

Marking Multiple Trolleys on Bridge Structures or Track Systems

Question: Paragraph 11.1 of the new P-307 requires "for multiple trolleys on a bridge structure or track system, the bridge structure or track system shall be marked with its maximum capacity in pounds."

Does this mean we will have to label both the bridge rails and the runway rails with the total capacity of all hoists on the rail system?

That means that we will need to re-mark all rails that hold more than one trolley, like B174, that holds four 6,000-pound trolleys to read maximum capacity 24,000 pounds. Right now, we label each trolley with its capacity and the rail with the capacity of the largest trolley.

Do under hung hoists apply?

I guess we will need to label them, "rail capacity = 24,000 lbs" to be safe and not confuse the hoist operator.

Also, does this mean we will also have to load test the rail/structure with all trolleys loaded? Or does a heavier crane on the rail per NAVFACINST 11230.1, Inspection, Certification and Audit of Crane and Railroad Trackage, apply here still? Do we need to further determine the structural capacity?

Answer: For bridge cranes with two (or more) trolleys, the bridge structure must be marked with its capacity. In some cases, this may be the sum of the capacities of the individual trolleys. In other cases, it may be something less. It depends on the crane's intended use and how the bridge structure was designed. We've got 20,000-pound capacity bridge cranes with two 10,000-pound capacity trolleys, and 20,000-pound bridge cranes with two 20,000-pound trolleys. In the latter case, each hoist can be loaded up to 20,000 pounds, but the combined lifted load on two trolleys when lifting simultaneously cannot exceed 20,000 pounds. There is no requirement to mark the runway girders for bridge cranes, just the bridge girder.

For monorail systems that have more than one hoist on the system, we want the track beam to be marked with its allowable capacity. Again, it may be the capacity of one hoist, or the largest hoist, or more than one hoist. It depends on the track design. The intent of the marking is to show the allowable lifted load for the track, so that if loaded hoists are used in close proximity to each other, the operators will know the track's limitations. They should be marked "rail capacity" as you suggest.

For bridge cranes, the bridge must be tested at 125 percent of its rated capacity. Thus, if its capacity is greater than the individual capacity of the larger trolley, both trolleys will need to be loaded appropriately to be able to test the bridge at 125 percent.

We do not require testing the bridge crane runway girders with multiple cranes nor monorail track systems with multiple hoists.

