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Title 29 – Labor

Subtitle B – Regulations Relating to Labor

Chapter XVII – Occupational Safety and Health Administration, Department of Labor

Part 1915 – Occupational Safety and Health Standards for Shipyard Employment

Authority: 33 U.S.C. 941; 29 U.S.C. 653, 655, 657; Secretary of Labor's Order No. 12-71 (36 FR 8754); 8-76 (41 FR 25059), 9-83 (48 FR 35736), 1-90 (55 FR 9033), 6-96 (62 FR 111), 3-2000 (65 FR 50017), 5-2002 (67 FR 65008), 5-2007 (72 FR 31160), 4-2010 (75 FR 55355), 1-2012 (77 FR 3912), or 8-2020 (85 FR 58393); 29 CFR part 1911; and 5 U.S.C. 553, as applicable.

Source: 47 FR 16986, Apr. 20, 1982, unless otherwise noted.

Subpart H Tools and Related Equipment

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Subpart H—Tools and Related Equipment

§ 1915.131 General precautions.

The provisions of this section shall apply to ship repairing, shipbuilding and shipbreaking.

- (a) Hand lines, slings, tackles of adequate strength, or carriers such as tool bags with shoulder straps shall be provided and used to handle tools, materials, and equipment so that employees will have their hands free when using ship's ladders and access ladders. The use of hose or electric cords for this purpose is prohibited.
- (b) When air tools of the reciprocating type are not in use, the dies and tools shall be removed.
- (c) All portable, power-driven circular saws shall be equipped with guards above and below the base plate or shoe. The upper guard shall cover the saw to the depth of the teeth, except for the minimum arc required to permit the base to be tilted for bevel cuts. The lower guard shall cover the saw to the depth of the teeth, except for the minimum arc required to allow proper retraction and contact with the work. When the tool is withdrawn from the work, the lower guard shall automatically and instantly return to the covering position.
- (d) The moving parts of machinery on a dry dock shall be guarded.
- (e) Before use, pneumatic tools shall be secured to the extension hose or whip by some positive means to prevent the tool from becoming accidentally disconnected from the whip.
- (f) The moving parts of drive mechanisms, such as gearing and belting on large portable tools, shall be adequately guarded.

- (g) Headers, manifolds and widely spaced hose connections on compressed air lines shall bear the word "air" in letters at least 1-inch high, which shall be painted either on the manifolds or separate hose connections, or on signs permanently attached to the manifolds or connections. Grouped air connections may be marked in one location.
- (h) Before use, compressed air hose shall be examined. Visibly damaged and unsafe hose shall not be used.

[47 FR 16986, Apr. 20, 1982, as amended at 67 FR 44543, July 3, 2002]

§ 1915.132 Portable electric tools.

The provisions of this section shall apply to ship repairing, shipbuilding and shipbreaking except that paragraph (e) of this section applies to ship repairing only.

- (a) The frames of portable electric tools and appliances, except double insulated tools approved by Underwriters' Laboratories, shall be grounded either through a third wire in the cable containing the circuit conductors or through a separate wire which is grounded at the source of the current.
- (b) Grounding circuits, other than by means of the structure of the vessel on which the tool is being used, shall be checked to ensure that the circuit between the ground and the grounded power conductor has resistance which is low enough to permit sufficient current to flow to cause the fuse or circuit breaker to interrupt the current.
- (c) Portable electric tools which are held in the hand shall be equipped with switches of a type which must be manually held in the closed position.
- (d) Worn or frayed electric cables shall not be used.
- (e) The employer shall notify the officer in charge of the vessel before using electric power tools operated with the vessel's current.

§ 1915.133 Hand tools.

The provisions of this section shall apply to ship repairing, shipbuilding and shipbreaking.

- (a) Employers shall not issue or permit the use of unsafe hand tools.
- (b) Wrenches, including crescent, pipe, end and socket wrenches, shall not be used when jaws are sprung to the point that slippage occurs.
- (c) Impact tools, such as drift pins, wedges, and chisels, shall be kept free of mushroomed heads.
- (d) The wooden handles of tools shall be kept free of splinters or cracks and shall be kept tight in the tool.

§ 1915.134 Abrasive wheels.

This section shall apply to ship repairing, shipbuilding and shipbreaking.

- (a) Floor stand and bench mounted abrasive wheels used for external grinding shall be provided with safety guards (protection hoods). The maximum angular exposure of the grinding wheel periphery and sides shall be not more than 90 degrees, except that when work requires contact with the wheel below the

horizontal plane of the spindle, the angular exposure shall not exceed 125 degrees. In either case the exposure shall begin not more than 65 degrees above the horizontal plane of the spindle. Safety guards shall be strong enough to withstand the effect of a bursting wheel.

