

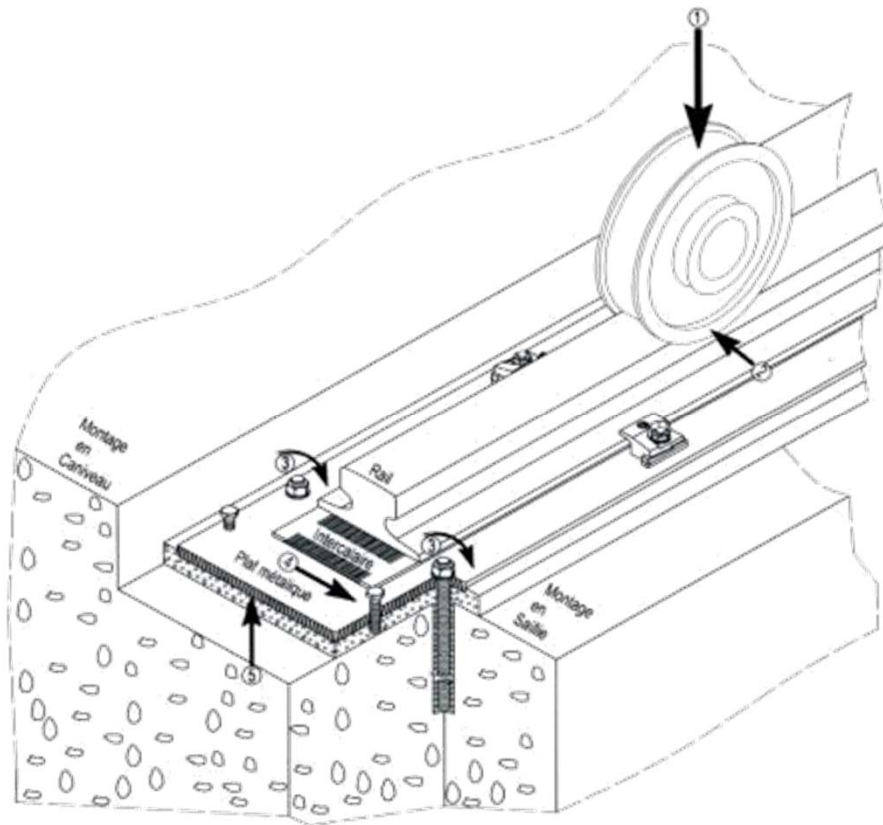


The Gantrex[®] Short Rail

*Maximizing durability of the rail joint
at the boom hinge of STS cranes*



Our expertise: Soft mounting for crane rails





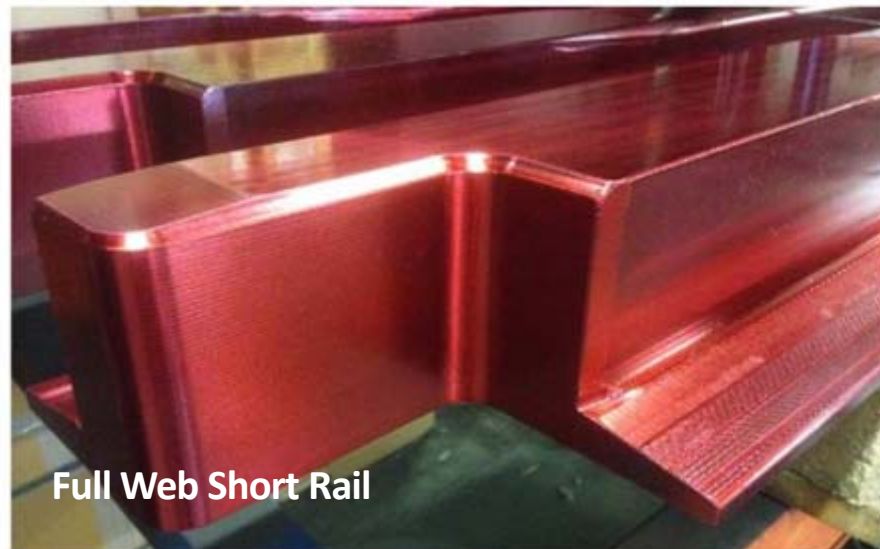
What is a Short rail ?

Rail portion located at the boom hinge of Ship-to-Shore container cranes

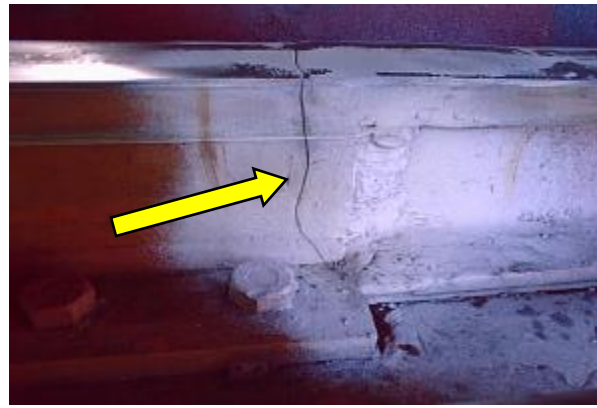
Area submitted to very High Duty Cycles due to trolley movements



