

Gantrail Presentation

Challenges in designing and installing modern crane rail systems

By Malcolm Trigg

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We specialise in providing design and support solutions for the provision of the crane rail interface for projects of all types worldwide.

Ship To Shore

Automated Stacking Cranes

Rail Mounted Gantry cranes

We are able to apply our proven expertise and engineering capability to fulfil the most complex and challenging of project needs.



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Port & Container Terminals



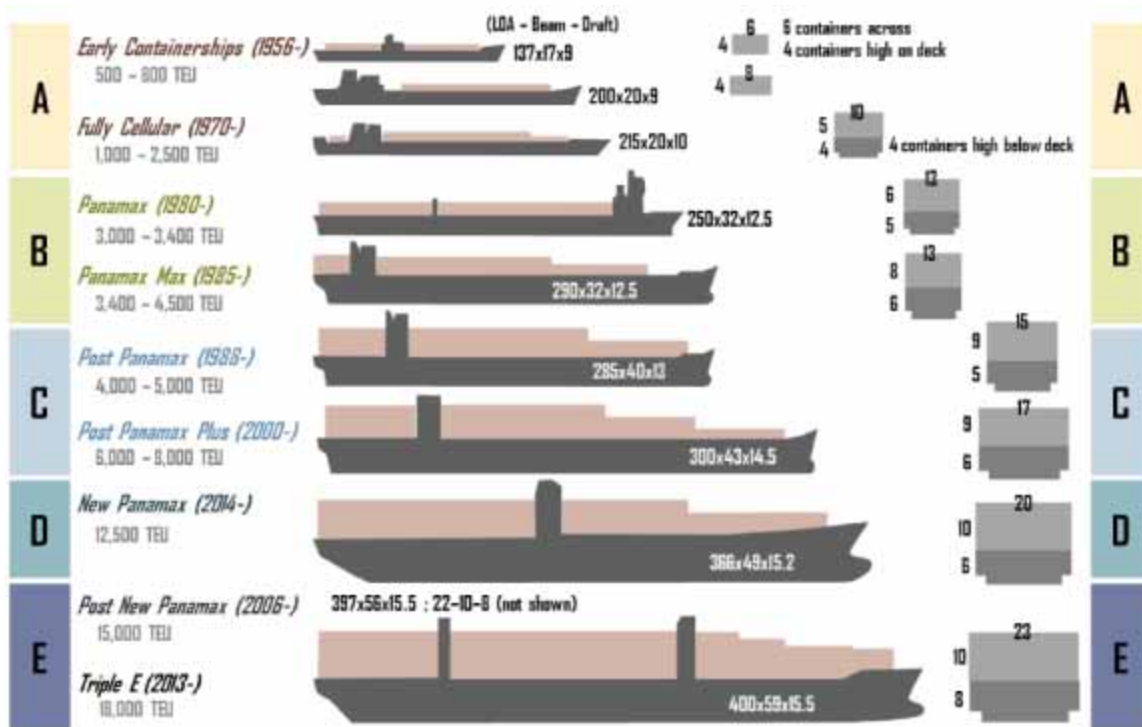
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Bigger ships means bigger cranes!

The Crane Rail Support System is directly influenced by the Containerships



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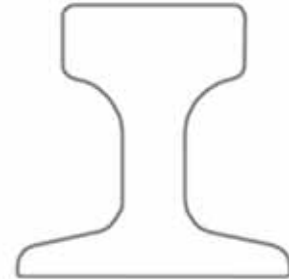
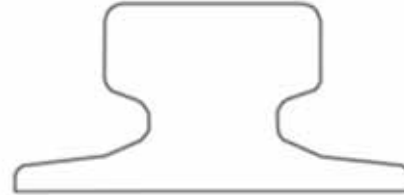


Crane Rails - Types and grades

- Types
 - Railway Rails
 - Crane Rails



Railway Rail



Crane Rails

- Traditional railway rail strength 690 N/mm²
- Crane rail strengths - two grades 690 and 880 N/mm²
- A third grade of harder stronger rails 1100 N/mm²
- 880 grade has become standard for port applications

Crane Rails - Welding

- Cranes operate best when the rails are welded into continuous lengths.
 - Crane rails are difficult to weld because:
 - Large and awkward sections
 - High carbon content
- Rail Welding Methods
 - Enclosed arc
 - Aluminothermic



Types of port cranes – Quay Cranes



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Quay Construction

- Modern day construction challenges
 - Civil construction tolerances & dredging (future settlement)
 - Adjustability of crane rail fixing clips provide solution



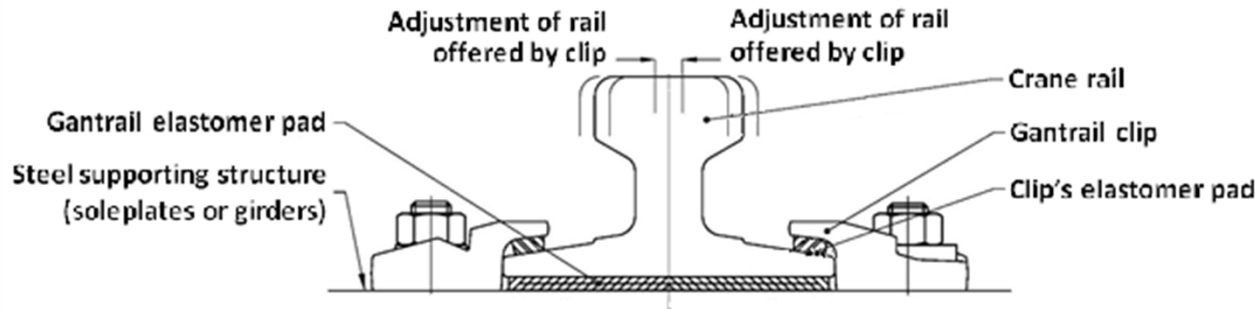
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Crane Rail Fixing Clips

