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29 CFR 1926 Construction

As Spring approaches and construction begins throughout the state of Utah, Utah OSHA receives many phone calls with questions regarding the 29 CFR 1926 Construction Standards. This issue of Safety Line will cover some of the most commonly asked about, or cited standards, in Utah. These topics do not include every standard and are intended only to provide a generic overview of particular standards. For more information regarding these standards please go to the Federal OSHA webpage: www.osha.gov or contact the Utah OSHA Consultation Program at 801-530-6855. Additional information can also be obtained from the "Construction Industry Digest" OSHA Publication #2002 (revised).

Air Tools

Pneumatic power tools shall be secured to the hose in a positive manner to prevent accidental disconnection.

Safety clips or retainers shall be securely installed and maintained on pneumatic impact tools to prevent attachments from being accidentally expelled. **1926.302(b)(2)**

The manufacturer's safety operating pressure for all fittings shall not be exceeded. **1926.302(b)(5)**

All hoses exceeding ½-inch (1.3 centimeters) inside diameter shall have a safety device at the source of supply or branch line to reduce pressure in case of hose failure. **1926.302(b)(7)**

Eye and Face Protection

Eye and face protections shall be provided when machines or operations present potential eye or face injury. **1926.102(a)(2)**

Eye and face protective equipment shall meet the requirements of **ANSI Z78.1-1968, Practice for Occupational and Educational Eye and Face Protection.**

Silica

Appropriate engineering controls, personal protective equipment, respirators, and work practices shall be used to protect employees from crystalline silica and other airborne contaminants. **1926.55**

Use of Compressed Air

Compressed air, used for cleaning purposes, shall be reduced to less than 30 pounds per square inch (psi) (207 KPa) and then only with effective chip guarding and personal protective equipment.

1926.302(b)(4)

Drinking Water

An adequate supply of potable water shall be provided in all places of employment. **1926.51(a)(1)**

Portable drinking water containers shall be capable of being tightly closed and equipped with a tap. **1926.51(a)(2)**

Using a common drinking cup is prohibited. **1926.51(a)(4)**

Where single service cups (to be used only once) are supplied, both a sanitary container for unused cups and a receptacle for used cups shall be provided. **1926.51(a)(5)**

Housekeeping

Form and scrap lumber with protruding nails and all other debris shall be kept clear from all work areas. **1926.25(a)**

Combustible scrap and debris shall be removed at regular intervals. **1926.25(b)**

Containers shall be provided for collection and separation of all refuse. Covers shall be provided on containers used for flammable or harmful substances. **1926.25(c)**

Wastes shall be disposed of at frequent intervals. **1926.25(c)**



“A ladder (or stairway) must be provided at all work points of access where there is a break in elevation of 19 inches (48.2 centimeters) or more except if a suitable ramp, runway, embankment, or personnel hoist is provided to give safe access to all elevations.”

Ladder Use in Construction

Portable and fixed ladders with structural defects -- such as broken or missing rungs, cleats or steps, broken or split rails, or corroded components -- shall be withdrawn from service by immediately tagging "DO NOT USE" or marking in a manner that identifies them as defective, or shall be blocked, such as with a plywood attachment that spans several rungs. Repairs must restore ladder to its original design criteria. **1926.1053(b)(16), (17)(i) through (iii) and (18)** Portable non-self-supporting ladders shall be placed on a substantial base, have clear access at top and bottom, and be placed at an angle so the horizontal distance from the top support to the foot of the ladder is approximately one-quarter the working length of the ladder. Portable ladders used for access to an upper landing surface must extend a minimum of 3 feet (0.9 meters) above the landing surface, or where not practical, be provided with grab rails and be secured against movement while in use. **1926.1053(b)(1) and (b)(5)(i)**

Ladders must have nonconductive siderails if they are used where the worker or the ladder could contact energized electrical conductors or equipment. **1926.1053(b)(12)**

Job-made ladders shall be constructed for their intended use. Cleats shall be uniformly spaced not less than 10 inches (25.4 centimeters) apart, nor more than 14 inches (35.5 centimeters) apart. **1926.1053(a)(3)(i)**

A ladder (or stairway) must be provided at all work points of access where there is a break in elevation of 19 inches (48.2 centimeters) or more except if a suitable ramp, runway, embankment, or personnel hoist is provided to give safe access to all elevations. **1926.1051(a)**

Wood job-made ladders with spliced side rails must be used at an angle where the horizontal distance is one-eighth the working length of the ladder.