Types of short rail



Problems with existing Short Rail systems



High Impact Loads and Vibrations Cause:

- Rail joint battering
- Rail plastic deformation
- Damage to the supporting structure
- Premature failure of rail joints and welds
- Increased maintenance of clips and fasteners



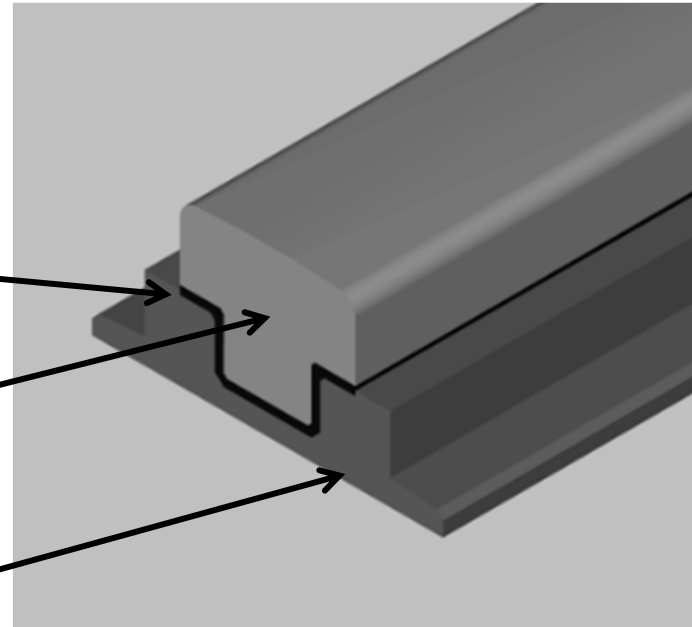
The Gantrex[®] Short Rail

Short Rail including a “flexible web”

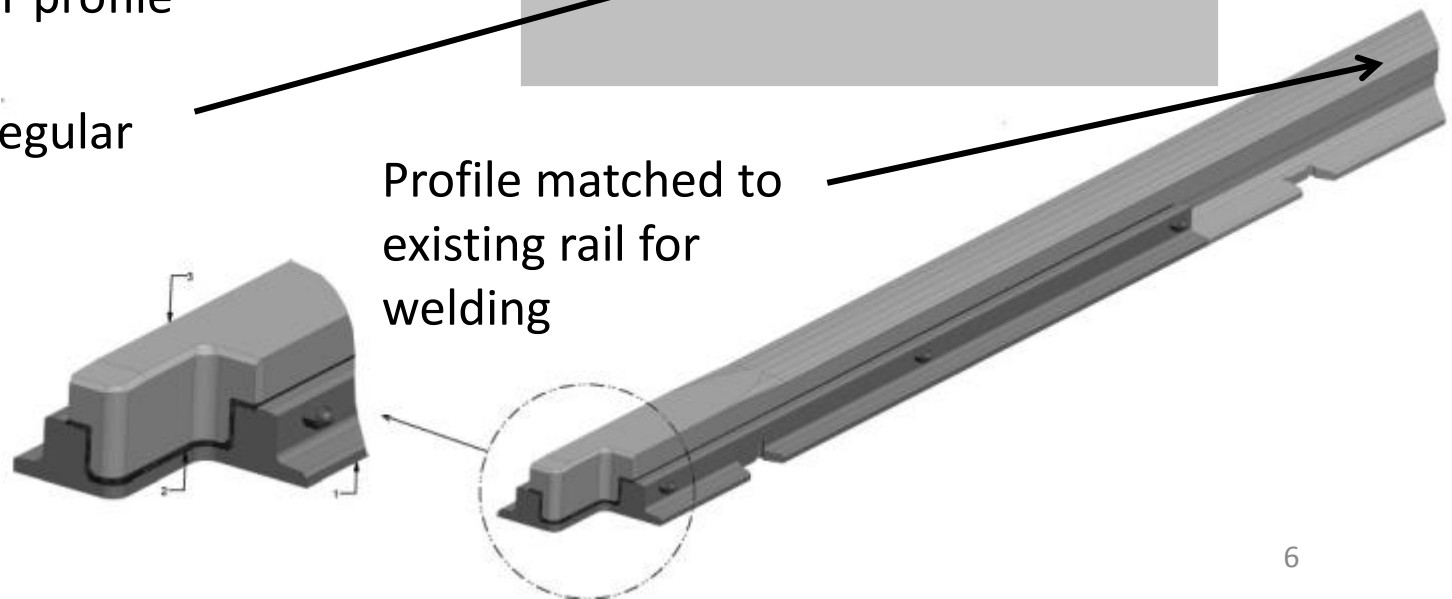
High quality synthetic rubber permanently vulcanized to the steel web

