

KYDEX[®]
THERMOPLASTIC SHEET

3D LAMINATES

Durability by Design[™]



FOR PROTECTIVE SURFACING
OF FLAT AND 3D RETAIL
FIXTURE COMPONENTS





KYDEX® 3D Laminate

An extremely durable thermoplastic alloy available in a range of colours, patterns, textures, and thicknesses.



Protect the long term performance of retail fixture components with damage-resistant KYDEX® 3D Laminate



MDF board was routed, membrane pressed, and miter-folded to produce durable, drop-front shelving for Smithsonian Museum Stores.

KYDEX 3D Laminate begins where thermofoils end

KYDEX 3D Laminate is offered in gauges that begin where most thermofoils leave off. It is formulated for extreme resistance to impact, chemicals, and cleaning agents. It is fire resistant and self-extinguishing. It is engineered to be formed over components routed with deep recesses. It is the future of retail fixture components.

Impact and Puncture Resistant

KYDEX 3D Laminate provides significantly better impact and puncture resistance than high-pressure laminate (HPL) and low-pressure laminate (LPL or melamine).

Forms to compound corners and contoured edges

KYDEX 3D Laminate seamlessly encapsulates the top and side surfaces of routed wood substrates. This allows for production of parts with compound curves, undercut edges, fine details, and sharp or rounded corners. Even brand identifications and wire management holes can be produced using KYDEX 3D Laminate for true state-of-the-art design.

Components appear to be machined from solid wood, solid aluminum, granite or solid surfacing, and can be produced far more economically than with traditional methods.

Minimizes the need for moulding or edge banding

Seamless cladding of 3D components eliminates edge banding, T-moulding, sharp edges, unsafe corners and delamination problems associated with HPLs and LPLs.

Wide range of colours, metallics, granite and woodgrain patterns

KYDEX 3D Laminate is offered in a wide range of solid colours, metallics, granite patterns and highly realistic woodgrains so your fixture components can closely simulate components machined from the finest solid materials both in shape and in finish.

Patterns and colours match popular HPLs, melamines and thermofoils

It is now possible to mix and match KYDEX 3D Laminate with popular HPLs, melamine boards and thermofoils—including those of Flakeboard®, Formica® Georgia Pacific®, Omnova®, Renolit, Roseburg®, Tafisa®, Wilsonart® and others.

Typical applications include:

- Kiosks
- Checkout counters
- Cabinetry
- Exhibits and displays
- Door and drawer fascias
- Mouldings
- Pedestals and stands of all types
- Transaction surfaces
- Workstations
- Kickplates and pushplates
- Logo and trademark panels
- Tabletops
- Shop fittings
- Flat laminated panels of all types

KYDEX 3D Laminate provides the freedom to design state-of-the-art 3D store fixture components that simulate more expensive, solid materials.

Production Methods



Membrane Pressing

Membrane pressing uses vacuum and pressure to apply heated KYDEX 3D Laminate onto a wood or composite substrate. The substrate can be routed to any three-dimensional shape including compound curves, undercut edges, profiles, sharp details and rounded corners.

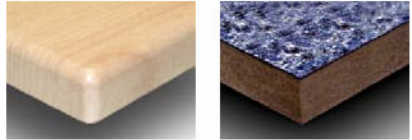
Substrates are sprayed with adhesive and rolled into a heating chamber with KYDEX 3D Laminate suspended above. The sheet is heated while vacuum and pressure press the laminate onto the substrate and into recesses, encapsulating all but the bottom surface (which can be prelaminated with matching melamine or flat laminated with KYDEX 3D Laminate).

Flat Laminating

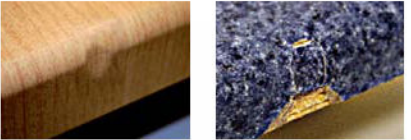
KYDEX 3D Laminate can be adhered to wood, metal, gypsum, profiled aluminum sheets, and rigid foam using commercially available adhesives, and hot or cold pressing methods. The result is a protective surface that does not chip, crack, break, or snap.