- Fixed ladders must be used at a pitch no greater than 90 degrees from the horizontal, measured from the back side of the ladder.
- Ladders must be used only on stable and level surfaces unless secured to prevent accidental movement.
- Ladders must not be used on slippery surfaces unless secured or provided with slip-resistant feet to prevent accidental movement. Slip resistant feet must not be used as a substitute for the care in placing, lashing, or holding a ladder upon a slippery surface. **1926.1053(b)(5)(ii) through (b)(7)**

Employers must provide a training program for each employee using ladders and stairways. The program must enable each employee to recognize hazards related to ladders and stairways and to use proper procedures to minimize these hazards. For example, employers must ensure that each employee is trained by a competent person in the following areas, as applicable:

- The nature of fall hazards in the work area;
- The proper construction, use, placement, and care in handling of all stairways and ladders; and
- The maximum intended load-carrying capacities of ladders used.

In addition, retraining must be provided for each employee, as necessary, so that the employee maintains the understanding and knowledge acquired through compliance with the standard. **1926.1060(a) and (b)**

Hand Tools

Employers shall not issue or permit the use of unsafe hand tools, including tools that may be furnished by employees or employers. All hand tools must be properly maintained. **1926.300(a) and 1926.301(a)**

Wrenches shall not be used when jaws are sprung to the point that slippage occurs. Impact tools shall be kept free of mushroomed heads. The wooden handles of tools shall be kept free of splinters or cracks and shall be kept tight in the tool. **1926.301(b) through (d)**

Temporary Heating Devices

When heating devices are used, fresh air shall be supplied in sufficient quantities to maintain the health and safety of workers. **1926.154(a)(1)**

Solid fuel salamanders are prohibited in buildings and on scaffolds **1926.154(d)**

Grinding

All abrasive wheel bench and stand grinders shall be provided with safety guards that cover the spindle ends, nut and flange projections, and are strong enough to withstand the effects of a bursting wheel. **1926.303(b)(1) and (c)(1)**

An adjustable work rest of rigid construction shall be used on floor and bench-mounted grinders, with the work rest kept adjusted to a clearance no to exceed 1/8-inch (0.3 centimeter) between the work rest and the surface of the wheel. **1926.303(c)(2)**

All abrasive wheels shall be closely inspected and ring-tested before mounting to ensure that they are free from cracks or other defects. **1926.303(c)(7)** Portable abrasive wheel tools shall be provided with safety guards, except when the wheels are 2 inches (5 centimeters) or less, or the wheel is entirely inside the work. **1926.303(c)(3) and (4)**

Powered Industrial Trucks (Forklifts)

Each powered industrial truck operator must be competent to operate a powered industrial truck safely, as demonstrated by the successful completion of the training and evaluation. **1910.178(l) and made applicable to construction by 1926.602(d)**

Training shall consist of a combination of formal instruction (e.g., lecture, discussion, interactive computer learning, video tape, written material), practical training (demonstrations performed by the trainer and practical exercises performed by the trainee), and evaluation of the operator's performance in the workplace. **1910.178(l)(2)(ii) made applicable to construction by 1926.602(d)**

Power Transmission, Mechanical

Belts, gears, shafts, pulleys, sprockets, spindles, drums, flywheels, chains, or other reciprocating, rotating, or moving parts of equipment shall be guarded if such parts are exposed to contact by employees or otherwise constitute a hazard. **1926.307(a) through (f), (h) through (i), and (k)**

Guarding shall meet the requirement of ANSI B15.1-1953 (R 1958), Safety Code for Mechanical Power Transmission Apparatus. **1926.300(b)(2)**

Hoists, Material, and Personnel

The employer shall comply with the manufacturer's specifications and limitations.

