STRUCTURAL STEEL ERECTION

NAICS Code

 238120 Structural Steel and Precast Concrete Contractors

 238190 Other Foundation, Structure, and Building Exterior Contractors

Section 9

 SAFETY RULES, POLICIES, AND PROCEDURES

The safety rules contained on these pages have been prepared to protect you in your daily work. Employees are to follow these rules, review them often and use good common sense in carrying out assigned duties.

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ALL PERSONNEL

Personal Protective Equipment

 1. Do not paint or drill holes in your hard hat.

 2. Do not wear hard hats that are dented or cracked.

 3. Do not continue to work if your safety glasses become fogged. Stop work and clean the glasses until the lenses are clear and defogged.

 4. Wear a welding helmet or welding goggles during welding operations.

 5. Use lifelines, safety harnesses and lanyards when you are working higher than 6 feet off the ground.

 6. Safety goggles must be worn while reaming, drilling, welding, or cutting steel.

 7. Wear high-top, heavy leather, steel-toed work boots with non-skid soles when performing structural steel work.

 8. Wear heavy leather-faced work gloves when using tools such as jack hammers, chipping hammers and other heavy vibrating tools.

Work Clothing

 1. Do not wear long sleeve shirts that do not have button-down cuffs.

 2. Wear close-fitting pants with the cuffs tucked into your boots or tied off.

Lifting Procedures

 1. Plan the move before lifting; remove obstructions from your chosen pathway.

 2. Test the weight of the load before lifting by pushing the load along its resting surface.

 3. If the load is too heavy or bulky, use lifting and carrying aids such as hand trucks, dollies, pallet jacks and carts, or get assistance from a co-worker.

 4. If assistance is required to perform a lift, coordinate, and communicate your movements with those of your co-worker.

 5. Position your feet 6 to 12 inches apart with one foot slightly in front of the other.

 6. Face the load.

 7. Bend at the knees, not at the back.

 8. Keep your back straight.

 9. Get a firm grip on the object with your hands and fingers. Use handles when present.

10. Never lift anything if your hands are greasy or wet.

11. Wear protective gloves when lifting objects with sharp corners or jagged edges.

12. Hold objects as close to your body as possible.

13. Perform lifting movements smoothly and gradually; do not jerk the load.

14. If you must change direction while lifting or carrying the load, pivot your feet and turn your entire body. Do not twist at the waist.

15. Set down objects in the same manner as you picked them up, except in reverse.

16. Do not lift an object from the floor to a level above your waist in one motion. Set the load down on a table or bench and then adjust your grip before lifting it higher.

Ladder Safety

 1. Read and follow the manufacturer's instructions label affixed to the ladder if you are unsure how to use the ladder.

 2. Do not use ladders that have loose rungs, cracked or split side rails, missing rubber foot pads, or are otherwise visibly damaged.

 3. Keep ladder rungs clean and free of grease. Remove buildup of material such as dirt or mud.

 4. Do not use a metal ladder on roof tops or within 50 feet of electrical power lines.

 5. Do not place ladders in a passageway without posting warning signs or cones that detour pedestrian traffic away from the ladder.

 6. Allow only one person on the ladder at a time.

 7. Face the ladder when climbing up or down.

 8. Maintain a three-point contact by always keeping both hands and one foot or both feet and one hand on the ladder when climbing up or down.

 9. When performing work from a ladder, face the ladder and do not lean backward or sideways from the ladder.

10. Do not stand on the top two rungs of any ladder.

11. Do not stand on a ladder that wobbles, or that leans to the left or right.

12. When using a ladder, extend the top of the ladder at least 3 feet above the edge of the landing.

13. Secure the ladder in place by having another employee hold it.

14. Do not place ladders on barrels, boxes, loose bricks, buckets, concrete blocks, or other unstable bases.

15. Do not carry items in your hands while climbing up or down a ladder.

16. Do not try to "walk" a ladder by rocking it. Climb down the ladder, and then move it.

17. Do not use a ladder as a horizontal platform.

Scaffolding

 1. Follow the manufacturer's instructions when erecting the scaffold.

 2. Do not work on scaffolds outside during stormy or windy weather.

 3. Do not climb on scaffolds that wobble or lean to one side.

 4. Initially inspect scaffold prior to mounting. Do not use a scaffold if any pulley, block, hook, or fitting is visibly worn, cracked, rusted, or otherwise damaged. Do not use a scaffold if any rope is frayed, torn or visibly damaged.

