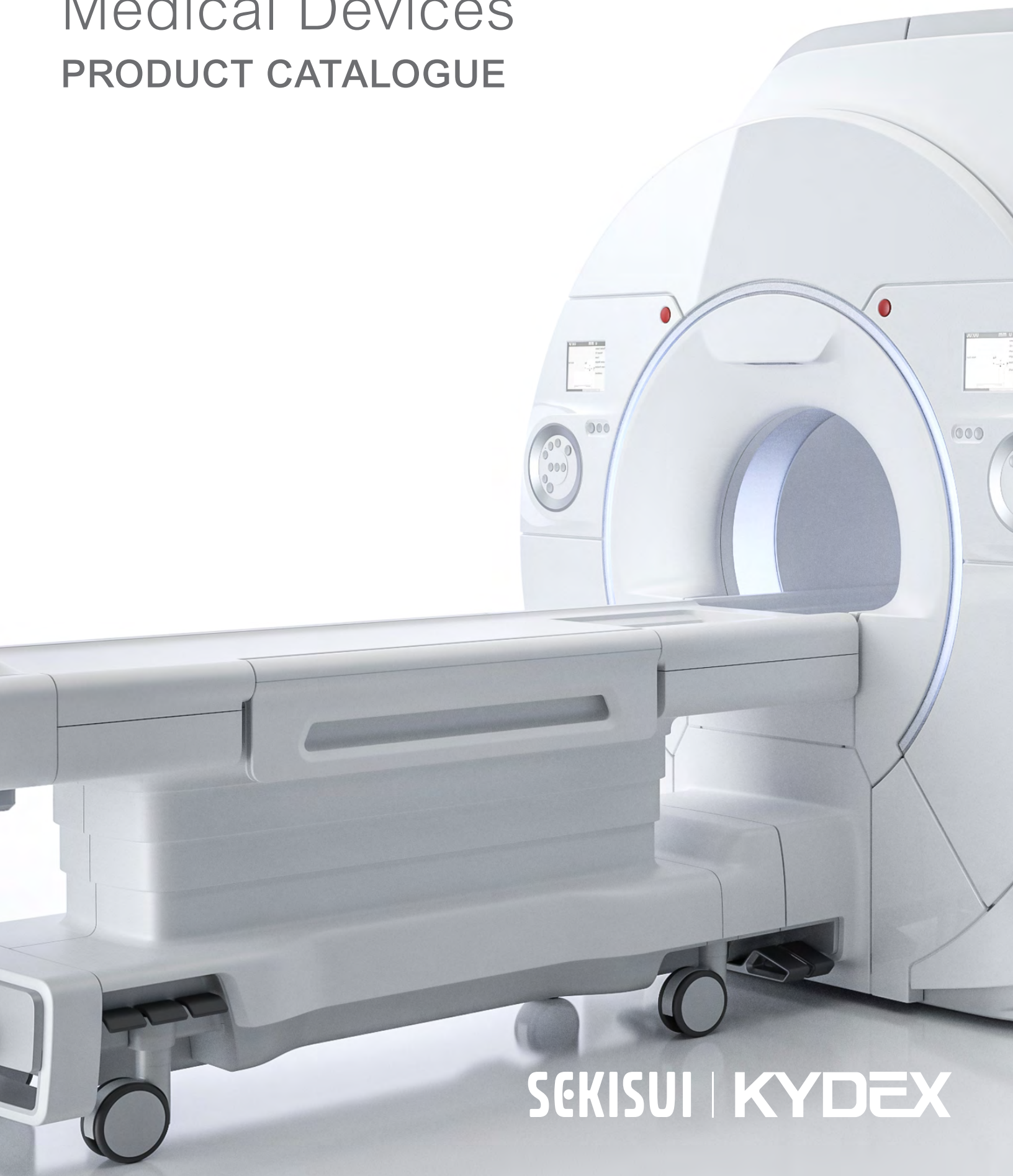


Medical Devices

PRODUCT CATALOGUE



SEKISUI | KYDEX

SEKISUI KYDEX, manufacturer of KYDEX® Thermoplastics, is a globally recognized leader in high-performance polymer sheet, ideal for medical device equipment housings and covers.

Our quick response manufacturing model allows us to manufacture bespoke materials with short lead times in small quantities.