Miter Folding

Wood substrates laminated with KYDEX 3D Laminate can be miter folded to produce seamless outside corners of cabinets, drop-front shelving or table legs by routing a V-groove (miter) across the backside of the wood without touching the laminate. Both mitered wood edges are then sprayed with adhesive and hinged on the laminate to close the groove, forming a seamless outside corner.



KYDEX 3D Laminate can cover compound corners without edge banding.



Comparison of KYDEX 3D Laminate and HPL subject to similar impact.

Fabricating and Machining

KYDEX sheet is easy to saw, die cut, shear, rout, drill, sand, file, mill, and machine using conventional tools. It can be post-formed and brake-formed (with or without wire heating), or heat welded to create seamless, sanitary corners.

Joining is accomplished using screws, rivets, other fasteners or commercially available adhesives—without the cracking, chipping or snapping associated with many thermoplastic and thermoset sheet products.

KYDEX® sheet is also offered in heavier gauges that are self-supporting and can be utilized without a substrate for fabrication, forming and machining of brackets, partitions, housings and other accessories that match your fixture components.

If your current sources do not offer membrane pressing, Kleerdex can provide you with a list.



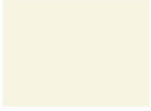
3D LAMINATES

Durability by Design[™]

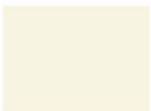
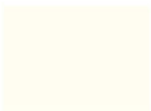
DESCRIPTION	
 KYDEX[®] HD Integral Colours	High durability, Class I/A fire rated sheet with integral color in 0.56 mm (0.022") thickness—the thinnest KYDEX sheet offered—developed specifically for membrane pressing applications. Improves edge definition, post-press trimming, and press cycle times, while surpassing vinyl overlays, high pressure laminates and melamine in resistance to surface and edge impact. Available in roll and sheet stock.
 KYDEX[®] XD Integral Colours	This specialized Class I/A grade of KYDEX sheet in 0.76 mm (0.030") and 1.02 mm (0.040") thickness offers extreme durability. It is intended for flat and 3D laminating of building products exposed to high traffic, and is offered in 36 standard colours, 3,000 custom colours and six textures.
 KYDEX[®] WG Woodgrain Cap	High impact, fire rated sheet in 0.76 mm (0.030") thickness with solid color substrate, color matched and permanently fused to a high performance cap film with highly realistic wood grain patterns. Developed specifically for membrane pressing applications, this thin-gauge KYDEX woodgrain sheet improves edge definition, post-press trimming, and press cycle times, and stands up to extreme abuse in retail environments while simulating components milled of the finest, solid hardwoods. It is offered in 11 stock woodgrain patterns that match vinyls, melamine and HPL. Available in roll and sheet stock.
 KYDEX[®] 152 WG Woodgrain Cap	Super tough, durable KYDEX 152 WG sheet in 1.02 mm (0.040") thickness, offers a higher level of durability. It is available in 11 aesthetically pleasing woodgrain patterns; each substrate color is custom matched to complement the woodgrain cap. It rates Class I/A when tested according to the ASTM E-84.
 KYDEX[®] 130 Integral Granite	High performance sheet with integral granite pattern in 5 colours. Rated Class I/A for non-wallcover-ing applications.
 KYDEX[®] 510 Granite Cap	KYDEX sheet of any color with a clear, weatherable cap that is reverse-printed with black/white.
 KYDEX[®] 110 Integral Metallic	Super tough metallic-colored, proprietary alloy that sets new standards for 3D laminating applications in impact resistance, formability, fire retardancy and aesthetics.