 5. Do not use any scaffold tagged "Out of Service".

 6. Do not use unstable objects such as barrels, boxes, loose brick, or concrete blocks to support scaffolds or planks.

 7. Do not work on platforms or scaffolds unless they are fully planked.

 8. Do not use a scaffold unless guardrails and all flooring are in place.

 9. Level the scaffold after each move. Do not extend adjusting leg screws more than 12 inches.

10. Do not walk or work beneath a scaffold unless a wire mesh has been installed between the midrail and the toe board or planking.

11. Use safety belts and lanyards when working on scaffolding at a height of 10 feet or more above ground level. Attach the lanyard to a secure member of the scaffold.

12. Do not climb the cross braces for access to the scaffold. Use a ladder.

13. Do not jump from, to, or between scaffolding.

14. Do not slide down cables, ropes or guys used for bracing.

15. Keep both feet on the decking. Do not sit or climb on the guardrails.

16. Do not lean out from the scaffold. Do not rock the scaffold.

17. Keep the scaffold free of scraps, loose tools, tangled lines, and other obstructions.

18. Do not throw anything "overboard" unless a spotter is available. Use debris chutes or lower things by hoist or by hand.

19. Do not move a mobile scaffold with anyone on the scaffold.

20. Lock and chock the wheels on rolling scaffolds before using the scaffold.

Hand Tool Safety

 1. Use tied off containers to keep tools from falling from scaffolds and other elevated work platforms.

 2. Use a knife that has been sharpened; do not use knives that have dull blades.

 3. Carry all sharp tools in a sheath or holster.

 4. Tag worn, damaged or defective tools "Out of Service" and do not use them.

 5. Do not use a tool if its handle has splinters, burrs, cracks, splits or if the head of the tool is loose.

 6. Do not use impact tools such as hammers, chisels, punches, or steel stakes that have mushroomed heads.

 7. When handing a tool to another person, direct sharp points and cutting edges away from yourself and the other person.

 8. When using knives, shears, or other cutting tools, cut in a direction away from your body.

 9. Do not carry sharp or pointed hand tools such as screwdrivers, scribes, aviation snips, scrapers, chisels, or files in your pocket unless the tool or pocket is sheathed.

10. Do not perform "make-shift" repairs to tools.

11. Do not use "cheaters" on load binders or "boomers".

12. Do not carry tools in your hand when climbing. Carry tools in tool belts or hoist the tools to the work area with a hand line.

13. Do not throw tools from one location to another, from one employee to another, from scaffolds or other elevated platforms.

14. Transport hand tools only in toolboxes or tool belts. Do not carry tools in your clothing.

Electrically Powered Tools

 1. Do not use power equipment or tools on which you have not been trained.

 2. Keep power cords away from path of drills, saws, and grinders.

 3. Do not use cords that have splices, exposed wires or cracked or frayed ends.

 4. Do not carry plugged in equipment or tools with your finger on the switch.

 5. Do not carry equipment or tools by the cord.

 6. Disconnect the tool from the outlet by pulling on the plug, not the cord.

 7. Turn the power switch of an electrical tool to "off" before plugging or unplugging it.

 8. Do not leave tools that are "on" unattended.

 9. Do not handle or operate electrical tools when your hands are wet or when you are standing on wet floors.

10. Do not operate spark-inducing tools such as grinders, drills or saws near containers labeled "Flammable".

11. Turn the power switch of an electrical tool to "off" and unplug it from the outlet before attempting repairs or service work. Tag the tool "Out of Service".