KYDEX® Thermoplastics are inherently antimicrobial, easy to disinfect, and are ideal for high touch areas such as healthcare furniture and medical devices.



Why SEKISUI KYDEX?

We are more than a raw material supplier, we are a solution provider. As your collaborative partner we put innovation at the forefront by guiding you through your project from beginning to end. The experts in our Innovation Centers, designLab® and appLab™, are available to help you identify the best solutions for your applications.



CUSTOMIZE YOUR JOURNEY

- | | | | |
|----|------------------------------------|----|----------------------|
| 03 | FEATURED PRODUCTS | 08 | INNOVATION CENTERS |
| 05 | INJECTION MOLDING | 09 | SUSTAINABILITY |
| 06 | ANTIMICROBIAL TECHNOLOGY | 10 | INFUSED IMAGING™ |
| 07 | CLEANABILITY & CHEMICAL RESISTANCE | 11 | MEDICAL PRODUCT LIST |

Sustainability Initiatives

SEKISUI KYDEX focuses on making the planet better for future generations by ensuring the lifecycle of KYDEX® Thermoplastics is a sustainable one.



In House Recycling: UltraPoly



SEKISUI Zero Emissions Program Certification



Waste converted to energy powers our campuses



ISO 14001: 2015



Greenhouse Gas Reduction Initiative

CONNECT WITH US



SEKISUI KYDEX CUSTOMER COLLABORATION

- kydex.com
- info@kydex.com
- 1.800.325.3133

appLab™ FOR TECH SUPPORT

- kydex.com/app-lab
- appLab@kydex.com
- 1.800.682.8758

designLab® FOR CREATIVE SUPPORT

- kydex.com/design-lab
- designLab@kydex.com

KYDEX® Thermoplastics sheet offer ample design flexibility while meeting health and safety standards.

Chemically resistant and inherently antimicrobial, KYDEX® Thermoplastics will not be stained by harsh cleaning agents.

KYDEX® Thermoplastic sheet, with integral color, is ideal for large parts like MRI machine housings.

KYDEX® T & T-IM



Finding materials that can be used across a range of parts with intricate geometry and size can be difficult, leading to devices being made of mixed materials, and ultimately painted to look seamless.

To overcome this challenge, SEKISUI KYDEX developed KYDEX® Injection Molding resins with the same physical properties as KYDEX® Thermoplastic sheet. KYDEX® IM is ideal for small intricate parts. When used together, they deliver an overall seamless aesthetic from part to part.

Features & Benefits

- Passes UL® Std 94 V-0, 5V
- Substitute for FR-ABS sheet
- Modulus of elasticity of 2,482 MPa (360,000 psi)
- Easy to form with excellent part definition and deep-draw characteristics
- Chemically Resistant



KYDEX® 110 LIQUID METALS



Features & Benefits

- Metallic effect (no actual metal used in formulation)
- Passes UL® Std 94 V-0, 5V
- More rigid than most thermoplastics
- Meets highest standard for chemical resistance
- Easy machining and fabricating

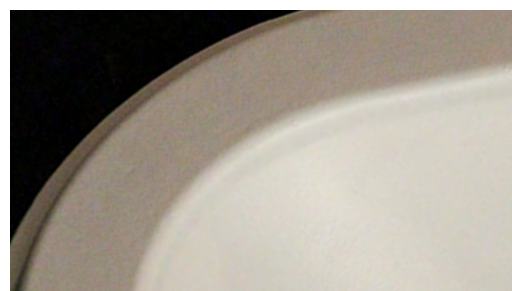


KYDEX® 430



Features & Benefits

- Passes ball pressure test per IEC 60695-10-2
- Passes UL® Std 94 V-0, 5V
- Meets highest standard for chemical resistance
- Easy machining and fabricating



KYDEX® 100



Features & Benefits

- Passes UL® Std 94 V-0, 5V
- High Notched Izod impact resistance offers unsurpassed resistance to breakage
- Meets highest standard for chemical resistance
- Superb uniform wall thickness in deep draw parts

KYDEX® Thermoplastics are designed to be aesthetically pleasing and meet the stringent requirements of medical device applications.

KYDEX® XD & XD03



Extremely durable KYDEX® XD and KYDEX® XD03 offer superior impact resistance. Available for use in medical furniture applications membrane pressing as thermoplastic 3D laminate with integral colour, KYDEX® XD03 offers integral pearlescent effects.

