

Identify. Repair. Protect.

RACK REPAIR & REMEDIATION

REB STORAGE SYSTEMS INTERNATIONAL

Appearance matters, and speaks volumes about your business to your customers, your investors and of course, to insurance auditors and safety regulators.

Is this your warehouse?



Endless fixes due to upright damage? Missing anchor bolts? Damaged, mismatched or overloaded beams? Overloaded leaning frames?

A graffiti covered building invites vandalism. A street full of trash invites littering. A dented vehicle invites carelessness. Similarly, an unkempt warehouse invites injury to employees and damage to stored materials.

If your rack or shelving is in disrepair who is to blame for one more careless forklift bump, or one more box in the aisle, or an accident?

A run-down warehouse drags down productivity and decreases your company's value.

When you're ready for a new image, REB can help.



IDENTIFY.

Keeping your warehouse operating safely and at peak efficiency begins with routine inspection and maintenance. International Building codes (IBC) and occupancy permits increasingly include ANSI/RMI (American National Standards Institute / Rack Manufacturers Institute) standards. Ask yourself, what standards are in place after a warehouse is put in operation or what about retrofitted warehouses? Rack uprights are bumped and pushed by material handling equipment, beams elevations or pallet loads are adjusted to fit loaded pallets, and components are modified or aisles narrowed to accommodate inventory. All of that happens as a matter of running a warehouse, but what doesn't always happen is regularly inspecting pallet rack systems. This is why your warehouse begins to look like a battlefield and this is where REB solutions like the examples below can help.

ANSI/RMI MH16.1 sets forth standards regarding identifying and repairing/replacing damaged rack. Among these include:

STORAGE RACK SYSTEM MAINTENANCE and REPAIR

The storage rack system operator is responsible for the maintenance and repair of the storage rack system.

REPAIR and REPLACEMENT of DAMAGED COMPONENTS

Damaged components should be replaced by qualified persons following qualified and documented procedures. Repaired components should be at least as strong as undamaged components.

ADDITIONS, ALTERATIONS, and RECONFIGURATIONS

Additions, alterations, and reconfigurations should meet the same requirements as the original installation.

OWNER MAINTENANCE

The owner shall maintain the structural integrity of the installed rack system by assuring proper operational, housekeeping, and maintenance procedures. Regularly inspect for damage. If damage is found, immediately unload the affected area and replace or repair the damaged column(s), beam(s), and other structural components.

RACK DAMAGE

Upon any visible damage, the pertinent portions of the rack should be unloaded immediately by the user until the damaged portion is repaired or replaced.



Common Damage

Column Damage: rips, tears or deflection beyond acceptable limits. This can be deflection greater than ½" or damage that no longer can carry the original rated load.

Horizontal & Diagonal Strut Damage: broken welds, missing braces or braces with rips, tears or deflection beyond acceptable limits. Deflection greater than ½" bent either horizontally or diagonally.

Footplate Damage: sheared or twisted past ½". Resides in earthquake region that require seismic risk modified footplates.

Anchor Damage: missing, broken or loose anchors are problematic as each upright footplate, both the front and back, must be anchored to the floor.

Beam Damage: missing beams, loose, damaged or missing beam fasteners, or damaged beams. Deficiencies in load locks and snap locks are common and will fail to hold beam end plates in place. Load beams secured to withstand 1,000 lbs. of uplift force.

Overloaded Beams or Frames: use RMI description, review the manufacturers frame capacity charts and remember, rated loads refer to an evenly distributed load along the length of the rated member (beam or frame). Problems occur when either gross weight is exceeded or the load is concentrated at or near the center of a pair of members.

Leaning Frames: when loaded the minimum plumbness and straightness (both cross and down aisle) of ½" per 10' of height.

Component Missing or Damage: typically various accessories are missing or damaged, but were originally installed to protect the rack structure or enhance safety. Typically includes: wall ties, crossbars, cross-aisle ties, wire mesh decks or pallet stops.



REPAIR.

Age has its advantages, experience being at the top of the list. Our more than 50 years of experience will help you identify and source your rack in need of repair. With hundreds of installations and repairs completed by our national installation professionals, REB can identify components from the original manufacturers or replace the damaged section of an upright with a pre-engineered rack repair kit customized for your specifications.