12. Do not use extension cords or other grounded three-pronged power cords that have the ground prong removed or broken off.

13. Do not remove the ground prong from electrical cords.

14. Do not use an adapter that eliminates the ground such as a cheater plug.

15. Do not connect multiple electrical tools into a single outlet.

16. Do not run extension cords through doorways, through holes in ceilings, walls, or floors.

17. Do not drive over, drag, step on or place objects on a cord.

18. Do not use portable power tools unless they have a color-coded green band taped to the handle. These green labeled tools have ground Fault Circuit Interrupters incorporated into the plug end of the power cord. The use of these power tools is required when working in older building or temporary work locations where the work environment is often damp, and the available electrical outlets may not meet our wiring standards.

19. Do not stand in water or on wet surfaces when operating power hand tools.

20. Do not use a power hand tool to cut wet or water-soaked building materials or to repair pipe leaks.

21. Do not use a power hand tool while wearing wet cotton gloves or wet leather gloves.

22. Never operate electrical equipment barefooted. Wear rubber-soled or insulated work boots.

23. Do not operate power hand tools or portable appliances that have a frayed, worn, cut, improperly spliced or damaged power cord.

24. Do not operate power hand tools or portable appliances if the ground pin from the three- pronged power plug is missing or has been removed.

25. Do not operate power hand tools or portable appliances with a two-pronged adapter or a two-conductor extension cord.

26. Do not operate power hand tools or portable appliances while holding a part of the metal casing or holding the extension cord in your hand. Hold all portable power tools by the plastic hand grip or other nonconductive areas designed for gripping purposes.

Powder Actuated Tools

 1. Wear impact resistant safety goggles or face shields when operating any powder actuated tools.

 2. When using powder actuated tools, do not drive fasteners into structural steel without first looking to see if the steel is backed by a steel plate or barricade, and to see if all personnel are away from the direct line of fire.

 3. Do not attempt to fasten through a pre-drilled hole unless the powder-actuated tool has a hole locator.

 4. Keep your head and body behind the powder actuated tool when firing it.

 5. Do not fasten steel beams at a distance closer than 1/2 inch from the edge of the steel.

 6. Before using powder actuated tools do not alter, bypass, or remove the shield or guard at the muzzle end of the powder-actuated tool.

 7. Do not load a powder-actuated tool until you are ready to fire it.

Portable Welding Equipment

 1. Do not use personal or employee-owned power tools and portable appliances while at work.

 2. Do not perform welding tasks while wearing wet cotton gloves or wet leather gloves.

 3. Insulated work gloves are required for all welders when using welding equipment.

 4. Do not use welding apparatus if power cord is cut, frayed, split or otherwise visibly damaged or modified.

 5. When replacing power plugs and cords of welding apparatus, always check to ensure that the ground wire is connected and the notches on the power plug prongs are not worn off, allowing the plug to be inserted backward.

Compressed Gas Cylinders

Storage and Handling

 1. Do not handle oxygen cylinders if your gloves are greasy or oily.

 2. Store all cylinders in the upright position.

 3. Place valve protection caps on gas cylinders that are in storage or not in use.

 4. Do not lift cylinders by the valve protection cap.

 5. Do not store compressed gas cylinders in areas where they can encounter chemicals labeled "Corrosive".

 6. Place cylinders on a cradle, sling board, pallet, or cylinder basket to hoist them.

 7. Do not place cylinders against electrical panels or live electrical cords where the cylinder can become part of the circuit.

Use of Cylinders

 1. Do not use dented, cracked, or other visually damaged cylinders.

 2. Use only an open ended or adjustable wrench when connecting or disconnecting regulators and fittings.

 3. Do not transport cylinders without first removing regulators and replacing the valve protection caps.

 4. Close the cylinder valve when work is finished, when the cylinder is empty or at any time the cylinder is moved.

 5. Do not store oxygen cylinders near fuel gas cylinders such as propane or acetylene, or near combustible material such as oil or grease.