GRADE	FLAMMABILITY CLASS I/A (ASTM E-84)	IMPACT RESISTANCE Gardner Drop Dart (25.40 mm [1.0"] J MDF)	THICKNESSES / TEXTURES										COLOURS / PATTERNS					
			0.56 mm (0.022")	0.71 mm (0.028")	0.76 mm (0.030")	1.02 mm (0.040")	P-E SMOOTH NAP	P-C LEVEL HAIRCELL	P-K CASHMERE	P-3 VELOUR MATTE	P-8 SUEDE	P-1 HAIRCELL	36 Standard Colours	6 Stock Colours	Granite: ☒ Integral ☐ Capped	Woodgrain Patterns	Metallics	Over 3000 Custom Colours
KYDEX [®] HD Integral Colours	☒	33.90 N-m 300 in-lbf	☒						☒				☒	☒				☒
KYDEX [®] XD Integral Colours	☒	48.58 N-m 430 in-lbf			☒	☒	☒	☒	☒	☒	☒	☒	☒					☒
KYDEX [®] WG Woodgrain Cap	☒	35.06 N-m 310 in-lbf			☒						☒					☒		
KYDEX [®] 152 WG Woodgrain Cap	☒	50.84 N-m 450 in-lbf				☒					☒					☒		
KYDEX [®] 130 Integral Granite	☒	42.93 N-m 380 in-lbf		☒		☒	☒	☒	☒	☒	☒	☒			☒			
KYDEX [®] 510 Granite Cap		62.14 N-m 550 in-lbf				☒	☒		☒	☒	☒	☒	☒		☐			☒
KYDEX [®] 110 Integral Metallic	☒	37.28 N-m 330 in-lbf		☒		☒	☒		☒	☒	☒						☒	

KYDEX® Standard Colours

							
RED 12000	ROOSTER RED 12037	CABERNET 12038	TERRACOTTA 12148	ORANGE 22031	SUNFLOWER 22158	LEMON 22159	APRICOT 22182
							
MYSTIC GREEN 32060	SEA GREEN 32077	LOGO GREEN 32169	KHAKIGRUN 32170	CADET BLUE 42000	CANYON BLUE 42107	TWILIGHT 42110	BUOYANT BLUE 42112
							
WILD ORCHID 42369	CALCUTTA BLACK 52000	PEWTER GRAY 52001	DARK GRAY 52002	STEEL GRAY 52068	PINSTRIPES 52070	BLACK 52114	POLAR WHITE 62000
							
IVORY 62015	SNOWFLAKE 62029	MONTEREY 62033	VANILLA SC 62340	BEIGE 72005	CHOCOLATE 72010	COCOA 72047	ROUGE 72175
				KYDEX® thermoplastic sheet is available in 36 standard colours (shown) and over 3000 custom-blended colours, as well as custom-matched colours. Colours are offered in a variety of thicknesses and surface textures. Colours are representative only, and selection should not be based solely on the above chart.			
DAYBREAK 72177	SANDY BEACH 72179	SAVANNA 72567	TUCSON 72568				

KYDEX® HD
Stock Colours

	
MYSTIC GREEN 32060	LOGO GREEN 32169
	
PINSTRIPES 52070	BLACK 52114
	
IVORY 62015	SNOWFLAKE 62029

Contact Kleerdex Company or its sales representatives regarding custom color matches.

KYDEX® 110
Metallic Colours

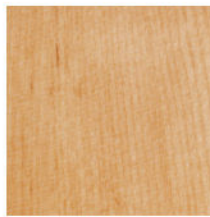
				
SILVER 82507	COPPER 82103	BRONZE 82704	PEARL 82606	DUCTILE GOLD 82202
				
STRAWBERRY POP 82108	LEMON STAR 82206	SHIMMERING FOREST 82305	OLYMPIC CAST 82406	ROYAL GARB 82407

Thicknesses
Shown actual size



KYDEX® WG and KYDEX® 152 WG 3D Laminate

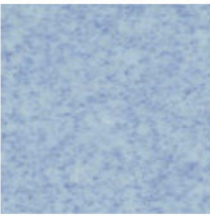
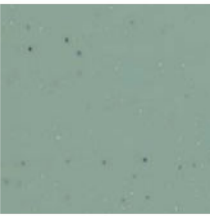
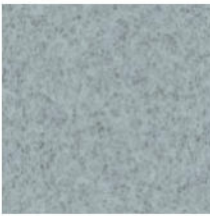
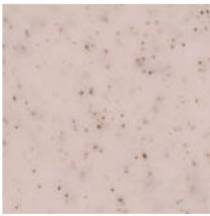
Shown 50% of actual size

