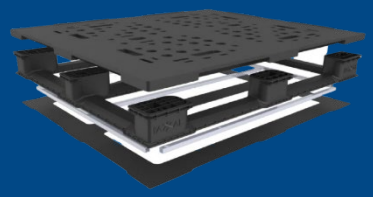
CASE STUDY: Producing a Strong, Lightweight, Cost-Effective Pallet That is Repairable to Extend Reuse



Market(s): Multiple

Solution: Design a recyclable and repairable pallet that is stronger, lighter, and more cost-effective.

Key Outcomes:

- Proprietary material offers a stronger, lighter, and fire- retardant pallet option
- More manageable at less than 50 lbs.
- Ability to embed with data capturing devices
- Improved worker safety and productivity

Background & Challenge

Pallets are the mainstay and the common denominator of the supply chain. Traditional pallets used in a one-way packaging system are often heavy, end up damaged, and lack the diversity to be used effectively across multiple supply chains. With the cost model for one-way pallets skyrocketing during the pandemic, they became more expensive, leaving companies to seek out alternative, more diverse ways to deliver their goods.

Solution & Results

After an investment of more than $60 million and six years of extensive R&D and engineering, Paxxal achieved what many industry peers said was impossible: a recyclable and repairable pallet that is stronger, lighter, and more cost-effective.

The PX3 pallet provides a solution to many of these challenges and is believed to become the benchmark of the reusable multi-use industry. Using a dual modality manufacturing process, the pallet combines the strengths and efficiencies of both the roto molding (significantly less energy required utilizing patented SMART technology) and injection molding industries (mass production with reduced cost).

The combination of molding techniques creates a stronger, lighter, and safer pallet while reducing the use of HDPE. The PX3 is safer to handle and will create savings for all supply chain participants. Being below 50 lbs. allows one person use with the built-in handholds. The stronger top deck has minimal deflection which reduces product damage. The ability to embed data capturing devices provides track and trace, temperature, humidity, shock, light, and altitude monitoring.

Reusable Packaging ASSOCIATION

www.reusables.org