Crane and Hoist Safety

SafetyNet #: 141

A crane is defined by Cal/OSHA as a machine for lifting or lowering a load and moving it horizontally, in which the hoisting mechanism is an integral part of the machine. Overhead hoists are defined in the ANSI/ASME standards as a machinery unit that is used for vertical lifting service involving material handling of freely suspended (unguided) loads. Cranes and overhead hoists are basic and versatile pieces of equipment used to aid in the handling and moving of loads.

Departments are responsible for providing and documenting training for employees required to operate cranes and hoists. Only trained and authorized employees may operate departmental cranes and hoists. Trainees may operate under the close supervision of an experienced and authorized employee.

**General operating rules are as follows:**

1. Only trained and authorized employees may operate departmental cranes and hoists
2. Equipment must be inspected daily (condition of equipment, hook, stops, etc.)
3. Do not operate crane or hoist if any problem is noted
4. Only specially trained personnel may repair or maintain the hoist, chain, wire, or rope
5. Keep your attention on the load when operating the hoist or crane
6. Keep unnecessary personnel out of the area
7. Avoid lifting directly over anyone’s head
8. If the load will be lifted over someone’s head, a safety hook is required
9. Suspended loads may not be left unattended
10. Do not load beyond the rated capacity of the crane or hoist
11. Make sure there are no kinks or twists in the chain, wire, or rope
12. Keep the hook over the load to prevent swing
13. Never allow a load to swing wildly
14. Test the load attachment by lifting a few inches
Cal/OSHA regulations include requirements for inspecting and testing of all cranes and hoists. These include:

1. Daily pre-operational inspection and testing (visual inspection, testing of limit switches, brakes, direction and speed controls, etc.)
2. Quarterly inspection, including but not limited to:
   - All operational functions
   - Leakage in lines, tanks, valves, pumps, and other parts of the air or hydraulic systems
   - Deformed, worn, or cracked hooks
   - Hook latches
   - Hoist ropes or chains
   - Limit devices for function
   - Function labels for operator control
   - All brakes
3. Annual certification (typically requires a contracted professional)
4. Quadrennial load testing (typically requires a contracted professional)

In addition, all cranes and hoists with capacities over 3 tons must also be load tested on an annual basis. Annual certification and load testing certificates are required to be maintained onsite and within departmental files.

References
1. California Code of Regulations, Title 8, Sections 4884 – 5049 – Cranes and Other Hoisting Equipment

Contact

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More information
https://safetyservices.ucdavis.edu/health-safety-staff-listing

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