Rack systems are highly engineered, high performance structures that are designed to carry more than ten times the self-weight of the structure. Daily abuse, neglect, adding new rack, modifying or reconfiguring old rack can compromise the integrity of those systems in ways that goes beyond dents, rust, or chipped paint. Our service begins with an assessment and recommendations, followed by a quote, at your request, for the repair work.

Every member of our team is devoted to the success of your project. We go above and beyond to create customized solutions for each of our clients and will work with you through every step of your warehouse remediation to ensure your satisfaction and the ultimate success of your company.

"Our focus is exclusively on providing excellence in storage system remediation and installation. You simply won't find a team of experts dedicated specifically to these areas of service anywhere else."

- Linda Orlando, Manager of Remediation and Installation at REB Storage Systems International

Frame Repair

Made in the USA, our repair kits comply with the ANSI/RMI Standards 16.1 and offer the highest protection against future impact.

Racks are repaired in place using a manufacturer-engineered rack lifting jack. This significantly reduces the disruption to your business and reduces the number of hours it takes to complete the job. After repairs, REB will use a powder-coat paint to match your existing warehouse rack - giving the look and feel of a new warehouse.

Features:

- Reinforced post section.
- Maximum beam adjustability.
- Can be configured with most beam types.
- Extended footplate with 1/2" anchors for added impact and twist resistance.
- Can be bolted or welded.
- All products are warranted 10 years on materials.
- Post material is manufactured using 50,000 PSI minimum yield high strength 12 gauge or heavier steel.
- All necessary hardware and anchors are included.



Damaged



Repaired





Reinforced Column

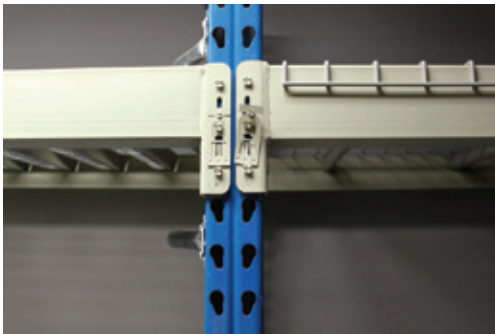


With Deflector



With Single-Leg Repair

Footplate, Anchor, or Safety Component Replacement



Safety Locks

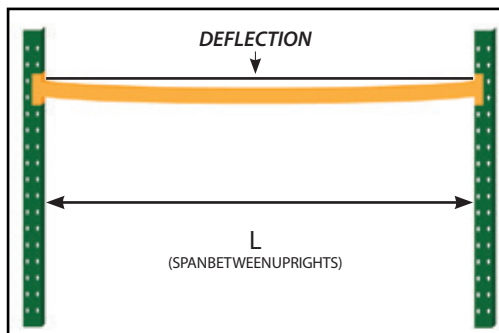


Footplate Bolts



Crossbars

Beam Deflection Repair and Load Capacity Identification



Deflection



Safe Working Loads



Load Limitations

PROTECT.

Incorporating protection items into your racking system is a must to avoid or slow the wear and tear process. Protection products should not be viewed as 'accessories' to your system, but as essential items that serve the important function of keeping employees safe and stored materials protected.

REB specializes in identifying areas where protection products should be incorporated and will provide you with a detailed list of these concerns. We work with top manufacturers that enable us to supply and install only the highest quality safety products.

Frame Protection



Column Protection



Column Protection



**Guardrail/
End-of-row Protection**

Fall Protection



Netting



Kickplates



Railings

QUESTIONS?

How do I know if my rack needs to be repaired?

Regular inspections are highly recommended. MHI created Guidelines for the Assessment and Repair or Replacement of Damaged Rack, which is available on their website, www.mhi.org/rmi, and provides a good inspection guide to follow. If you've done regular inspections and are beginning to see dents beyond ½ inch deep of the face of the upright, creases, broken welds or torn steel, it is time for repairs to avoid potential failure.

How do I know if my rack needs repair or replacement?

How bad is the damage? An inspection will focus on the degree of the damage in order to determine whether repair or replacement is the best course of action. REB's professionals are trained to look beneath scraped paint to determine if the metal beneath is weak. Measuring the gap between a straightedge applied to the concave side of a damaged rack upright allows them to gauge the size of the gap. That gap in the overall bend of the upright, taken along with the dents, buckles, tears or splits can determine the extent of the overall damage. Likewise, beams are measured for deflection, dents or twists, and faulty connections to determine whether they can be repaired or need to be replaced. Today, rack repair is often the best choice due to dramatic improvements in the technology.

