Modulus of Elasticity [ASTM D-790]	Tensile Strength [ASTM D-638]	Rockwell Hardness (R scale) [ASTM D-785]	Heat Deflection Temp @264 psi (annealed) °F [ASTM D-648]	Grade
■					■				■			■	■	■	■				■		961 J/m (18 ft-lbs/in)	2310 MPa 335,000 psi	42 MPa 6100 psi	94	78.3° C (173° F)	KYDEX® 100
												■			■						212 J/m (4 ft-lbs/in)	2758 MPa 400,000 psi	48 MPa 6900 psi	108	78.3° C (173° F)	KYDEX® 107
■												■	■		■		■				128 J/m (2.4 ft-lbs/in)	2450 MPa 356,000 psi	45 MPa 6500 psi	94	73.9° C (165° F)	KYDEX® 110
																	■				160-267 J/m (3-5 ft-lbs/in)	2391 MPa 347,000 psi	40 MPa 5750 psi	107	81.1° C (178° F)	KYDEX® 115
■												■	■		■		■				187 J/m (3.5 ft-lbs/in)	2372 MPa 344,000 psi	41 MPa 6000 psi	101	76.7° C (170° F)	KYDEX® 130
					■										■		■				961 J/m (18 ft-lbs/in)	2310 MPa 335,000 psi	42 MPa 6100 psi	94	78.3° C (173° F)	KYDEX® 150
																	■				961 J/m (18 ft-lbs/in)	2310 MPa 335,000 psi	42 MPa 6100 psi	94	78.3° C (173° F)	KYDEX® 150 MB
■															■		■				801 J/m (15 ft-lbs/in)	2480 MPa 360,000 psi	42 MPa 6100 psi	*	75.6° C (168° F)	KYDEX® 152 WG
																	■				107-214 J/m (2-4 ft-lbs/in)	2551 MPa 370,000 psi	40 MPa 5800 psi	97	71.1° C (160° F)	KYDEX® 160
■												■	■		■				■		801 J/m (15 ft-lbs/in)	2480 MPa 360,000 psi	42 Mpa 6100 psi	94	75.6° C (168° F)	KYDEX® 510
																					801 J/m (15 ft-lbs/in)	2344 MPa 340,000 psi	42 MPa 6100 psi	93	79.4° C (175° F)	KYDEX® 550
■												■	■								374-480 J/m (7-9 ft-lbs/in)	2517 MPa 365,000 psi	43 MPa 6200 psi	108	78.3° C (173° F)	KYDEX® 1900
■	■						■														53-160 J/m (1-3 ft-lbs/in)	3833 MPa 556,000 psi	43 MPa 6180 psi	111	75.9° C (168.6° F)	KYDEX® 5555
■	■																				53-160 J/m (1-3 ft-lbs/in)	3833 MPa 556,000 psi	43 MPa 6180 psi	111	75.9° C (168.6° F)	KYDEX® 5555 MB
■																					267 J/m (5 ft-lbs/in)	2241 MPa 325,000 psi	44 MPa 6400 psi	104	90.6° C (195° F)	KYDEX® 6185
■					■	■	■	■		■											187 J/m (3.5 ft-lbs/in)	2413 MPa 350,000 psi	41 MPa 6000 psi	98	77.8° C (172° F)	KYDEX® 6200
■					■		■	■		■	■										107 J/m (2 ft-lbs/in)	2710 MPa 393,000 psi	23 MPa 3390 psi	78	71.1° C (160° F)	KYDEX® 6200 LTR
■	■				■		■	■													53-160 J/m (1-3 ft-lbs/in)	2896 MPa 420,000 psi	45 MPa 6500 psi	98	78.3° C (173° F)	KYDEX® 6565
■	■						■														53-160 J/m (1-3 ft-lbs/in)	3833 MPa 556,000 psi	43 MPa 6180 psi	111	75.9° C (168.6° F)	KYDEX® 6565(d)
■					■										■		■	B1 B2			33.9 N-m* 300 in-lbf*	3367 MPa 489,000 psi	50 MPa 7200 psi	114	75.1° C (167° F)	KYDEX® HD
■					■				■			■	■		■	■		B2	■	■	801 J/m (15 ft-lbs/in)	2480 MPa 360,000 psi	42 MPa 6100 psi	94	75.6° C (168° F)	KYDEX® T
■												■	■						■	■	801 J/m (15 ft-lbs/in)	2480 MPa 360,000 psi	42 MPa 6100 psi	94	75.6° C (168° F)	KYDEX® T MB
■																					801 J/m (15 ft-lbs/in)	2480 MPa 360,000 psi	42 MPa 6100 psi	*	75.6° C (168° F)	KYDEX® T MC
															■		■				35.06 N-m* 310 in-lbf*	3367 MPa 489,000 psi	50 MPa 7200 psi	*	75.1° C (167° F)	KYDEX® WG
															■		■	B2	■	■	48.58 N-m* 430 in-lbf*	2480 MPa 360,000 psi	42 MPa 6100 psi	94	75.6° C (168° F)	KYDEX® XD
																	■		■	■	48.58 N-m* 430 in-lbf*	2480 MPa 360,000 psi	42 MPa 6100 psi	94	75.6° C (168° F)	KYDEX® XD MB
■	■	■	■	■																	0.34-0.66 N-m/mil† 3.0-5.8 in-lbf/mil†	2320 MPa 360,000 psi	74 MPa 10400 psi	125	120.5° C (249° F)	KYDEX® FST

* Impact Resistance - Gardner Drop Dart (25.40 mm [1.0"] MDF) † Impact Resistance - Gardner Drop Dart

NOTE: KYDEX® sheet is also available in recycled grades, KYDEX® V, KYDEX® V102 and KYDEX® V103.