Rail head = Machined rail to fit the T profile

Rail base = Regular Steel

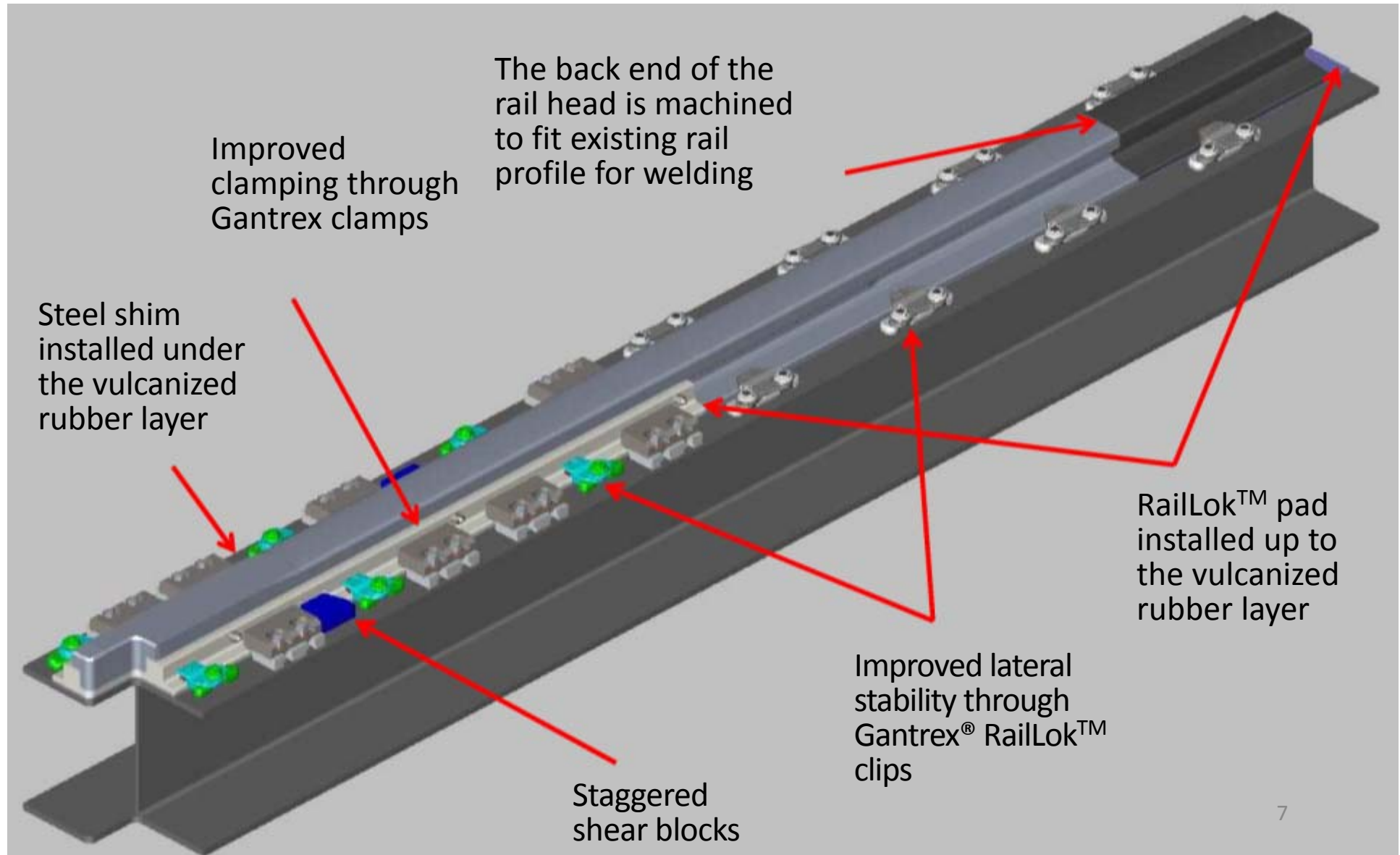


Profile matched to existing rail for welding





The Gantrex[®] Short Rail





Installation & tests MAHER Terminals

- Installation completed in October 2014
 - ✓ No visual sign of wear after 5 months
- Vibration measurements completed in March 2015
 - ✓ Vibration measurements show strong amortisation of impact





Installation & tests SCCT Egypt

- Installation completed in June 2015
 - ✓ No visual sign of wear after 9 months



- Vibration measurements completed in February 2016
 - ✓ In average 20% reduction of vibrations on the beam
 - ✓ Impacts amplitude divided by 5 on the beam



Installation & tests

Lab and live test results confirmed the benefits of the Gantrex[®] Short Rail:

Gantrex[®] Short Rail absorbs the energy provided by shocks & vibrations

Confirmed

Small vertical, lateral, longitudinal & rotational movements of the head of the rail

Confirmed

Continuity of the soft mounting features & benefits

Confirmed

Reduction of the transmission of shocks and vibrations

Confirmed

Reduced wear and tear of the short rail

Confirmed

Protection of the crane trolley supporting structure

Confirmed

Looking forward

- MAHER Terminals, New York, USA
 - 1.5 year inspection planned for April – May 2016
- Oslo, Norway
 - No inspection or vibration studies planned yet
- GCT VANTERM, CANADA
 - New order, anticipated installation in July-August 2016





Leadership in innovation