

How Do You Inspect Your Rack?

Repair Assessment:

1

RMI Specification recommends that all damaged rack be isolated and evaluated by a qualified professional prior to repair or replacement of the damaged components.

A major challenge in developing an effective repair program for racks is to ensure that the repairs are performed to a uniform, engineering-driven standard with supporting documentation that establishes that good practices were followed. Because of the long life-cycle of rack systems, such documentation can pose special challenges for Owners because many rack systems are moved, reconfigured, repurposed or changed in some way from what was originally designed and installed.

2

Performing a proper assessment of damage can be more complicated than simply fixing the worst damage. Any process of assessing damage to a rack system must be conducted under the direction of a Supervising Engineer.

This does not mean that the Supervising Engineer has to perform the assessment, however, the Supervising Engineer should approve the assessment process and protocol and should communicate regularly with the Field Assessor to ensure that the appropriate information is sufficiently documented for a complete evaluation of the repair.

3

Repair programs may be constrained by budgets or the temptation to repair only the worst damage. All damage that the Supervising Engineer concludes must be repaired must be corrected so that the rack system can provide a safe working environment.

Rack Safety: Rack Inspection Best Practices

4

Best Practices

4.1 Projects with original engineering drawings and documentation:

- Validate that the rack is in the location identified in the engineering documentation.
- Validate that the rack system has not been reconfigured from the original drawings.

If there is no change from original drawings:

If there is no change to the rack system, the Field Assessor can readily document all instances of damage and can present the results of his survey to the Supervising Engineer, who can develop all instances of damage and can present the results of his survey to the Supervising Engineer, who can develop appropriate repair solutions. Appropriate steps for inspection are included in Section 6 of RMI “Considerations for the Planning and Use of Industrial Steel Storage Racks:

- *If stamped and sealed calculations are not available from the original project, and now are required, the system must be evaluated under current RMI/ANSI and Building Code requirements (as required by state law).*

If the rack system’s configuration has changed, but documentation has not been updated and the system has not been relocated to a new facility:

- *The Supervising Engineer (or other authorities) may have the discretion to calculate the capacity of the system based upon codes that were in effect when the system was installed.*

Rack Safety: Rack Inspection Best Practices

4.2 Projects with missing or no documentation:

The original documentation and calculations should be researched because this is normally the simplest solution.

If the original documentation is not available, a Supervising Engineer should be selected to develop the assessment process, to supervise the preparation of the engineering package and to approve it.

The assessment process encompasses collecting all relevant information needed by the Supervising Engineer that may include but not be limited to

- The identity of the rack system manufacturer
- The number of affected parts
- Rack construction
- The sizes of affected members
- The properties of materials, gauges, spacing, elevations, loads, anchoring and slab

Based on the protocol that the Supervising Engineer develops, the Field Assessor should document all damage and present the results of his survey to the Supervising Engineer who should develop appropriate repair solutions.