1926.552(a)(1)

Rated load capacities, recommended operating speeds, and special hazard warnings or instructions shall be posted on cars and platforms. **1926.552(a)(2)**

Hoistway entrances of material hoists shall be protected by substantial full width gates or bars that are painted with diagonal contrasting colors such as black and yellow stripes. **1926.552(b)(2)**

Hoistway doors or gates of personnel hoist shall be not less than 6 feet 6 inches (198.1 meters) high and shall be protected with mechanical locks that cannot be operated from the landing side and that are accessible only to persons on the car. **1926.552(c)(4)**

Overhead protective coverings shall be provided on the top of the hoist cage or platform. **1926.552(b)(3) and (c)(7)**

All material hoists shall conform to the requirements of ANSI A10.5-1969, Safety Requirements for Material Hoists. **1926.552(b)(8)**

Wire Rope, Chains, and Ropes

Wire ropes, chains, ropes, and other rigging equipment shall be inspected prior to use and as necessary during use to ensure their safety. Defective gear shall be removed from service. **1926.251(a)(1)**

Job or shop hooks and links or makeshift fasteners formed from bolts, rods, or other such attachments shall not be used. **1926.251(b)(3)**

When U-bolts are used for eye splices, the U-bolt shall be applied so that the "U" section is in contact with the dead end of the rope. **1926.251(c)(5)(i)**

1926.251(c)(5)(i)

1926.251(c)(5)

Aerial Lifts

Aerial lifts, powered or manual, include, but are not limited to, the following types of vehicle-mounted aerial devices used to elevate personnel to jobsites above ground: extensible boom platforms, articulating boom platforms, and vertical towers.

1926.453(a)(1)

Manufacturers or the equivalent must certify, in writing, all modifications to aerial lifts.

1926.453(a)(2)

When operating aerial lifts, employers must ensure employees are:

Trained

Authorized

Setting brakes and using outriggers,

Not exceeding boom and basket load limits,

Using personal fall protection when required, and

Not using devices such as ladders, stilts, or step stools to raise the employee above the basket.

1926.453(b) and 1926.454

Toilets

Toilets shall be provided according to the following: 20 or fewer persons -- one facility; 20 or more persons -- one toilet seat and one urinal per 40 persons; 200 or more persons -- one toilet seat and one urinal per 50 workers. **1926.51(c)(1)**

This requirement does not apply to mobile crews having transportation readily available

Medical Services and First Aid

The employer shall ensure the availability of medical personnel for advice and consultation on matters of occupational health.

1926.50(a)

When a medical facility is not reasonably accessible for the treatment of injured employees, a person qualified to render first aid shall be available at the worksite. **1926.50(c)** First-aid supplies when required should be readily available. **1926.50(d)(1)**

In areas where 911 is not available, the telephone numbers of the physicians, hospitals, or ambulances shall be conspicuously posted. **1926.50(f)**

Reinforced Steel

All protruding reinforced steel onto and into which employees could fall shall be guarded to eliminate the hazard of impalement. **1926.701(b)**

Compliance Corner

At my company there are separate buildings where manufacturing is done. All of the buildings are located at the same site. Based on the Hazard Communication Standard (HAZCOM or HCS) can I keep one main Material Safety Data Sheet (MSDS) repository, or do I need to have a copy of each MSDS in each building?

