



Ironworkers...*On the Safe Side*

Safety and Health Bulletin Dedicated to Servicing Our District Councils, Local Unions and IMPACT Regional Advisory Boards Throughout North America

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Below the Hook Lifting Devices – Special Requirements for Design

The Safety and Health Department has recognized incident trends relating to “***below the hook lifting devices***”. The focus of this bulletin is to highlight some of the common uses of below the hook lifting devices during steel erection and reinforcing steel activities, and some of the basic standards that govern them. Following are some illustrations of below the hook lifting devices that we want our members and contractors to recognize to prevent failure of below the hook lifting devices.



Considerations for “Below the Hook Lifting Devices”

The process of hoisting pre-built rebar curtain wall sections or panelized joists requires the use of a specially designed “below the hook lifting device.” When designing and fabricating these lifting devices, the employer must refer to the ANSI B30.20 Standards. These devices must be designed by a “*qualified person*” to accommodate the intended load of panelized joists, rebar assemblies or other structural members. Additionally, performing any activities using these devices also requires a “qualified rigger (a rigger who is also a qualified person) to inspect the rigging equipment prior to each shift.

Rated Load Markings and General Construction – Structural and mechanical lifting devices are required to be marked on the main structure where it is visible. The ANSI standard requires the lifting device “to withstand the forces imposed by its rated load, with a design factor of 3, based on yield strength, for load bearing structural components. All welding on components of lifting devices must be in accordance with ANSI/AWS D1.1 Standards. A nameplate or other permanent marking must display the following information:

Display Information on Device

1. Manufacture or employers name
2. Serial number
3. Rated load capacity

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Frequent Inspections – Prior to initial use, the erector must inspect all new, altered, modified or repaired lifting devices by a qualified person to recognize deficiencies and ensure compliance with applicable ANSI Standards. Inspection procedure for lifting devices in regular service is divided into two general classifications. These inspections consist of visual examinations by a qualified person or other designated personnel.



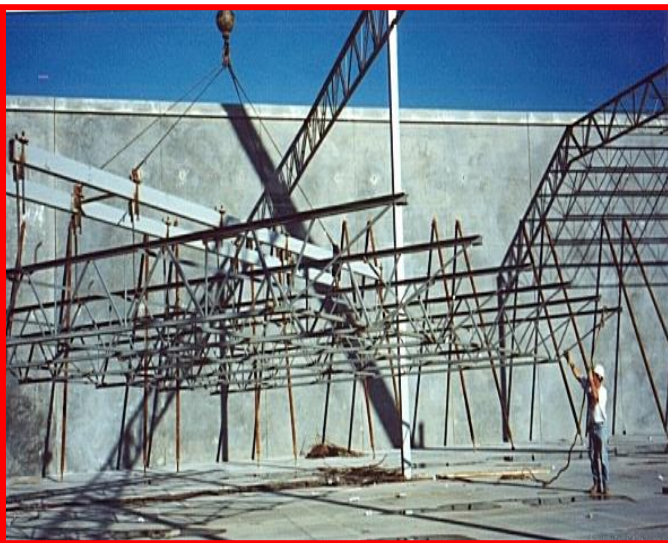
The two general classifications are designed as **“frequent and periodic”**, with respective intervals between inspections as defined below.

- normal service – monthly
- heavy service – weekly to monthly
- severe service – daily to weekly
- special or infrequent service – as recommended by a qualified person

Items to Look For:

- structural deformation, cracks, excessive wear
- loose or missing components
- maladjustments interfering with operator

Requirement for Rated Load Testing - All new, altered, modified, or repaired lifting devices should be tested and inspected by or under the direction of a qualified person confirming the load rating of the lifting device. The load rating should not exceed 80% of the maximum load sustained during the test. Test loads shall not be more than 125% of the rated load unless otherwise recommended by the manufacturer.



The employer should establish a preventative maintenance program that is based on the frequency of use and recommendations of a qualified person or the manufacturer of the lifting device. When making adjustments and repairs to the lifting device, a qualified person must be consulted to verify service procedures and modifications.

We continue to challenge all members to ***“See Something - Say Something”*** to recognize and avoid rigging hazards and the proper use of below the hook lifting devices. Jeff Norris, Vicki O’Leary and I will continue to work with District Councils, Local Unions, and IMPACT Regional Advisory Boards to address workplace safety and health issues. Please contact me in the Safety and Health

Department at (847) 795-1714, Jeff Norris, Canadian Safety Coordinator at (780) 459-4498, or Vicki O’Leary, General Organizer of Safety and Diversity at (202) 702-7828 if you have any questions pertaining to safety and health issues in the workplace.

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