

Steps in proposing a rail fastening system



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The table below sets out the steps to be taken in choosing a crane rail fastening system and its details.

Input data	Consideration	Output
1 Rail Section	If the rail section is given but no wheel load is specified assume the wheel load to be 0.5 tonnes per mm of head width.	Vertical Wheel Load
2 Vertical Wheel Load	If no rail section is given and only the wheel load, seek advice from Gantrail Technical Department, a rail manufacturers catalogue or choose on basis of 2.5mm head width per tonne of wheel load for heavy duty cranes and 1.7mm head width for medium and light duty cranes.	Rail Head Width. Suggest rail sections to customer
3 Horizontal Wheel Load	If this is not given, it cannot be calculated easily without considerable amount of information about the crane. Assume it is 15% of the vertical wheel load. It is sensible to inform the customer of the assumption.	Horizontal Wheel Load
4 Industry/Support Steel/Concrete	Outputs required are: should pad be used? Clip type? Clip spacing? E.g. Steel Industry - use type 9 clips. (Mounting on concrete go to item 8 below. This is mainly a matter of experience or may be found in other parts of this note).	Type of Mounting and Clips
5 Girder/Support Width	Rail bottom flange width plus clip width must not exceed girder or sole plate width. Customer must supply this or accept our suggestions.	Confirm Girder Width
6 Our range of Clips	Clips must fit rail. See the Gantrail data sheets or seek advice of Gantrail. Clips must be able to economically take crane horizontal wheel load. Clips must fit on girder. (For narrow girders consider 9116/08 or 7120).	Clip reference
7 Clip reference, wheel loads, rail	Clip spacing cannot be calculated but only checked by calculation in some cases. Hence Gantrail use experience. The guide is: Normal spacing is 600 to 650mm Very Heavy Duty Cranes 500mm, Light Duty Cranes 800mm	Clip spacing
8 Concrete Mounting	Wheel loads above 35 tonnes, heavy-duty applications and steel works use continuous soleplate. See other Gantrail information.	Full details of system
9 Discontinuous Mounting	Discontinuous mounting is suitable for lighter applications and most cases with vertical wheel loads of less than 15 tonnes. It is heavily dependent on the industry and application. Between 15 and 35 tonnes, rely on experience or consult Gantrail Technical Department. It is necessary to calculate the rail stress and sometimes deflection. For high bay warehouse cranes (storage and retrieval machines), deflection must always be checked.	Full details of system
10 Order Clips, Pad and Gantrail Materials	Precisely define the materials that are needed. Please also supply any supporting information that may be necessary for Gantrail to check the application and process the order. Indicate what rail section is to be used. A completed questionnaire is always helpful. Please tell Gantrail the industry in which the application is to be used.	Gantrail supply the required materials

A world of crane rail expertise.

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