

Protean Design

Innovative Modular Exhibits Using Lightweight, Fire Rated KYDEX® T Thermoplastic Sheet

The Company

Established in 1993, Protean Design (www.protean.uk.com) is a global company that is focused on designing and developing creative solutions for the three-dimensional exhibit and display markets. This innovative U.K.-based company specializes in solutions for the logistically challenging exhibition and events industry, providing modular tradeshow and display systems that can be easily rebuilt to different dimensions and configurations to meet different needs.

Protean exhibit and display products include aluminum framework systems fully concealed with a range of cladding materials, as well as self-install systems that offer a convenient alternative to stands and pop-ups. The company's modular products are designed to be assembled on site with minimum effort while affording maximum flexibility within the available space. Protean also has a growing presence in the museum, retail, and interiors markets, providing flexibility in surface materials and finishes, and integrating construction features and detailing. The results are sophisticated, multi-use solutions that meet the needs of major companies across industries worldwide.



The Challenge

Protean has built a reputation for designing cutting-edge exhibits that leave the flat-walled booths of yesterday far behind. Instead, Protean Design utilizes curved shapes and smooth contours to create attractive 3-D spaces that help customers stand out in a crowd. The exhibits can be customized with easily applied graphics and a selection of accessories to create a unique, branded look. Additionally, all exhibits meet strict fire codes for use in tradeshows and other public venues where fire safety is a necessity.

Initially, Protean Design created exhibits using fire rated ABS products, which satisfy fire regulations at a thickness of 1.6mm or greater. But about five years ago, when working with a vacuum forming partner to explore new design options, Protean discovered the advantages of KYDEX, LLC and its thinner fire-resistant KYDEX® T thermoplastic sheet.

The Solution

The switch to KYDEX® T thermoplastic sheet opened the creative floodgates for Protean Design. "Once we learned that KYDEX® sheet can be formed as thin as 0.8 mm, we began experimenting with it," according to Colin Hibbs, Managing Director at Protean. "KYDEX® T sheet not only allows us to produce lighter exhibits using a thinner sheet that meets regulatory requirements for fire retardance — it also is a sturdier and more flexible material that gives us greater design freedom."

Manufactured in KYDEX's ISO 9001:2000 and ISO 14001 certified facilities, KYDEX® T sheet is a highly durable thermoplastic alloy available in specialized grades to meet specific fire rating and chemical resistance requirements for a wide range of demanding applications. A number of its characteristics were critical factors in the selection of KYDEX® T for Protean Design.

- KYDEX® T sheet is a cost-effective substitute for FR-ABS sheet, meeting regulatory requirements for heat/fire resistance and satisfying worldwide product compliance requirements including DIN 4102-B1, DIN 5510-2, M1, BS-476 (part 7 Class 1) and ASTM E-84.

KYDEX, LLC

ISO 9001 and 14001 Certified

Customer Service

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- At 0.8 mm, KYDEX® T sheet is one third the weight of the FR-ABS material that was previously used. The 1.0 mm fire-rated KYDEX® T sheet (vs. 1.6 mm for FR-ABS) reduces the overall weight of the end product and in turn, the cost of shipping and drayage.
- Lightweight KYDEX® T sheet also makes Protean's tool-free construction and handling easier for customers, allowing them to position, assemble, and reconfigure exhibits as needed with no wrestling with heavy pieces
- In the manufacturing phase, KYDEX® T can be fabricated through a variety of methods and thicknesses to meet specific product needs. It allows for greater differentiation in the molding process, for tighter and more distinct forming.
- The excellent formability of KYDEX® T sheet makes it extremely flexible for creating elaborate-looking 3-D designs that incorporate curves, towers, niches, and other surprising elements.
- Despite its thinness and lightness, KYDEX® T sheet is among the most rigid thermoforming materials, with a modulus of elasticity of 2,482 MPa (360,000 psi). This excellent rigidity enables Protean to create solid, self-supporting exhibits that are substantial and architectural in look and feel yet still deceptively easy to transport and assemble. KYDEX® T sheet's rigidity also supports LCDs and other equipment that a customer might want to include in an exhibit.
- Unique in the industry, KYDEX® sheet products are available in a wide selection of colours, textures, and patterns. In addition, KYDEX formulates its own compounds and can customize KYDEX® T sheet to accurately match a customer's corporate colours and Protean Design's vision.
- In terms of durability, KYDEX® T sheet provides significantly higher impact strength, rigidity, and extensibility than competitive products. So, the end product is able to withstand shipping from location to location — sometimes 30 to 40 of them every year — and reassembly time and time again.
- With a highly supportive KYDEX account team and the ability to handle fast turnaround and small manufacturing runs, KYDEX® T sheet is especially well suited to the tradeshow industry, where short leads times are often the rule rather than the exception. This high level of support and flexibility enables Protean Design to meet tight dead lines cost-effectively.
- Like all KYDEX® sheet products, KYDEX® T offers chemical resistance and ease of cleaning, for added durability. This enables the surface to withstand the test of time and use, even as exhibits are shipped and handled repeatedly.
- KYDEX® thermoplastic sheet is 100% recyclable and produced in keeping with KYDEX's commitment to and regard for safety, health, and environmental protection. In addition, the ability to use a thinner sheet reduces weight and the amount of fuel used for transportation.



Shelves, literature racks and other accessories are easily be added to the KYDEX® sheet elements.

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