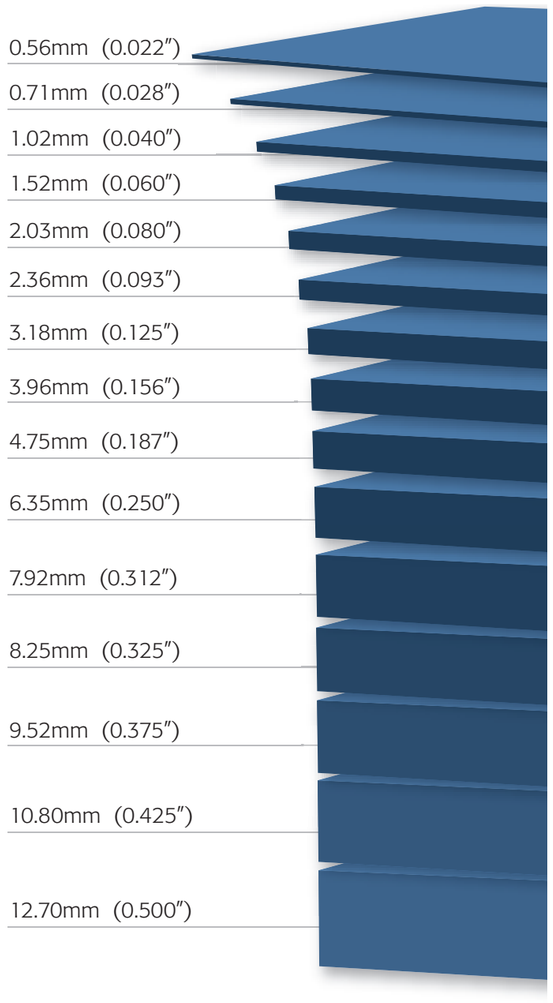
KYDEX® Sheet Colours

KYDEX® sheet is currently available in over 3,500 colours, granite, metallic and wood grain patterns, multiple surface textures and thicknesses from 0.56mm to 12mm. If none of these choices meet your needs, we'll make a custom colour just for you.

Chip chain sample kits containing KYDEX® sheet colours, metallics, granites, surface textures and sheet thicknesses are available through the Customer Service Department.
800.325.3133
Outside the US: +1.570.389.5814
Or visit www.kydex.com to order a sample kit or complete a Custom Colour Match form.

Thicknesses

Custom thicknesses also available



Patterns

KYDEX® 130 Granites

Rosestone 82101 | Black 82503 | Glass Green 82303 | Navy Blue 82401 | Desert Sand 82703

KYDEX® 510 Granites

Shown with black/white cap; rust/gray or clear cap also available

Pastel Blue 42031 | Black 42114 | Pewter Gray 52001 | Steel Gray 52068 | Pinstripe 52070

Sandy Beach 72179 | Beige Nebula 72646

KYDEX® 110 Metallic Colours

Copper 82103 | Strawberry Pop 82108 | Ductile Gold 82202 | Lemon Star 82206 | Shimmering Forest 82305

Olympic Cast 82406 | Royal Garb 82407 | Silver 82507 | Pearl 82606 | Bronze 82704

KYDEX® WG and KYDEX® 152 WG

Shown 50% of actual size

Pearwood | Rustic Cherry | Riga Birch | Candlelight | Tundra Birch | Chocolate Pear

Summerflame | Red Alder | Honey Maple | Fusion X | Ellmau Beach | Manitoba Maple

Shaker Cherry

Patterns are representative only, and selection should not be based solely on the above chart.

Surface Textures

Shown actual size

P-A Smooth | P-C Level Haircell | P-E Smooth Nap | P-H Seville | P-K Cashmere | P-1 Haircell

P-3 Velour Matte | P-8 Suede

NOTE: Texture can influence the appearance of any colour.

History

KYDEX, LLC is the manufacturer of KYDEX® sheet—a leading brand of durable thermoplastic sheet products with a reputation for excellence. Our sheet products are in demand around the globe.

Introduced by Rohm and Haas Company in 1965, the product line was purchased by U.S.-based KYDEX, LLC in 1987. Since that time, the company has grown its brand by developing specialised grades to satisfy the needs of a wide range of customer and compliance requirements, emerging applications and diverse industries.

Today, proprietary KYDEX® thermoplastic sheet is produced in Bloomsburg, PA, USA, at the company's ISO 9001:2000 and ISO14001:2004 certified manufacturing facility. KYDEX's customer-centric approach to manufacturing provides fast setup and cost-effective production of quality sheets and rolls—handling small runs, short lead times, and custom orders with ease and assurance.

Worldwide, a network of factory-trained sales professionals and customer service personnel are committed to supporting specifiers and customers with expert advice on designing and producing components that benefit from the outstanding properties of KYDEX® sheet.

Environmental Policy

For KYDEX, LLC, environmental responsibility has been an essential part of its business philosophy for more than 20 years. Every KYDEX® thermoplastic sheet product is produced and sold in keeping with the company's commitment to and regard for safety, health, and environmental protection. KYDEX, LLC's ISO 14001 certified manufacturing operations and R&D facilities ensure regulatory compliance while helping to protect resources, minimize waste, and reduce environmental impacts. In addition, KYDEX® thermoplastic sheet is 100% recyclable—making it an environmentally sound alternative to other products.

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