					
PEARWOOD	CANDLELIGHT	FUSION X	CHOCOLATE PEAR	HONEY MAPLE	RIGA BIRCH
Patterns are representative only, and selection should not be based solely on the above chart.					
	SUMMERFLAME	RED ALDER	RUSTIC CHERRY	TUNDRA BIRCH	ELLMAU BEECH

KYDEX® Patterns

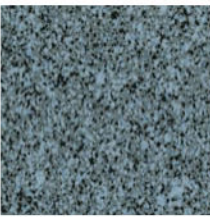
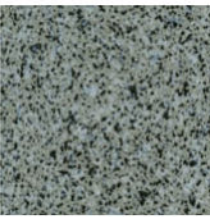
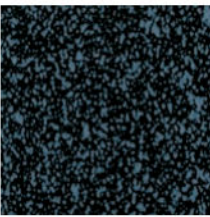
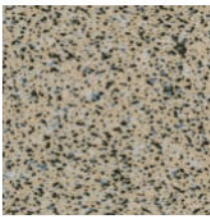
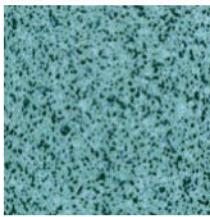
Shown actual size

KYDEX 130
GRANITE

				
NAVY BLUE 82401	GLASS GREEN 82303	BLACK 82503	ROSESTONE 82101	DESERT SAND 82703

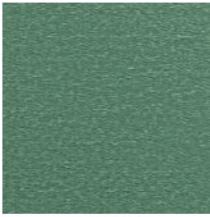
KYDEX 510
GRANITE

Shown with black/white cap. Clear cap also available

				
PINSTRIPES 52070	STEEL GRAY 52068	BLACK 52114	SANDY BEACH 72179	PASTEL BLUE 42031

Surface Textures

Shown actual size

					
P-E SMOOTH NAP	P-K CASHMERE	P-3 VELOUR MATTE	P-1 HAIRCELL	P-8 SUEDE	P-C LEVEL HAIRCELL

Note: Texture can influence the appearance of any color.



History

The KYDEX line of thermoplastic was introduced by Rohm and Haas Company in 1965. "KYDEX 100" sheet—the only grade offered at the time—exhibited a range of mechanical properties desirable for aircraft interior applications, prompting United, American, Delta and other major airlines to thermoform aircraft interior parts of the material. Additional KYDEX grades were subsequently developed to meet the requirements of original equipment manufacturers in many industries.

In 1987 Kleerdex Company, acquired as a wholly owned subsidiary of Sekisui Chemical Company in 1990, purchased the KYDEX product line and developed additional grades to provide the physical, electrical and chemical properties and fire ratings required for mass transit vehicles, electrical enclosures, medical products and other demanding applications, as well as general-purpose grades that outperform fire retardant ABS and polycarbonate at comparable prices.

Wood product manufacturers, in an effort to eliminate the cracking and chipping problems of high-pressure laminates, began to laminate, miter-fold and post form KYDEX sheet to produce wood-core components of commercial furniture, store fixtures, kiosks and displays—applications that now comprise a large market for KYDEX sheet.

Demand was fueled by the suitability of KYDEX sheet as a damage-resistant material for membrane pressing, a rapidly growing method of surfacing flat and three-dimensional substrates—a large and fast-growing application for KYDEX sheet.

KYDEX sheet is produced in Bloomsburg, PA, USA, at Kleerdex Company's vertically integrated manufacturing facility that is certified to the ISO 9001:2000 quality management system and ISO 14001 environmental management system.



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This information supercedes all previously published data.

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