The HAZCOM standard is based on a simple concept – that employees have both a need and a right to know the hazards and identities of the chemicals they are exposed to when working. The HAZCOM standard states “Employers shall maintain copies of any material safety data sheets that are received with incoming shipments of the sealed containers of hazardous chemicals, shall obtain a material safety data sheet as soon as possible for sealed containers of hazardous chemicals received without a material safety data sheet if an employee requests the material safety data sheet, and shall ensure that the material safety data sheets are readily accessible during each work shift to employees when they are in their work area(s); **1910.1200(b)(4)(ii)** and, Employers shall ensure that employees are provided with information and training in accordance with paragraph (h) of this section (except for the location and availability of the written hazard communication program under paragraph (h)(2)(iii) of this section), to the extent necessary to protect them in the event of a spill or leak of a hazardous chemical from a sealed container. **1910.1200(b)(4)(iii)** **note:** paragraph (h), as referenced in this section of the standard, explains the training requirements of this standard.

A letter of interpretation dated February 1, 1994 states: “The key to compliance with the HCS is that employees have no barriers to access the information and that the MSDS’s be available during all work shifts. The HCS is a performance-oriented standard. A performance-oriented standard gives employees the flexibility to adapt the rule to the needs of the workplace situation, instead of having to follow specific rigid requirements. As you know the HCS specifies that MSDS’s must be maintained on site and readily accessible during each work shift to employees when they are in their work area(s).”

If there are no barriers to employees accessing the MSDS’s, during each work shift, having one central repository would be allowed.

Head Protection

Head protective equipment (helmets) shall be worn in areas where there is a possible danger of head injuries from impact, flying or falling objects, or electrical shock and burns. 1926.100(a)

Helmets for protection against impacts and penetration for falling and flying objects shall meet the requirements of ANSI Z89.1-1969. **1926.100(b)**

Lead

Each employer who has a workplace or operation covered by this standard shall initially determine if any employee may be exposed to lead at or above the action level of 30 micrograms per cubic meter (30 µg/m³) of air calculated as an 8-hour time-weighted average. **1926.62(d)(1)(i)**

The employer shall assure that no employee is exposed to lead at concentrations greater than 50 micrograms per cubic meter (50 µg/m³) of air averaged over an 8-hour period (the permissible exposure limit PEL). **1926.62(c)(1)**

Whenever there has been a change of equipment, process, control, personnel, or a new task has been initiated that may result in exposure above the PEL, the employer shall conduct additional monitoring. **1926.62(d)(7)**

Training shall be provided in accordance with the Hazard Communication Standard and additional training shall be provided for employees exposed at or above the action level. **1926.62(l)**

Prior to the start of the job, each employer shall establish and implement a written compliance program. **1926.62(e)(2)**

Where airborne concentrations of lead equal or exceed the action level at any time, an initial medical examination consisting of blood sampling and analysis shall be made available for each employee prior to initial assignment to the area. **1926.62 Appendix B, VIII, Paragraph (j)**

Welding, Cutting, and Heating

Employers shall instruct employees in the safe use of welding equipment. **1926.350(d) and 1926.351(d)**

Proper precautions (isolating welding and cutting, removing fire hazards from the vicinity, providing a fire watch) for fire prevention shall be taken in areas where welding or other "hot work" is being done. No welding, cutting, or heating shall be done where the application of flammable paints, or the presence of other flammable compounds or heavy dust concentrations creates a fire hazard. **1926.352(a) through (c) & (f)**

Arc welding and cutting operations shall be shielded by non-combustible or flameproof screens to protect employees and other persons in the vicinity from direct arc rays. **1926.351(e)** When electrode holders are to be left unattended, the electrodes shall be removed and the holder shall be placed or protected so that they cannot make electrical contact with employees or conducting objects. **1926.351(d)(1)**

All arc welding and cutting cables shall be completely insulated and be capable of handling the maximum current requirements for the job. There shall be no repairs or splices within 10 feet (3 meters) of the electrode holder, except where splices are insulated equal to the insulation of the cable. Defective cable shall be repaired or replaced. **1926.351(b)(1) through (2) and (4)** Fuel gas and oxygen hose shall be easily distinguishable and shall not be interchangeable. Hoses shall be inspected at the beginning of each shift and shall be repaired or replaced if defective. **1926.350(f)(1) and (3)**

Proper eye protective equipment to prevent exposure of personnel shall be provided **1926.353(e)(2)**

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