- (b) Floor and bench mounted grinders shall be provided with work rests which are rigidly supported and readily adjustable. Such work rests shall be kept a distance not to exceed $\frac{1}{8}$ inch from the surface of the wheel.
- (c) Cup type wheels used for external grinding shall be protected by either a revolving cup guard or a band type guard in accordance with the provisions of the United States of America Standard Safety Code for the Use, Care, and Protection of Abrasive Wheels, B7.1-1964. All other portable abrasive wheels used for external grinding shall be provided with safety guards (protection hoods) meeting the requirements of paragraph (e) of this section, except as follows:
 - (1) When the work location makes it impossible, in which case a wheel equipped with safety flanges as described in paragraph (f) of this section shall be used.
 - (2) When wheels 2 inches or less in diameter which are securely mounted on the end of a steel mandrel are used.
- (d) Portable abrasive wheels used for internal grinding shall be provided with safety flanges (protection flanges) meeting the requirements of paragraph (f) of this section, except as follows:
 - (1) When wheels 2 inches or less in diameter which are securely mounted on the end of a steel mandrel are used.
 - (2) If the wheel is entirely within the work being ground while in use.
- (e) When safety guards are required, they shall be so mounted as to maintain proper alignment with the wheel, and the guard and its fastenings shall be of sufficient strength to retain fragments of the wheel in case of accidental breakage. The maximum angular exposure of the grinding wheel periphery and sides shall not exceed 180 degrees.
- (f) When safety flanges are required, they shall be used only with wheels designed to fit the flanges. Only safety flanges of a type and design and properly assembled so as to insure that the pieces of the wheel will be retained in case of accidental breakage shall be used.
- (g) All abrasive wheels shall be closely inspected and ring tested before mounting to ensure that they are free from cracks or defects.
- (h) Grinding wheels shall fit freely on the spindle and shall not be forced on. The spindle nut shall be tightened only enough to hold the wheel in place.
- (i) The power supply shall be sufficient to maintain the rated spindle speed under all conditions of normal grinding. The rated maximum speed of the wheel shall not be exceeded.
- (j) All employees using abrasive wheels shall be protected by eye protection equipment in accordance with the requirements of subpart I of this part except when adequate eye protection is afforded by eye shields which are permanently attached to the bench or floor stand.

[47 FR 16986, Apr. 20, 1982, as amended at 61 FR 26351, May 24, 1996; 67 FR 44543, July 3, 2002]

§ 1915.135 Powder actuated fastening tools.

- (a) The section shall apply to ship repairing and shipbuilding only.
- (b) **General precautions.**
 - (1) Powder actuated fastening tools shall be tested each day before loading to ensure that the safety devices are in proper working condition. Any tool found not to be in proper working order shall be immediately removed from service until repairs are made.
 - (2) Powder actuated fastening tools shall not be used in an explosive or flammable atmosphere.
 - (3) All tools shall be used with the type of shield or muzzle guard appropriate for a particular use.
 - (4) Fasteners shall not be driven into very hard or brittle materials such as cast iron, glazed tile, surface hardened steel, glass block, live rock, face brick or hollow tile.
 - (5) Fasteners shall not be driven into soft materials unless such materials are backed by a substance that will prevent the pin or fastener from passing completely through and creating a flying missile hazard on the opposite side.
 - (6) Unless a special guard, fixture or jig is used, fasteners shall not be driven directly into materials such as brick or concrete within 3 inches of the unsupported edge or corner, or into steel surfaces within $1/2$ inch of the unsupported edge or corner. When fastening other material, such as 2 × 4 inch lumber to a concrete surface, fasteners of greater than $7/32$ inch shank diameter shall not be used and fasteners shall not be driven within 2 inches of the unsupported edge or corner of the work surface.
 - (7) Fasteners shall not be driven through existing holes unless a positive guide is used to secure accurate alignment.
 - (8) No attempt shall be made to drive a fastener into a spalled area caused by an unsatisfactory fastening.
 - (9) Employees using powder actuated fastening tools shall be protected by personal protective equipment in accordance with the requirements of subpart I of this part.
- (c) **Instruction of operators.** Before employees are permitted to use powder actuated tools, they shall have been thoroughly instructed by a competent person with respect to the requirements of paragraph (b) of this section and the safe use of such tools as follows:
 - (1) Before using a tool, the operator shall inspect it to determine that it is clean, that all moving parts operate freely and that the barrel is free from obstructions.
 - (2) When a tool develops a defect during use, the operator shall immediately cease to use it and shall notify his supervisor.
 - (3) Tools shall not be loaded until just prior to the intended firing time and the tool shall not be left unattended while loaded.
 - (4) The tool, whether loaded or empty, shall not be pointed at any person, and hands shall be kept clear of the open barrel end.
 - (5) In case of a misfire, the operator shall hold the tool in the operating position for at least 15 seconds and shall continue to hold the muzzle against the work surface during disassembly or opening of the tool and removal of the powder load.

- (6) Neither tools nor powder charges shall be left unattended in places where they would be available to unauthorized persons.

[47 FR 16986, Apr. 20, 1982, as amended at 61 FR 26351, May 24, 1996]

§ 1915.136 Internal combustion engines, other than ship's equipment.

The provisions of this section shall apply to ship repairing, shipbuilding and shipbreaking.

- (a) When internal combustion engines furnished by the employer are used in a fixed position below decks, for such purposes as driving pumps, generators, and blowers, the exhaust shall be led to the open air, clear of any ventilation intakes and openings through which it might enter the vessel.
- (b) All exhaust line joints and connections shall be checked for tightness immediately upon starting the engine, and any leaks shall be corrected at once.
- (c) When internal combustion engines on vehicles, such as forklifts and mobile cranes, or on portable equipment such as fans, generators, and pumps exhaust into the atmosphere below decks, the competent person shall make tests of the carbon monoxide content of the atmosphere as frequently as conditions require to ensure that dangerous concentrations do not develop. Employees shall be removed from the compartment involved when the carbon monoxide concentration exceeds 50 parts per million (0.005%). The employer shall use blowers sufficient in size and number and so arranged as to maintain the concentration below this allowable limit before work is resumed.