- Crane rails need to be installed to fine tolerances.
- The clips are also designed to carry the very high forces that the cranes can apply to the rails
- The clips are designed with an elastomer 'nose'



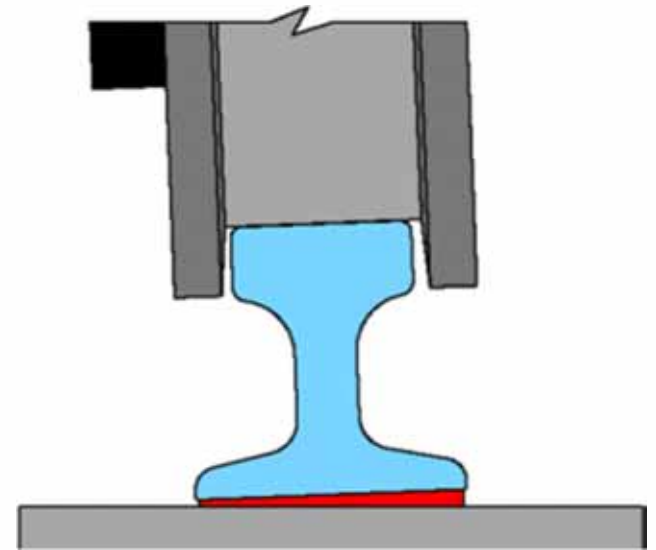
Crane Rail Fixing Clips

- Gantrail New 1 series Clips
 - Features
 - Decreased mounting width
 - Increased lateral adjustment
 - Increased side load capacity
 - New captive bolt increases performance



Crane Rail Pad

- The crane rail pad performs a number of functions to improve crane rail performance:
 - Allows the rail to move and rotate
 - Ensures even stress distribution between;
 - The crane wheel and rail head
 - Rail foot and the surface on which it is fixed.



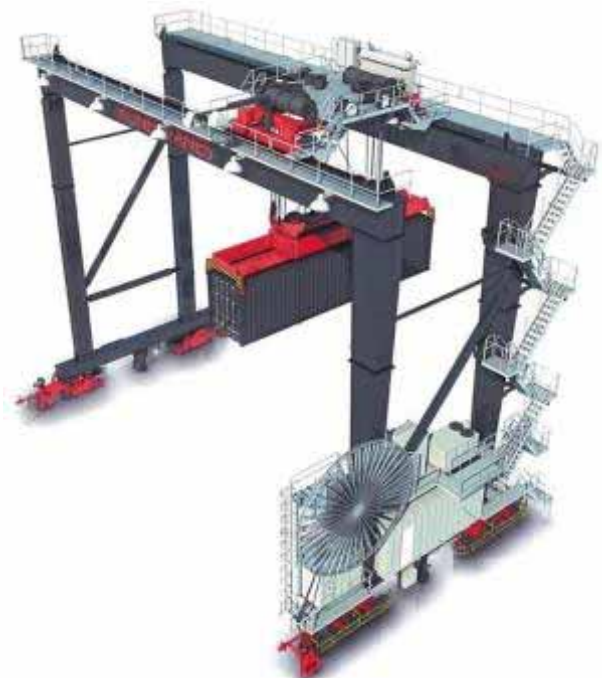
Crane Rail Pad

- Trench Drainage
 - The presence of water in the trench can cause a number of issues:
 - Hydraulic damage of the pad
 - Pad Migration

The NEW Gantrail MK8 Pad



Automatic Stacking Cranes

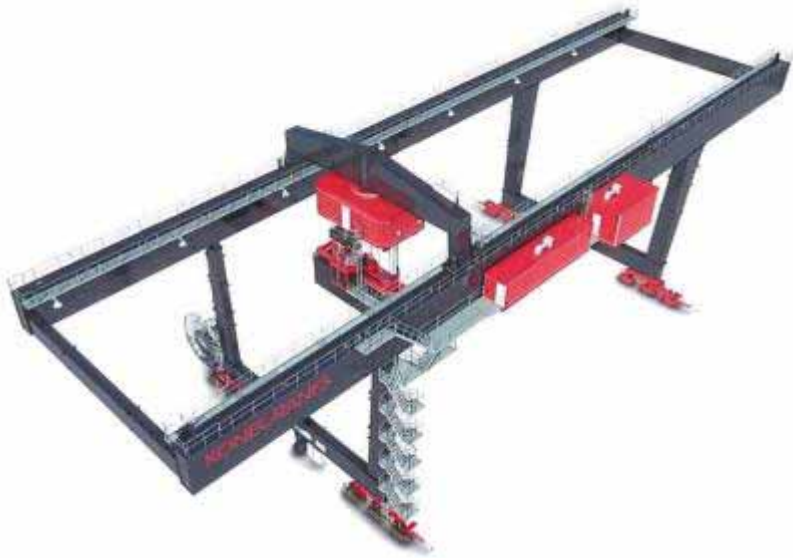


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Rail Mounted Gantry cranes



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ASC & RMG

- New constructions can present problems due to settlement
- Challenges of building on reclaimed land
 - Short and Long Term Settlement
- Gantrail Adjustable soleplate system
 - Offers Vertical and horizontal adjustment
 - 100mm vertical
 - 55mm horizontal



Quality of materials

Gantrail is an ISO 9001 registered company



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Thank you for your time – any questions?

Come and see us at stand 34/35

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