Retailer Saves on Concrete Mezzanine Repair

Retailer of Apparel and Home Fashions had a severely damaged 75,000 sf. concrete mezzanine floor at their distribution center.

“We introduced pallet jacks to the mezzanine floor and it was just too much weight and deflection. As a result, the pallet jacks broke through the concrete mezzanine flooring in 3 different places and cracked the mezzanine concrete floor in numerous areas. We had a real mess on our hands.”

Retailer’s Project Engineer

Daigle Engineers, Inc. was hired to investigate the structural integrity of the floor and to provide solutions.

“The damage to the floor was extensive and it was unsafe to continue to use in its condition. The obvious and common solution was to remove and replace the existing steel and concrete structure with a new one. Not only was this going to be incredibly expensive, the disruption and down time to the material handling area and the floor beneath it was unacceptable. There had to be a better solution.”

Jon Longchamp, President
Daigle Engineers, Inc.

New ResinDek® panels installed
How they saved $$

Daigle Engineers, Inc. contacted Cornerstone Specialty Wood Products, LLC with their money saving solution. By placing steel sleepers on the damaged concrete and directly over the steel bar joists below, the loads could be transferred through the cracked concrete directly onto the sub-structure. By installing the steel sleepers and ResinDek® Xspan® over the existing slab, it would avoid flexural loading of the damaged slab and deck.

Daigle Engineers, Inc. performed all of the structural analysis on the existing mezzanine structure to determine the new allowable loads for this material handling platform. “We selected ResinDek® Xspan® because of its structural integrity and ability to span over intermittent supports,” commented Longchamp.

“Cornerstone Specialty Wood Products, LLC (manufacturer of ResinDek® Xspan®) was very helpful during the evaluation stage of this process. They came to visit several times, showed us numerous 7-10 year-old ResinDek® floors in the area and really stood by their product during design & construction.”

Jon Longchamp, President
Daigle Engineers, Inc.

The customer (Retailer) saved over $1 million dollars by using this repair method instead of replacing the 75,000 square foot structure. The construction process was trimmed by several months and significantly reduced the disruption of their operations.
Employees working on the new work platform are happy with the added benefits of pallet jacks moving easier and feel the ResinDek® Xspan® flooring is ergonomically friendlier than concrete.

“We feel like we hit a home run by using ResinDek® Xspan®, ” said the Retailer’s Engineering Manager. “We have a new mezzanine and a material-handling platform the employees are more comfortable working on, and we have saved a substantial amount of money. Using ResinDek® products seems to be a no-brainer at this point,” he continued.

“We are grateful for the ingenuity and support provided by Daigle Engineers and Cornerstone Specialty Wood Products. And now that we know about ResinDek® and its added benefits with savings we will be considering ResinDek® instead of concrete for future projects.”

Retailer’s Project Engineer