
2008 National Awards in Excellence Innovations

Program Name: Ridg-U-Rak Seismic Base Isolation System

Administering Agency: Ridg-U-Rak, Inc.

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Ridg-U-Rak, Inc. is one of the largest and oldest U.S. producers of industrial steel storage rack systems. With annual production capacity of over 60,000 tons of rack products, we rank as one of the top roll-formed rack manufactures in North America. Ridg-U-Rak has been in business for over 60 years and is a founding member of the Rack Manufacturers Institute. We have a long list of industrial and retail clients including Wal-Mart, Sam's Club, Costco, and Lowe's.

Ridg-U-Rak has always had a very strong commitment to innovation, research and development. To that end, we recognized a need for developing a product that would mitigate the risk of product loss, damage and personal injury around storage rack installations during seismic events. We then invested in a multi-year R&D project which included over 100 full scale tri-axial shake table tests performed at the Structural Engineering and Earthquake Simulation Laboratory located at the State University of New York at Buffalo. This project concluded with the development and very proud introduction of the Ridg-U-Rak Seismic Base Isolation System.

The Ridg-U-Rak Seismic Base Isolator is a product that attaches to the base of a storage rack upright frame. The frame/isolator combination is then anchored to the floor. During an earthquake the base isolator absorbs much of the seismic energy before it gets to the rack structure itself. From our testing we determined that our base isolation system can dissipate 85% of the seismic energy exerted on a storage system during an earthquake. This results in a huge reduction in the seismic forces the rack structure must resist, which concludes in little to no rack damage or product shedding during even the most severe earthquakes.

Ridg-U-Rak developed this system in accordance with performance levels outlined in FEMA 460 *Seismic Considerations for Steel Racks Located in Areas Accessible to the Public*. These guidelines are for facilities using steel rack systems in retail environments where public safety is a very real concern during a seismic event.

Ridg-U-Rak's Seismic Base Isolation System has many unique features:

- Uses patented Base Isolation technology and is the first of its kind
- Is a self contained unit that can be fitted to existing rack systems

- Exceeds performance standards established by FEMA
- Is ideal for warehouse clubs, big-box retailers and distribution centers in high seismic zones
- Reduces risk of product loss and personal injury during an earthquake
- Does not impede stocking or daily operations of the store or warehouse
- Can be easily moved during store or warehouse reconfiguring

As our President and CEO John B. Pellegrino, P.E., states; "This is not just technology - it's the application of technology to a very real problem." We hope you agree.