Features & Benefits

- Use in place of high pressure laminates
- Tough and extremely durable
- Resistant to a wide range of chemicals
- Abrasion resistant
- Fire retardant
- Excellent fabrication qualities
- XD03 is pearlescent



ALLEN® THERMOPLASTICS

SEKISUI KYDEX also offers an exceptionally durable PC/ABS product line, ALLEN® Thermoplastics.

ALLEN® 2000 SERIES

ALLEN® 2000 Series is a general purpose ABS that has high impact strength and a good cost to performance ratio to other materials like painted metal, FRP, aluminum, and other thermoplastics.

Features & Benefits

- Custom color matching
- Ease of processing
- Regrind compatible in future orders
- UV protective films available
- Medium gloss finish

ALLEN® 8300FR

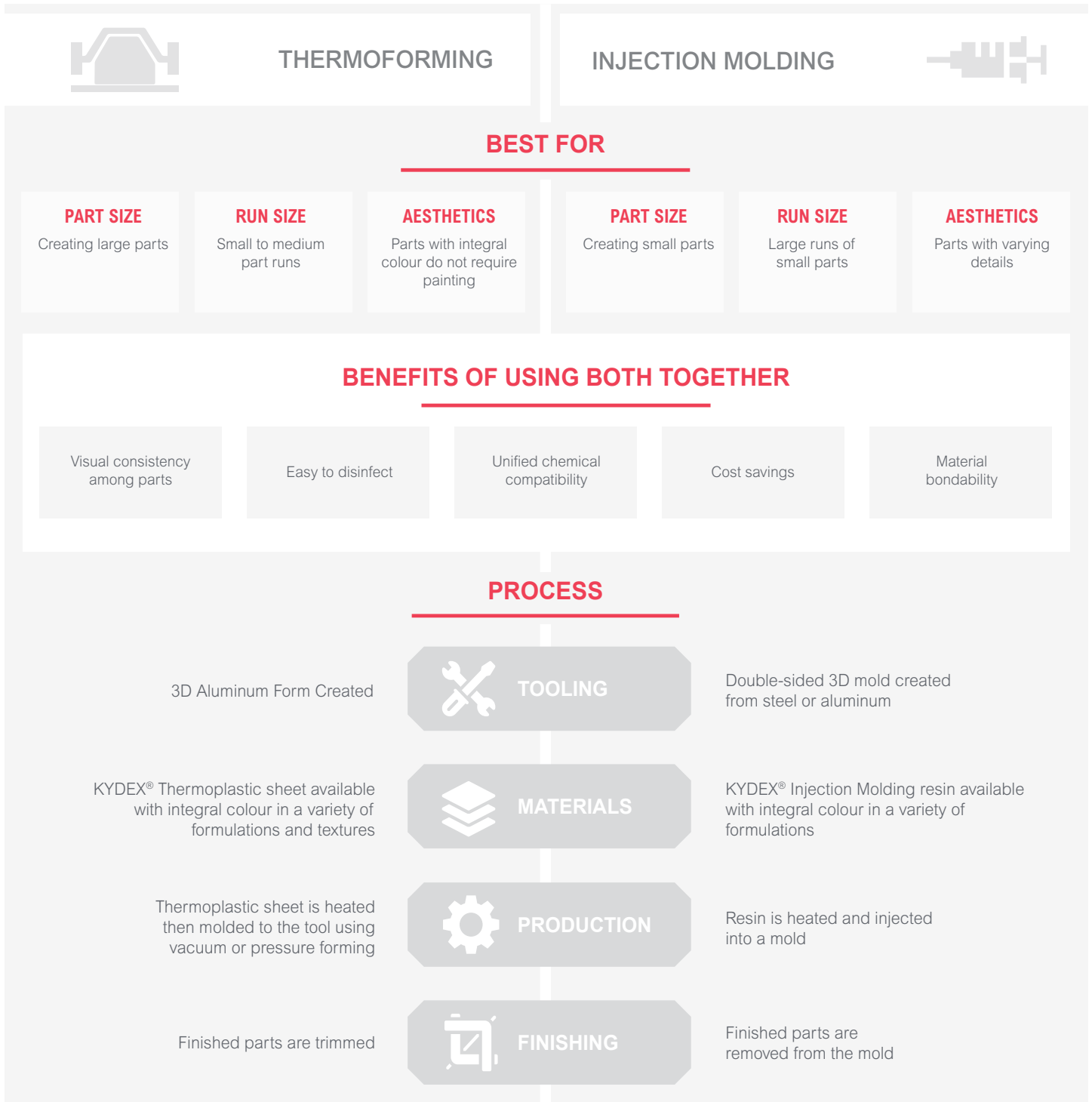
ALLEN® 8300FR is a polycarbonate and ABS blend with high impact properties, stiffness, heat resistance, and a non-halogenated flame retardant.

