

## VOSHA Subpart S: 29 CFR 1926.800(t) Clean Text

### **1926.800(t)**

*Hoisting unique to underground construction.* Except as modified by this paragraph (t), employers must: Comply with the requirements of subpart CC of this part, except that the limitation in Sec. 1926.1431(a) does not apply to the routine access of employees to an underground worksite via a shaft; ensure that material hoists comply with Sec. 1926.552(a) and (b) of this part; and ensure that personnel hoists comply with the personnel-hoists requirements of Sec. 1926.552(a) and (c) of this part and the elevator requirements of Sec. 1926.552(a) and (d) of this part.

### **1926.800(t)(1)**

*General requirements for cranes and hoists*

#### **1926.800(t)(1)(i)**

Materials, tools, and supplies being raised or lowered, whether within a cage or otherwise, shall be secured or stacked in a manner to prevent the load from shifting, snagging or falling into the shaft.

#### **1926.800(t)(1)(ii)**

A warning light suitably located to warn employees at the shaft bottom and subsurface shaft entrances shall flash whenever a load is above the shaft bottom or subsurface entrances, or the load is being moved in the shaft. This paragraph does not apply to fully enclosed hoistways.

#### **1926.800(t)(1)(iii)**

Whenever a hoistway is not fully enclosed and employees are at the shaft bottom, conveyances or equipment shall be stopped at least 15 feet (4.57 m) above the bottom of the shaft and held there until the signalman at the bottom of the shaft directs the operator to continue lowering the load, except that the load may be lowered without stopping if the load or conveyance is within full view of a bottom signalman who is in constant voice communication with the operator.

#### **1926.800(t)(1)(iv)**

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#### **1926.800(t)(1)(iv)(A)**

Before maintenance, repairs, or other work is commenced in the shaft served by a cage, skip, or bucket, the operator and other employees in the area shall be informed and given suitable instructions.

#### **1926.800(t)(1)(iv)(B)**

A sign warning that work is being done in the shaft shall be installed at the shaft collar, at the operator's station, and at each underground landing.

#### **1926.800(t)(1)(v)**

Any connection between the hoisting rope and the cage or skip shall be compatible with the type of wire rope used for hoisting.

#### **1926.800(t)(1)(vi)**

Spin-type connections, where used, shall be maintained in a clean condition and protected from foreign matter that could affect their operation.

#### **1926.800(t)(1)(vii)**

Cage, skip, and load connections to the hoist rope shall be made so that the force of the hoist pull, vibration, misalignment, release of lift force, or impact will not disengage the connection. Moused or latched openthroat hooks do not meet this requirement.

**1926.800(t)(1)(viii)**

When using wire rope wedge sockets, means shall be provided to prevent wedge escapement and to ensure that the wedge is properly seated.

**1926.800(t)(2)**

*Additional requirements for cranes.* Cranes shall be equipped with a limit switch to prevent overtravel at the boom tip. Limit switches are to be used only to limit travel of loads when operational controls malfunction and shall not be used as a substitute for other operational controls.

**1926.800(t)(3)**

*Additional requirements for hoists.*

**1926.800(t)(3)(i)**

Hoists shall be designed so that the load hoist drum is powered in both directions of rotation, and so that brakes are automatically applied upon power release or failure.

**1926.800(t)(3)(ii)**

Control levers shall be of the "deadman type" which return automatically to their center (neutral) position upon release.

**1926.800(t)(3)(iii)**

When a hoist is used for both personnel hoisting and material hoisting, load and speed ratings for personnel and for materials shall be assigned to the equipment.

**1926.800(t)(3)(iv)**

Material hoisting may be performed at speeds higher than the rated speed for personnel hoisting if the hoist and components have been designed for such higher speeds and if shaft conditions permit.

**1926.800(t)(3)(v)**

Employees shall not ride on top of any cage, skip or bucket except when necessary to perform inspection or maintenance of the hoisting system, in which case they shall be protected by a body belt/harness system to prevent falling.

**1926.800(t)(3)(vi)**

Personnel and materials (other than small tools and supplies secured in a manner that will not create a hazard to employees) shall not be hoisted together in the same conveyance. However, if the operator is protected from the shifting of materials, then the operator may ride with materials in cages or skips which are designed to be controlled by an operator within the cage or skip.

**1926.800(t)(3)(vii)**

Line speed shall not exceed the design limitations of the systems.

**1926.800(t)(3)(viii)**

Hoists shall be equipped with landing level indicators at the operator's station. Marking the hoist rope does not satisfy this requirement.

**1926.800(t)(3)(ix)**

Whenever glazing is used in the hoist house, it shall be safety glass, or its equivalent, and be free of distortions and obstructions.

**1926.800(t)(3)(x)**

A fire extinguisher that is rated at least 2A:10B:C (multi-purpose, dry chemical) shall be mounted in each hoist house.

**1926.800(t)(3)(xi)**

Hoist controls shall be arranged so that the operator can perform all operating cycle functions and reach the emergency power cutoff without having to reach beyond the operator's normal operating position.

**1926.800(t)(3)(xii)**

Hoists shall be equipped with limit switches to prevent overtravel at the top and bottom of the hoistway.

**1926.800(t)(3)(xiii)**

Limit switches are to be used only to limit travel of loads when operational controls malfunction and shall not be used as a substitute for other operational controls.

**1926.800(t)(3)(xiv)**

Hoist operators shall be provided with a closed-circuit voice communication system to each landing station, with speaker microphones so located that the operator can communicate with individual landing stations during hoist use.

