

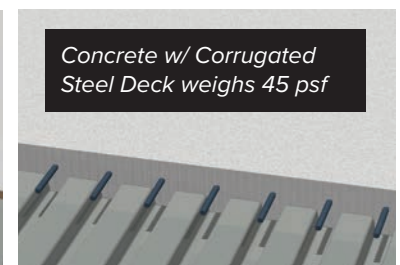
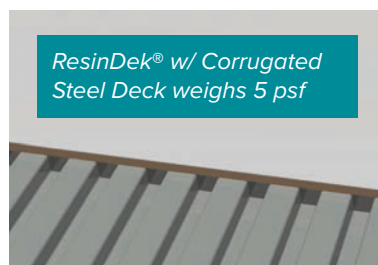
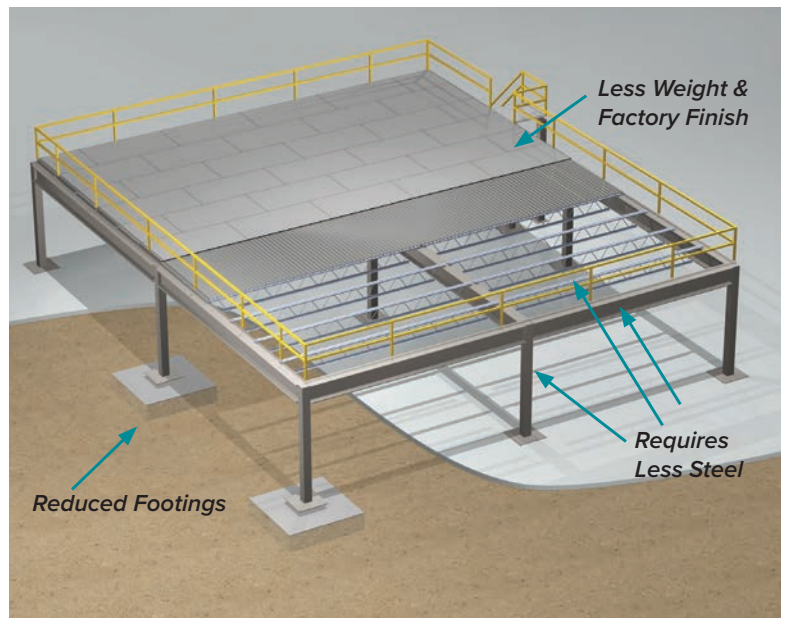
ADVANTAGES OF USING RESINDEK® FLOORING VS. CONCRETE

A Low Maintenance, Flat, Level Surface

- ResinDek floors provide a consistent finish in floor flatness, levelness and surface roughness. Worn or uneven surfaces can disrupt the functioning of the vehicle's laser-based navigation sensors, slowing down its rate of travel. ResinDek panels ensure a level flooring surface with just the right amount of surface roughness to avoid the impairment of a robot's navigation or slow its movement.
- ResinDek panels do not produce dust, require sealing or crack like concrete. Unlike concrete, ResinDek does not require large expansion joints. In addition, individual panels can be removed without having to refinish an entire floor.

Cost Savings and Speed of Construction

- ResinDek panels are 85-90% lighter than concrete which allows for less steel in the support structure and reduced footings
- Platforms using ResinDek can be designed with an allowable deflection limit of L/240, whereas concrete's allowable deflection is limited to L/360; this reduces the amount of steel required in the support structure
- An independent study found that ResinDek flooring is significantly more cost effective than concrete
- Since ResinDek is supplied with a factory finish, and concrete needs time to cure, ResinDek can be installed faster



GROUND-FLOOR ROBOTIC APPLICATIONS - WHY NOT USE CONCRETE FOR YOUR WAREHOUSE FLOOR?

Concrete is the material most often encountered in these applications. While it may be possible to grind down uneven areas, patch cracks, add a new layer of concrete, or apply an epoxy coating over the surface, ultimately, these repairs have multiple drawbacks:

- It takes a **considerable amount of time and manual labor** to grind down concrete — which also creates a lot of dust.
- Patching often **does not match** the properties of the original concrete flooring, creating more problems for robot navigation.
- Pouring fresh concrete or an epoxy coating both take **extensive amounts of time** to dry and set properly, while still **not offering the wear resistance** robots often require.
- **Safety Hazards** - Some facilities may have other floor coverings laid over the concrete, such as tiles with asbestos content. Safely removing this material is both **dangerous and costly**. Further, the surface beneath it will likely be marred by adhesive, as well as scratched and damaged — requiring additional remediation.

The solution is to install ResinDek® panels directly on top of an existing ground floor. The panels create a level floor with surface characteristics that are critical for the successful deployment of robots. Installing ResinDek floor panels directly over an existing ground floor is faster, cleaner, easier, and more cost-effective. It also creates the optimal flooring surface to support a successful AGV or AMR deployment.



RESINDEK® SUCCESS STORIES

Sporting Goods Facility Saves \$644,000 Using ResinDek® vs. Concrete

A large sporting goods retailer had used both ResinDek and concrete for elevated platforms before. They needed two identical mezzanines at their Katy, Texas DC. So the question became, what type of flooring would provide the best value? Two identically sized mezzanines were constructed at the same DC and a cost analysis was performed.

- ResinDek mezzanine flooring weighs 40 lbs. per square foot less than a concrete mezzanine floor, so on this 90,000 square foot project weight was reduced by 3.6 million pounds
- Because of the lighter loads, the columns on the ResinDek mezzanine were reduced in size from 14" x 31 lbs. per foot to 10" x 24 lbs. per foot
- This resulted in cost savings in structural steel as well as labor to erect the steel mezzanine substructure
- Both bar joists were 18" deep, but ResinDek required less steel because the structure was lighter

Cost Summary - Concrete Mezz

1. Footings:	\$285,000
2. Structural Steel:	\$823,000
3. Steel Erection Plus	
All Other Costs:	\$1,598,000

Total Cost of Structure: \$2,706,000

Cost Summary - ResinDek Mezz

1. Footings:	\$148,000
2. Structural Steel:	\$535,000
3. Steel Erection Plus	
All Other Costs:	\$1,379,000

Total Cost of Structure: \$2,062,000



Heavy concrete structures require massive footings and 14" columns



ResinDek mezzanines only requires 10" columns

"The ResinDek product gave us some real price advantages, and we were able to pull in savings in 3 areas; the footings, the structural steel, and the erections costs. Using ResinDek also allowed us to use smaller diameter piers with smaller bells on the caissons." Russell Bergeron President of Tri-R-Erecting & Main Contractor

ResinDek® Saves Time, Money and Provides a Level Platform

A project located in Manchester, U.K. had a three level mezzanine with 220,000 per sqf level. The flooring system that was selected was 3/4" ResinDek HD with the TriGard® finish and corrugated steel decking. During the final walk through, the Main Contractor made the following comments:

"The ResinDek flooring system offered a substantial savings over elevated concrete platforms, which was the only real alternative for this project. The levelness of this floor (plus or minus 1/8" across a 220,000 sqft continuous surface) is just not something that we can normally produce with concrete. "The speed of installation was impressive. ResinDek goes down quickly, and the floor, once installed allows for instant structural access for subsequent trades. Concrete, on the other hand, requires 10 days of curing time per bay, along with additional screeding and levelling work. My guess is that we saved a solid 5 weeks of construction time by using ResinDek instead of concrete. We are sold on the superiority of the ResinDek Flooring System compared to a traditional concrete floor!"

