

1 - Cranes and Slings: Safety Training

EH&S – MGA

Goals: This safety session should teach you to:

- A. Understand crane and sling hazards and safety procedures.

OSHA Regulations: 29 CFR 1910.179, .180, .184

1. OSHA Rules Help Assure That Cranes and Slings Move Materials Safely

- A. OSHA requires cranes and slings to be:
 1. Designed and maintained to meet detailed safety standards
 2. Inspected thoroughly and regularly to assure that they're in top condition
 3. Taken out of service if they're damaged or not working properly
 4. Operated and inspected only by trained, qualified employees Without proper inspection and operation, there's a risk that the crane might:
 - a. Overturn
 - b. Drop a load
 - c. Hit someone with the load or the equipment
 - d. Damage the load or equipment

2. Slings Are Selected Carefully to Match Load and Work Conditions

- A. Each sling has a listed rated capacity—the maximum load it can handle safely.
 1. Some sling hitches also have their own rated capacities.
 2. Ratings may include temperatures or conditions the sling can handle.
 3. Alloy steel chain is strong and can handle heat and different load shapes; but sudden shock can damage it.
 4. Wire rope is more flexible when it has a fiber core, but generally it is stronger and more heat-resistant with a wire rope core.
 5. Fiber and synthetic rope cannot be used around acids or caustics.

3. Thorough Inspection and Maintenance Are Part of Crane and Sling Safety

- A. Specific daily, monthly, and periodic OSHA inspection schedules assure proper maintenance and prevent accidents by removing damaged parts from use.
 1. Slings and their fastenings and attachments are inspected daily before use.
 2. Defective crane hooks, load attachment chains, and rope slings, or cracked, broken, bent, or excessively worn critical parts must be discarded.
 3. Broken, crushed, corroded, severely worn, and damaged ropes must be discarded.

4. Crane Safety Features and Procedures Protect Operators and Others

- A. Rated capacity is marked on the crane's side, in the cab, and sometimes on the hoist or load block.
- B. Guards protect electrical equipment and moving parts.
- C. Operating handles are in easy reach of the operator.
- D. Automatic shutoffs respond quickly to malfunctions and power failures.
- E. Operators must keep belongings, tools, waste, etc. out of the way.

5. Crane Operators Prepare, Load, and Move to Avoid Accidents

- A. Before loading, operators make sure:
 - 1. Loads are within equipment's rated capacity
 - 2. The hook moves directly over the load's center, without swinging
 - 3. Any sharp load edges are padded when loading, operators make sure:
 - a. The sling sits squarely in the hook bowl and then attaches to the load
 - b. The chain or rope has no kinks or twists and doesn't wrap the load
- B. Before lifting and moving, operators make sure:
 - 1. No person or obstruction is on or under the load or hooks, or in its path. While lifting and moving, they make sure:
 - a. The load is not left suspended or raised higher than necessary
 - b. The loaded sling doesn't drag on the ground
 - c. The sling isn't pulled out from under the resting load

6. People Working Near Cranes Must Be Alert to Avoid Accidents

- A. Move to a safe place when operators and signalpersons use hand signals to announce a crane's movement.
- B. Don't stand or walk under a load, even when it's not moving.
- C. Don't distract the operators or signal persons while they're working.
- D. Don't try to operate a crane or give signals if you're not authorized.

Summation: Cranes and Slings Require Careful Attention to Safety

Only trained people can give this precision equipment the thorough inspection and skillful operation it requires.