Features & Benefits

- Flame retardant
- Halogen free
- Low smoke toxicity
- High heat deflection temperature
- Increased stiffness
- Edge trim easily used into future orders
- High gloss finish

KYDEX® Injection Molding materials are a PVC/PMMA alloy and share the same physical properties as KYDEX® Thermoplastic sheet. When parts for medical devices are from different sources, realizing visual consistency among materials can be extremely difficult.

Because KYDEX® IM materials are specifically engineered to match KYDEX® thermoformed parts, they contribute to the overall seamless aesthetic and are as durable, chemical- and stain- resistant. They are easy to disinfect and are ideal for high touch areas such as IVD Machines.



Health and safety are at the forefront of the patient experience requiring materials that are chemical resistant, inherently antimicrobial, and will not be stained by harsh cleaning agents.

KYDEX® Thermoplastics are inherently antimicrobial and available with additional antimicrobial protection. Premium KYDEX ION Technology™ are durable, chemical- and stain- resistant. They are easy to disinfect and are ideal for high traffic areas such as healthcare furniture and medical devices.

Our quick response manufacturing model allows us to manufacture bespoke materials with short lead times in small quantities.

ION Technology™

KYDEX® T-ION

- Passes UL® Std 94 V-0, 5V
- Superior impact resistance
- No pre-drying required
- Uniform forming with less wall thinning

KYDEX® XD-ION

- Passes ASTM E84
- 3D laminate used to create seamless edges, eliminating edge banding
- Superior impact resistance
- Integral color

KYDEX® XD03 ION

- Passes ASTM E84
- 3D laminate used to create seamless edges, eliminating edge banding
- Superior impact resistance
- Integral pearlescent color

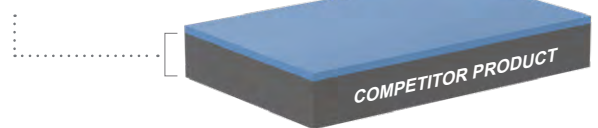
KYDEX® Thermoplastics with ION



INTEGRAL PROTECTION:
99% EFFECTIVE



NO PROTECTION
BELOW SURFACE



Disclaimer: 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. To learn more about KYDEX ION Technology™ or to have a technical conversation, contact our appLab™ team at appLab@kydex.com or 800.682.8758.

Aggressive cleaning agents and disinfectants are critical in eliminating surface bacteria and fungi to reduce the spread of disease.

Testing results confirmed that KYDEX® Thermoplastics:

- are not adversely affected by hospital-grade CDC recognized disinfectants (quaternary ammonium compounds, sodium hypochlorite, peroxyacetic acids)
- perform without loss of surface finish, colour fastness, or degradation of mechanical and physical properties

Using the right materials and understanding their compatibility with disinfectants is vital to ensuring a long, functional life. [CLICK HERE FOR TECH BULLETIN](#)

Medical Disinfectants

recognized by the CDC to be effective against COVID 19

Super Sani-Cloth® Germicidal Disposable Wipes

Sani-Cloth® AF3 Germicidal Disposable Wipes

Sani-Cloth® Bleach Germicidal Disposable Wipes

Sani-Cloth® Prime Germicidal Disposable Wipes

Sani-HyPerCide™ Germicidal Spray

Sani-24® Germicidal Spray

Sani-Prime® Germicidal Spray

CaviCide™ AF

CaviWipes™ Bleach

Caviwipes1™

Caviwipes™

Clorox® Disinfecting Spray

Dispatch® Hospital Cleaner Disinfectant Towels with Bleach

LpH® se

Lysol® Brand Disinfectant Concentrate

Professional Lysol® Brand Disinfectant Spray

Sporicidin Disinfectant Solution

Sporicidin Disinfectant Towelette

Vesphene® Ilse

Virex® TB



CLEANABILITY & CHEMICAL RESISTANCE

Testing

A variety of samples underwent the following contact testing with PDI disinfecting wipes: stressed tensile bar, submersion, continuous contact, and wipe down. SEKISUI KYDEX and PDI conducted testing based on ASTM D543, Standard Practices for Evaluating the Resistance of Plastics to Chemical Reagents.

