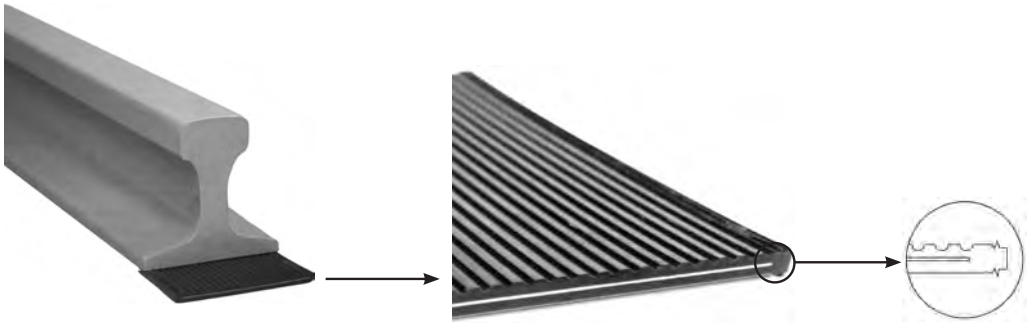
CRANE RAIL PADS, GIRDER TIE-BACK LINKAGES

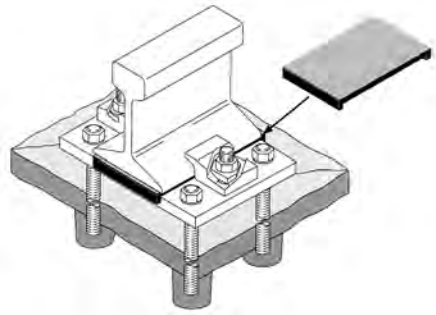


Heavy Duty Rail Applications

The heavy duty pad has been specifically designed for the soft mounting of crane rails. It is manufactured from a synthetic elastomer especially resistant to wear, shear and crushing as well as oil, grease, ozone, and ultraviolet rays. Its upper face is grooved in order to obtain a variable stiffness. This increases the pad's resistance to wear without introducing excessive bending in the rail. It is reinforced with a high strength steel strip and fully vulcanized to the rubber. The reinforcement acts as a diaphragm and gives the pad lateral stiffness, preventing it from deflecting under the side thrust of the rail, regardless of wheel load and loss of friction from oil or grease. Edge seals on both the top and bottom surfaces prevent the ingress of dirt and water which can cause premature failure of the pad, rail and support structure.

Features include:

- Distribute the wheel load over a larger surface area
- Eliminate load concentration and the resulting fatigue stresses
- Compensate for the uneven surface between the rail and its support
- Reduce impact, vibration, and noise
- Eliminate fretting corrosion (wear) of the support surface under the rail



Discontinuous Rail Support

The discontinuous rail pad is specifically developed to overcome the problems associated with discontinuous rail support. The pad is available to suit all rails and is designed to be used on a steel soleplate with shim packs or grout.

- Crowned construction centers load on pedestal and eliminate edge load on concrete pedestals
- Molded end-stops prevent longitudinal creep
- Elastomer construction reduces shock and vibration, noise, and local bearing stress on concrete

A common area of failure with active crane runways is the crane girder to building column connection.

Girder Tie-Back Linkage

The Tie-Back System is designed to provide a proven solution to this problem. Some of the most important characteristics are:

- Spherical bearings allow girder end rotation, longitudinal and vertical movement without stressing the tieback linkage.
- A single linkage can transmit up to a 165 kip side thrust in tension or compression.
- Sizes are available to fit any girder and column configuration.
- The tie-back linkage assembly eliminates diaphragms and the associated maintenance from cracking.
- Designed to suit any application.

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