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Title 46 Shipping

PART 160—LIFE SAVING EQUIPMENT (INCLUDING PYROTECHNICS)

Subpart 160.073—Lifeline and Accessories

**Subpart 160.073—Lifeline and Accessories**

Contents

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§ 160.073-2 Lifeline.
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§ 160.073-5 Production inspection and tests.
§ 160.073-6 Marking.
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§ 160.073-8 Mechanical and electrical equipment.

**§ 160.073-1 General requirements.**

(a) Lifelines of rope, fiber and power tools and similar equipment, whether furnished by the manufacturer or by the purchaser, shall be designed and assembled to accommodate guards, they shall be provided with guards.

(b) Lifelines, guards, stanchions, pelorus, gyroscopic, gyro, fly wheels, chronometers, other instruments, and other equipment shall be so located and installed as to be free from interference with other equipment unless it is stated. Guarding shall meet the requirements as set forth in American Bureau of Shipping Rules for Building and Classing Steel Vessels, Section 4-3-2 Machinery Guards.

(c) Lifelines shall be so fitted or installed as to prevent fouling and the possibility of accidents to operators and other employees in the normal performance of duties. Such lifelines shall be so fitted or installed as to prevent the operation of any equipment or machinery from being hindered or rendered dangerous by the lifelines. Safety devices.

(d) Rope and equipment guarding of fixed or operated in the area or machine where work is actually performed, shall be of sufficient strength.

(e) Lifelines shall be so fitted or installed as to prevent operation of emergency or safety devices, such as fire extinguisher, fire alarm, or other equipment, from being hindered or rendered dangerous by the lifelines. Adjustable operation, standard, and, the designed and constructed so as to prevent the operators from having to reach or stand in dangerous positions or to use unsafe practices.

(f) Lifelines shall be so fitted or installed as to prevent the operator or a person in the immediate vicinity of the operation from being injured by the lifelines. Such lifelines shall not be so fitted or installed as to prevent the operator from having to reach or stand in dangerous positions or to use unsafe practices.

(g) The following are some of the machines which usually require point of operation guarding:

(1) Guillotine cutters.

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(3) Hydraulic shears.

(4) Power brakes.

(5) Punching machines.

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(7) Lathes.

(8) Portable power tools.

(9) Power saws and shapers.

Power equipment guarding shall meet the requirements of the rules of the U.S. Navy. Title 2 CFR 200 where the Navy is working from the lifelines and the guarding. The guard shall have openings no larger than 1/2 inch (1.27 cm).

(h) Anchoring Power Equipment. Equipment designed for a fixed location shall be securely anchored to prevent walking or creeping.

(i) Lifelines shall be provided with lockout/tagout—equipment adjustment. Safety guards of the type described in paragraph (h) of this section shall be provided with means for locking out the power source. Lifelines shall be constructed so that the prefabricated protecting mechanism can be adjusted to the constantly decreasing diameter of the stock being processed. Lifelines shall be so constructed that the operator can easily and safely adjust the protecting mechanism to the diameter of the stock being processed. Lifelines shall be so constructed that the operator can easily and safely adjust the protecting mechanism to the diameter of the stock being processed. [Figure 1—Figure 1-1 through Figure 1-4.]

Figure 1-1

Figure 1-2

Figure 1-3

Figure 1-4

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where the presence of fumes or where manufacturing conditions would cause the rapid deterioration of metal guards; also in construction work and in locations outdoors where extreme cold or extreme heat make metal guards and railings undesirable. In all other industries, wood guards shall not be used.

(3) *Guards for horizontal overhead belts.* (i) Guards for horizontal overhead belts shall run the entire length of the belt and follow the line of the pulley to the ceiling or be carried to the nearest wall, thus enclosing the belt effectively. Where belts are so located as to make it impracticable to carry the guard to wall or ceiling, construction of guard shall be such as to enclose completely the top and bottom runs of belt and the face of pulleys.

(ii) [Reserved]

(iii) Suitable reinforcement shall be provided for the ceiling rafters or overhead floor beams, where such is necessary, to sustain safely the weight and stress likely to be imposed by the guard. The interior surface of all guards, by which is meant the surface of the guard with which a belt will come in contact, shall be smooth and free from all projections of any character, except where construction demands it; protruding shallow roundhead rivets may be used. Overhead belt guards shall be at least one-quarter wider than belt which they protect, except that this clearance need not in any case exceed 6 inches (15.24 cm) on each side. Overhead rope drive and block and roller-chain-drive guards shall be not less than 6 inches (15.24 cm) wider than the drive on each side. In overhead silent chain-drive guards where the chain is held from lateral displacement on the sprockets, the side clearances required on drives of 20 inch (50.8 cm) centers or under shall be not less than $\frac{1}{4}$ inch (0.635 cm) from the nearest moving chain part, and on drives of over 20 inch (50.8 cm) centers a minimum of $\frac{1}{2}$ inch (1.27 cm) from the nearest moving chain part.

(4) *Guards for horizontal overhead rope and chain drives.* Overhead-rope and chain-drive guard construction shall conform to the rules for overhead-belt guard.

(5) *Guardrails and toeboards.* (i) Guardrail shall be 42 inches (106.68 cm) in height, with midrail between top rail and floor.

(ii) Posts shall be not more than 8 feet (2.432 m) apart; they are to be permanent and substantial, smooth, and free from protruding nails, bolts, and splinters. If made of pipe, the post shall be $1\frac{1}{4}$ inches (3.175 cm) inside diameter, or larger. If made of metal shapes or bars, their section shall be equal in strength to that of $1\frac{1}{2}$ (3.81 cm) by $1\frac{1}{2}$ (3.81 cm) by $\frac{3}{16}$ inch angle iron. If made of wood, the posts shall be two by four (2 × 4) inches or larger. The upper rail shall be two by four (2 × 4) inches, or two one by four (1 × 4) strips, one at the top and one at the side of posts. The midrail may be one by four (1 × 4) inches or more. Where panels are fitted with expanded metal or wire mesh the middle rails may be omitted. Where guard is exposed to contact with moving equipment, additional strength may be necessary.

(iii) Toeboards shall be 4 inches (10.16 cm) or more in height, of wood, metal, or of metal grill not exceeding 1 inch (2.54 cm) mesh.

(p) *Care of equipment*—(1) *General.* All power-transmission equipment shall be inspected at intervals not exceeding 60 days and be kept in good working condition at all times.

(2) *Shafting.* (i) Shafting shall be kept in alignment, free from rust and excess oil or grease.

(ii) Where explosives, explosive dusts, flammable vapors or flammable liquids exist, the hazard of static sparks from shafting shall be carefully considered.

(3) *Bearings.* Bearings shall be kept in alignment and properly adjusted.

(4) *Hangers.* Hangers shall be inspected to make certain that all supporting bolts and screws are tight and that supports of hanger boxes are adjusted properly.

(5) *Pulleys.* (i) Pulleys shall be kept in proper alignment to prevent belts from running off.

(6) *Care of belts.*

(i) [Reserved]

(ii) Inspection shall be made of belts, lacings, and fasteners and such equipment kept in good repair.

(7) *Lubrication.* The regular oilers shall wear tight-fitting clothing. Machinery shall be oiled when not in motion, wherever possible.

[58 FR 35176, June 30, 1993, as amended at 69 FR 31882, June 8, 2004]

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