Conclusion

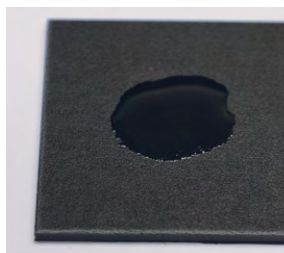
After 28 days of testing, the results showed Sani-HyPerCide™, Sani-24®, Super Sani-Cloth®, Sani-Prime®, Sani-Cloth® Bleach and Sani-Cloth® AF3 disinfectants can be used on KYDEX® T, KYDEX® 100, KYDEX® 110 and KYDEX® 430 without any harmful effects. When compared to unexposed control specimens, the tested KYDEX® Products maintained over 90% of their mechanical properties.



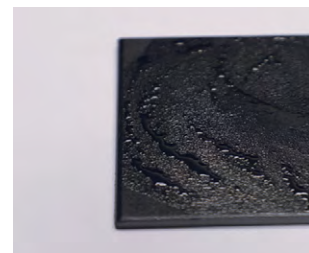
Stressed Tensile Bar Testing



Submersion Testing



Continuous Contact Testing



Wipe Down Testing

No adverse effects observed after 28 days.

CUSTOMIZATION CREATED THROUGH INNOVATION

The SEKISUI KYDEX Innovation Centers, designLab® and appLab™, are where engineering and design meet. They are collaborative spaces for clients and customers to bring the supply chain together for rapid prototyping and to inspire colour, material, and finish designers. Every interaction is curated to help customers reach their goals. Focused not only on products and processes, they are also designed for paths of discovery and exploration. Visitors explore 'what if?' questions and leave with tangible, actionable ideas.



**TAKE A VIRTUAL TOUR OF
OUR INNOVATION CENTERS**

designLab®

designLab® is where art and science combine in a collaboration space for industry thought leaders to develop a deeper understanding of colour and design. Explore the latest in 3D virtualization with X-Rite's TAC™ Ecosystem. Use vivid colours, textiles, imagery, technology, and real-world examples to create your own prototype.

- designLab® Exploration
- Custom Colour Creation
- Infused Imaging™ Design
- X-Rite TAC™ Ecosystem



appLab™

Inside appLab™, OEM industrial engineers and designers have plenty of room to explore – and ideas have plenty of room to grow. The appLab team uses dedicated fabrication tools, test equipment, and technology to develop, refine, and produce custom solutions that are production ready.

- Part Prototypes
- Mold Design
- Certifications and Regulatory
- Thermoplastics Training
- Physical Properties
- Testing Thermoforming Requirements