What should we do if we suspect we have a badly damaged upright?

Because damage most often occurs over time with the constant wear and tear of daily operations it's not always easy to know when you're facing a potential hazard. If your visual eye suspects the rack is no longer plumb, is tilting or out of alignment, appears overloaded or misloaded take action now. Fire protection teaches, stop, drop, and roll - REB's rack safety advice is immediately unload, tag, and call us for an inspection and repair.

Our warehouse is old and we're not certain who manufactured the rack. Will this mean that we'll need to replace damaged rack and shelving?

It's common for a business to buy a previously used warehouse already equipped with rack and shelving. It's also common for growing businesses to buy used equipment or inherit rack from another part of the company. In such circumstances, REB is the place to turn because with more than 50 years of experience selling and installing new and used systems, in all likelihood, we've seen your system before. We'll do our best to source the original manufacturer's replacement parts and/or supply repair product that closely matches the original material.

Should we be worried about a rack collapsing like the pictures we see at events?

If you think you should be worried, you probably have reason to believe your system is in need of repair. Ask yourself a few questions and you be the judge. When was the last time the warehouse rack and shelving systems were inspected? Have you had any changes in pallet design like changing from timber pallets to post pallets or using larger or smaller pallets than the original rack design specified? What other changes have occurred since your warehouse rack and shelving system was installed? Are you worried now?

Do we have to shut down our warehouse operations while the repair work is underway?

The new technologies that our installers employ means that in most cases, racks do not even need to be unloaded, so there is minimum disruption to your business. Using the manufacturer's engineered lift, our installers create minimal disruption to your business. If you have unique repairs involving custom onsite welding or fabrication, we will plan in advance with you and schedule the best time to do those repairs.

Is a permit required?

Each state, city, and municipality has its own rules regarding permitting and should be adhered to. Additionally, it is a good business practice to follow recommended industry standards. According to RMI (Rack Manufacturers Institute), the RMI/ANSI MH 16.1 specifications for new construction provides a working standard for repairs. If there is any doubt it would be prudent to contact the local building department.

What if our warehouse resides in a seismic zone?

According the RMI, the building codes design manuals and the ANSI/RMI MH 16.1 all utilize the Seismic Design Categories A-F in their seismic design.

Can REB service my warehouses located throughout the country? What about international locations?

REB's nationwide service and international technicians are the same professionals that perform our customer installations for all types of solutions. REB's service teams are cross trained to ensure the job is performed efficiently and to the highest quality. Our customers who rely on REB for ongoing maintenance services attest to the deep knowledge and customer commitment of our service technicians.



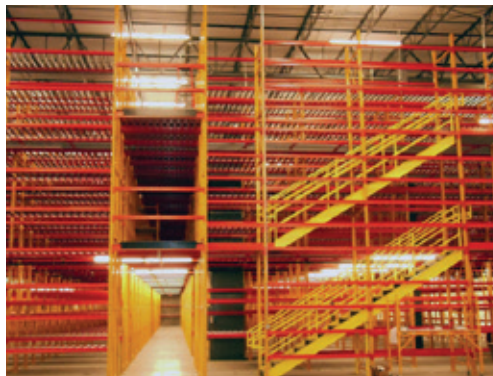
When You're Ready to Get Your Warehouse In Shape

Call REB Storage Systems International to schedule an appointment with one of our safety and remediation specialists who can perform an audit of your warehouse. You'll be provided with repair and ongoing protection recommendations. At your request, you'll receive a proposal and a corresponding scope drawing for these services.

For more than 50 years, REB Storage Systems International has handled every aspect of racking, shelving and material handling needs of some of the world's biggest and most successful companies. We are the exclusive racking and shelving designer and installer for many Fortune 500 companies, and have extensive experience designing custom solutions for small and medium businesses. We hope you will invite us to help you.



IDENTIFY.



REPAIR.



PROTECT.

CONTACT



Global Toll Free: (800) 252-5955
Local: (773) 252-0400



(773) 252-0303



www.rebstorage.com



4556 W. Grand Ave.
Chicago, IL 60639



info@rebstorage.com