 6. Stand to the side of the regulator when opening the valve.

 7. If a cylinder is leaking around a valve or a fuse plug, move it to an outside area away from where work is performed and tag it to indicate the defect.

 8. Do not hoist or transport cylinders by means of magnets or choker slings.

 9. Do not use compressed gas to clean the work area, equipment, or yourself.

10. Do not remove the valve wrench from acetylene cylinders while the cylinder is in use.

11. Open compressed gas cylinder valves slowly. Open fully when in use to eliminate leakage around the cylinder valve stem.

12. Purge oxygen valves, regulators, and lines before use.

Job Site Traffic Control

1. Do not work outside of the barricaded work area.

Cranes and Hoists

 1. Do not use load hooks that are cracked, bent, or broken.

 2. Do not use cranes that do not have their rated load capacity indicated on each side of the crane or on its load block.

 3. Passengers are not permitted to ride inside the operator's cab of a truck crane.

 4. Keep crane windows clean. Do not use a crane if its windows are broken.

 5. Do not exceed the rated load capacity as specified by the manufacturer.

 6. Do not operate a crane on soft ground without cribbing and mats.

 7. Fully extend outriggers before attempting a lift.

 8. Stay outside the barricades of the posted swing radius.

 9. Do not perform any crane refits or modifications without the manufacturer's approval.

10. Do not leave the crane unattended with a hoisted load.

11. Do not hoist loads over people.

12. Do not drive on the road shoulders.

13. Wear a high visibility vest when working as a signal operator.

14. Only follow the signals of the person designated to give you signals when operating a crane.

15. Replace the belts, gears, or rotating shaft guards after servicing a crane; do not use the crane if guards are missing from these areas.

Material Handling

 1. Do not stand on a truck or railroad car while steel is being loaded into it or unloaded from it by cranes or derricks.

 2. Store materials at least six (6) feet away from the edge of floors that are elevated more than 6 feet off the ground.

Flooring

 1. Do not start to work on tiered buildings until the floor has been planked or decked over its entire surface, except for access openings.

 2. Do not erect the temporary flooring above protruding re-bar needles.

Steel Assembly and Connecting

 1. Do not guy columns, trusses, or beams unless they have been tied.

 2. Do not work over an exposed vertical-reinforcing rod unless the end has been bent out.

 3. Do not touch a wire rope when it is being pulled, extended, or withdrawn.

 4. Do not place fingers next to blocks or sheaves.

Riveting and Bolting

 1. Do not use your hands to guide a bit into place when riveting or bolting steel.

 2. Disconnect the snap and plunger from an air hammer when it is not in use.

 3. Do not pass air-powered tools by the hose from one worker to another.

 4. Do not throw material from one person to another. Use tag lines and a basket to hoist bolts, washers, drift pins and tools.

 5. Use a receptacle or a net to catch rivets or bolts that are knocked off or backed out from your work area.

 6. Do not carry nuts, bolts, rivets or drift pins in your hands or pockets; use the carrying/storing container provided for this purpose.

Safety around Open Water

 1. Do not work on floats unless they have the "U.S. Coast Guard Approved" emblem tagged on the float.

 2. Wear life vests that have "U.S. Coast Guard Approved" insignia tagged on the vest when working around open water.

 3. Do not jump from barges to docks.

Housekeeping

 1. Do not place material such as boxes or trash in walkways and passageways.

 2. Keep walking surfaces of elevated working platforms, such as scaffolds, clear of tools and materials that are not being used.

 3. Remove protruding nails or bend them down into the lumber by using a claw hammer.

 4. Return tools to their storage places after use.

 5. Do not use gasoline for cleaning purposes.

Obtained from Toolboxtopics.com, Steel Erection, https://www.toolboxtopics.com/menu\_programs.html (Accessed August 14, 2024).