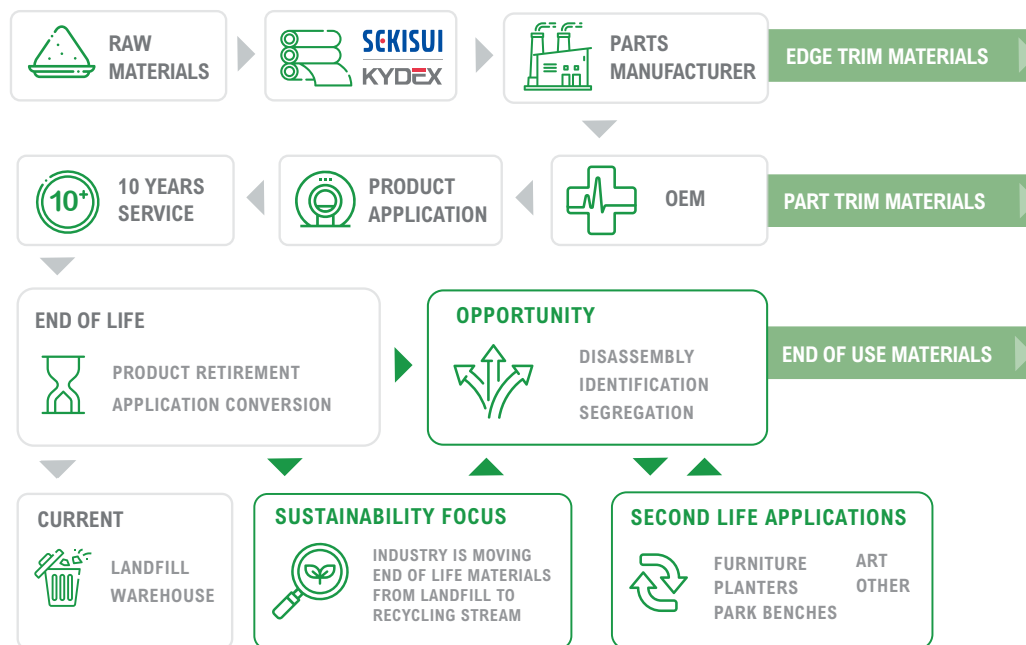


Thermoforming KYDEX® inside appLab™

SEKISUI KYDEX focuses on making the planet better for future generations by ensuring the lifecycle of KYDEX® Thermoplastics is a sustainable one.

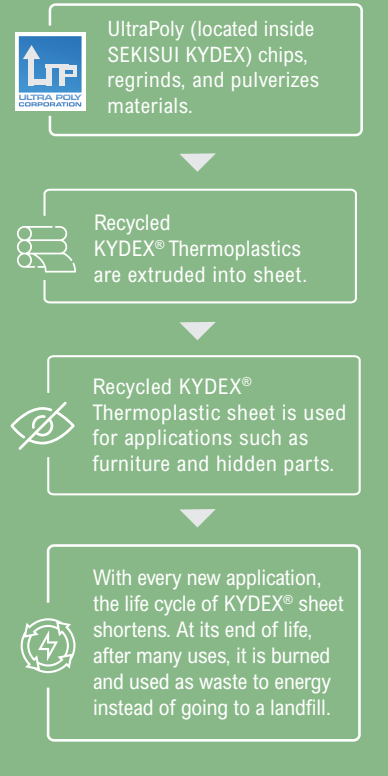
Here, being “green” is no recent trend. In fact, being environmentally responsible is an essential part of our business philosophy. We strive to produce and sell all of our products while keeping with our commitment to and regard for safety, health, and environmental protection worldwide.

KYDEX® Sheet Lifecycle



Recycling Process

Materials from the extrusion, thermoforming, and end-use applications are recycled.



[CLICK TO WATCH VIDEO](#)
KYDEX® Sheet Lifecycle

The medical device community is putting new emphasis on developing devices that use sustainable materials, to the point of requiring life cycle analysis reports to win project bids. Why? Responsibility.

Whether it's the material or the process, medical device manufacturers are considering their device's impact on the earth. The design and engineering teams are taking into consideration what will be the impact of this device after its lifecycle is complete? The challenge is in understanding if sustainability is only about the ability to recycle

materials or if it includes the impact of the manufacturing process of the materials from the beginning. This is where material education will be key over the next few years to get more sustainable solutions in use on medical devices.

For SEKISUI KYDEX, sustainability is built into KYDEX® Thermoplastics from cradle to cradle. First, KYDEX® Thermoplastics are made from domestically sourced PVC / Acrylic technology whose base chemistry is salt and natural gas. As it's a rigid sheet, no plasticizers are used in the manufacturing process which often gives PVC a negative connotation.

