

### GENERAL CHARACTERISTICS

The MK 6 pad has been specially designed for the soft mounting of crane rails. The main functions of the pad are to:

- distribute the wheel load over a larger surface area - See Fig. 5
- eliminate load concentrations and the resulting fatigue stresses - See Fig. 4
- 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.

The Mark 6 pad fulfills these requirements in the following manner:

- 1) It is manufactured from a synthetic elastomer especially resistant to wear, shear and crushing as well as oil, grease, ozone, and ultra violet rays.
- 2) Its upper face is grooved in order to obtain a variable stiffness see Load-Deflection Curve Fig. 1. This increases the pad's resistance to wear without introducing excessive bending stresses in the rail, as explained below:
  - the reduction of pad thickness under the wheel load does not result in pad elongation (bulging) in the direction transverse to the rail as would be the case with a plain pad. Here the thickness reduction results in the "filling" of the grooves. Thus, there is practically no relative movement between rail and pad, again minimizing wear.
  - as the grooves fill, the vertical stiffness of the pad increases and the bending stresses in the rail due to the wheel load increase more slowly.
- 3) It is reinforced with a high strength galvanized steel strip that is at least 90% of the width of the pad 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.
- 4) 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.
- 5) It is manufactured by an extrusion process which eliminates problems commonly experienced with a batch molding process such as variations in durometer, risk of contamination, pad straightness and centering of the reinforcing steel. It also allows the pad to be extruded in longer lengths.

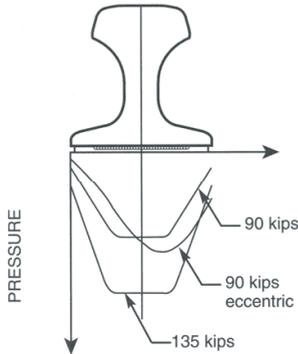
### Resilient Rail Pad

**TYPICAL LOAD DEFLECTION CURVE FOR GANTREX MK 6 PAD**



**FIG. 1**

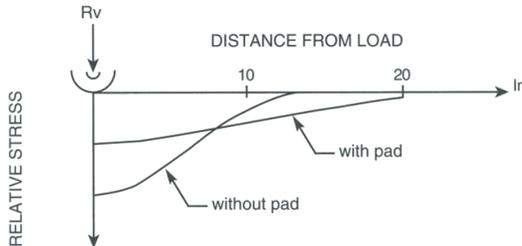
**TYPICAL PRESSURE DISTRIBUTION UNDER RAIL**



Typical pressure distribution in the transverse direction for a rail on MK6-RFS GANTREX pad. The shape of this curve will be similar for nearly all rail sections. The eccentric loading curve shows the ability of the pad to center the load.

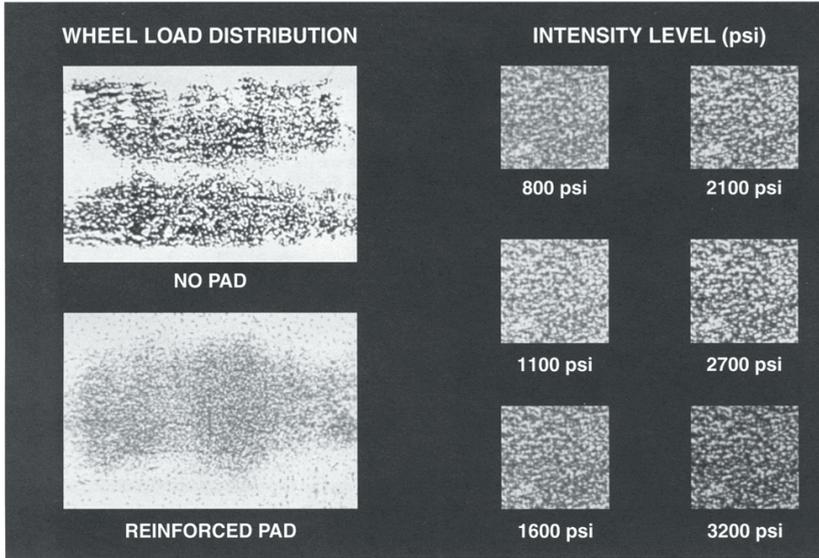
**FIG. 2**

**TYPICAL STRESSES IN GIRDER WEB**

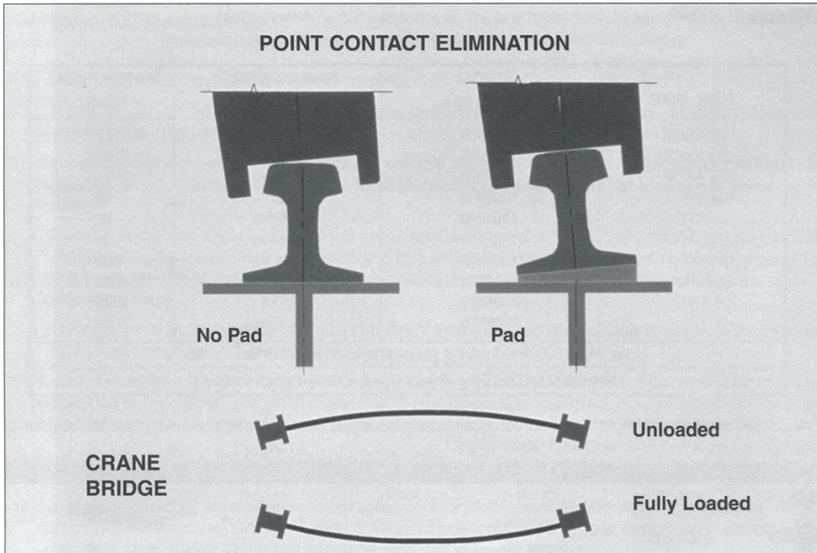


This diagram shows the relative stresses for installations with and without pad. Peak stresses are typically reduced by 50% when GANTREX MK6-RFS is used.

**FIG. 3**



**FIG. 4**



**FIG. 5**

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#### INSTALLATION RECOMMENDATIONS

The reinforced pad is recommended for all installations, both indoors and out. For each installation, and will recommend the type of pad which best meets the service conditions. For best results, and clips should also be used to prevent lateral movement of the rail.

The upper surface of the supporting structure should be clean and free from oil, grease and any sharp or abrasive particles that are likely to damage the pad.

The pad should be laid in continuous lengths on the support surface, with the grooved side up, the ends butted tightly together and centered at a pair of rail clips. It should be cut as needed to ensure that a joint does not coincide with a gap between adjacent girders. Where possible, the joint should be not less than 3 ft from the end of the girder. The minimum length of pad should be not less than ten feet. It should be centered beneath the rail flange so that it is completely covered.

#### MATERIAL CHARACTERISTICS

Shore A hardness . . . . .	75° ±5
Tensile strength, after aging . . . . .	minimum 1525 psi
Elongation, after aging . . . . .	minimum 200%
Permanent set . . . . .	5%
Rebound resilience . . . . .	30%

#### VIBRATION AND NOISE REDUCTION

A noise reduction of 10% and vibration reduction of up to 48% can be expected when the GANTREX pad is used.

#### SERVICE TEMPERATURE

-15° F to +210° F  
For higher or lower temperatures, please contact GANTREX.