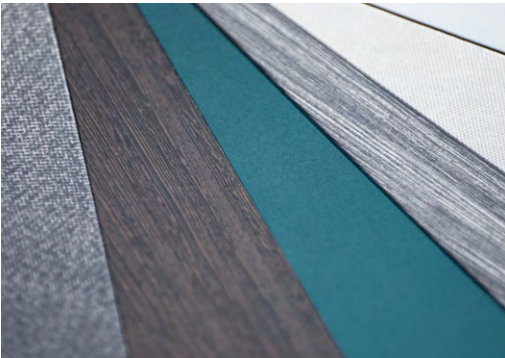
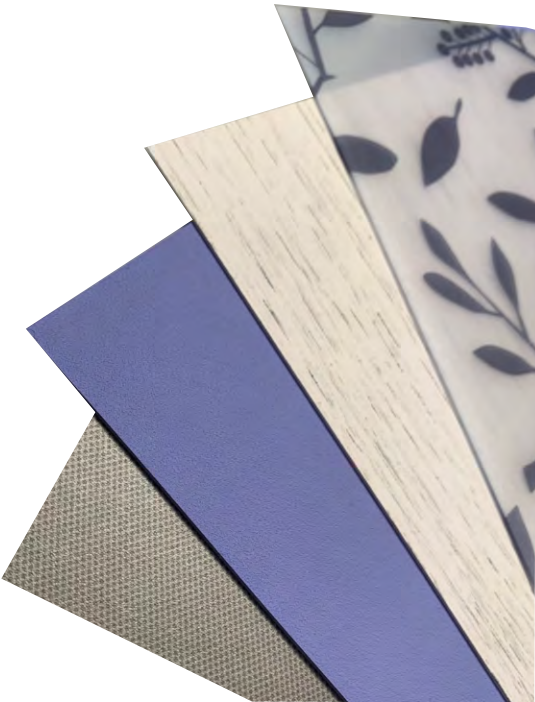
Infused Imaging™ puts colour and imagery *into* thermoplastic material.

Not on it.

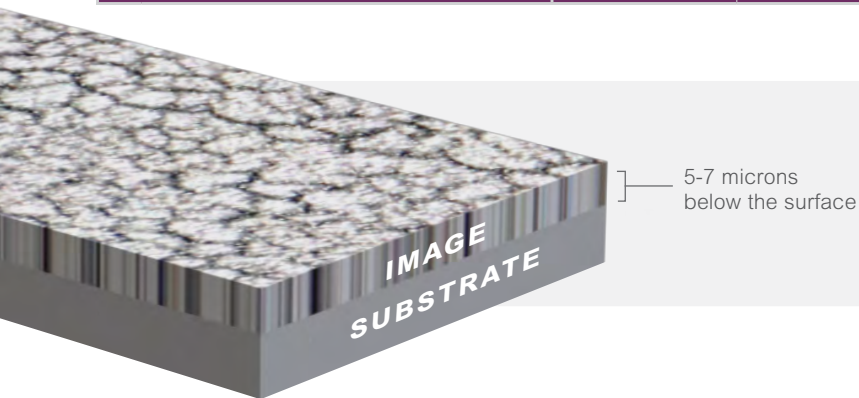
Infused Imaging™ is a proprietary process that embeds imagery into thermoplastic material.

Durability is enhanced because it does not chip, fade, or delaminate the way capped and traditionally printed images can.

LEARN MORE



		NO DELAMINATION	NO START-UP/ INVENTORY COSTS	LOW MINIMUM REQUIREMENTS	SINGLE STEP	NO MATERIAL WASTE	NO TOXIC CHEMICALS
COMPETITOR PROCESS	CAPPED [in-line]	—	—	—	—	—	■
	CAPPED [press lamination]	—	—	—	—	—	■
	HYDROGRAPHICS	■	■	■	—	—	—
	SILK SCREEN / DIGITAL PRINTING	■	■	■	—	■	—
INFUSED IMAGING™		■	■	■	■	■	■



Medical Devices

A complete portfolio of thermoplastic sheet for a wide range of medical component applications.

			UL 94 V-0	ASTM E84	REACH/RoHS Compliant	IEC 60695-10-2 (Ball pressure test)	ISO 10993 Bio-Compatible
SHEET INTEGRAL COLOUR	KYDEX® T	↓	■		■		■
	KYDEX® 110	↓	■		■		■
	KYDEX® 430	↓	■		■	■	■
	KYDEX® 100	↓	■		■		■
	KYDEX® T-MB	↓	■		■		
	KYDEX® T ION	↓	■		■		
	KYDEX® XD	↓		■	■		
	KYDEX® XD-ION	↓		■	■		
	KYDEX® XD03	↓		■	■		
	KYDEX® 5115		■	■	■		
	ALLEN® 2000 Series (ABS)	↓			■		
	ALLEN® 8300FR (FR PC-ABS)		■		■	■	
RESIN INJECTION MOLDING	KYDEX® T-IM	↓	■		■		■