**1926.800(t)(3)(xv)**

When sinking shafts 75 feet (22.86 m) or less in depth, cages, skips, and buckets that may swing, bump, or snag against shaft sides or other structural protrusions shall be guided by fenders, rails, ropes, or a combination of those means.

**1926.800(t)(3)(xvi)**

When sinking shafts more than 75 feet (22.86 m) in depth, all cages, skips, and buckets shall be rope or rail guided to within a rail length from the sinking operation.

**1926.800(t)(3)(xvii)**

Cages, skips, and buckets in all completed shafts, or in all shafts being used as completed shafts, shall be rope or rail-guided for the full length of their travel.

**1926.800(t)(3)(xviii)**

Wire rope used in load lines of material hoists shall be capable of supporting, without failure, at least five times the maximum intended load or the factor recommended by the rope manufacturer, whichever is greater. Refer to Sec. § 1926.552(c)(14)(iii) of this part for design factors for wire rope used in personnel hoists. The design factor shall be calculated by dividing the breaking strength of wire rope, as reported in the manufacturer's rating tables, by the total static load, including the weight of the wire rope in the shaft when fully extended.

**1926.800(t)(3)(xix)**

A competent person shall visually check all hoisting machinery, equipment, anchorages, and hoisting rope at the beginning of each shift and during hoist use, as necessary.

**1926.800(t)(3)(xx)**

Each safety device shall be checked by a competent person at least weekly during hoist use to ensure suitable operation and safe condition.

**1926.800(t)(3)(xxi)**

In order to ensure suitable operation and safe condition of all functions and safety devices, each hoist assembly shall be inspected and load-tested to 100 percent of its rated capacity: at the time of installation; after any repairs or alterations affecting its structural integrity; after the operation of any safety device; and annually when in use. The employer shall prepare a certification record which includes the date each inspection and

load-test was performed; the signature of the person who performed the inspection and test; and a serial number or other identifier for the hoist that was inspected and tested. The most recent certification record shall be maintained on file until completion of the project.

**1926.800(t)(3)(xxii)**

Before hoisting personnel or material, the operator shall perform a test run of any cage or skip whenever it has been out of service for one complete shift, and whenever the assembly or components have been repaired or adjusted.

**1926.800(t)(3)(xxiii)**

Unsafe conditions shall be corrected before using the equipment.

**1926.800(t)(4)**

*Additional requirements for personnel hoists.*

**1926.800(t)(4)(i)**

Hoist drum systems shall be equipped with at least two means of stopping the load, each of which shall be capable of stopping and holding 150 percent of the hoist's rated line pull. A broken-rope safety, safety catch, or arrestment device is not a permissible means of stopping under this paragraph (t).

**1926.800(t)(4)(ii)**

The operator shall remain within sight and sound of the signals at the operator's station.

**1926.800(t)(4)(iii)**

All sides of personnel cages shall be enclosed by one-half inch (12.70 mm) wire mesh (not less than No. 14 gauge or equivalent) to a height of not less than 6 feet (1.83 m). However, when the cage or skip is being used as a work platform, its sides may be reduced in height to 42 inches (1.07 m) when the conveyance is not in motion.

**1926.800(t)(4)(iv)**

All personnel cages shall be provided with a positive locking door that does not open outward.

**1926.800(t)(4)(v)**

All personnel cages shall be provided with a protective canopy. The canopy shall be made of steel plate, at least 3/16-inch (4.763 mm) in thickness, or material of equivalent strength and impact resistance. The canopy shall be sloped to the outside, and so designed that a section may be readily pushed upward to afford emergency egress. The canopy shall cover the top in such a manner as to protect those inside from objects falling in the shaft.

**1926.800(t)(4)(vi)**

Personnel platforms operating on guide rails or guide ropes shall be equipped with broken-rope safety devices, safety catches or arrestment devices that will stop and hold 150 percent of the weight of the personnel platform and its maximum rated load.

**1926.800(t)(4)(vii)**

During sinking operations in shafts where guides and safeties are not yet used, the travel speed of the personnel platform shall not exceed 200 feet (60.96 m) per minute. Governor controls set for 200 feet (60.96 m) per minute shall be installed in the control system and shall be used during personnel hoisting.

**1926.800(t)(4)(viii)**

The personnel platform may travel over the controlled length of the hoistway at rated speeds up to 600 feet (182.88 m) per minute during sinking operations in shafts where guides and safeties are used.

**1926.800(t)(4)(ix)**

The personnel platform may travel at rated speeds greater than 600 feet (182.88 m) per minute in completed shafts.

**VOSHA Subpart T: 29 CFR 1926.856 Clean Text**

**1926.856(a)**

Mechanical equipment shall not be used on floors or working surfaces unless such floors or surfaces are of sufficient strength to support the imposed load.

**1926.856(b)**

Floor openings shall have curbs or stop-logs to prevent equipment from running over the edge.

**1926.856(c)**

Cranes, derricks, and other mechanical equipment. Employers must meet the requirements specified in subparts N, O and CC of this part.

**VOSHA Subpart T: 29 CFR 1926.858 Clean Text**

**1926.858(a)**

When floor arches have been removed, planking in accordance with 1926.855(b) shall be provided for the workers engaged in razing the steel framing.

**1926.858(b)**

*Cranes, derricks, and other hoisting equipment.* Employers must meet the requirements specified in subparts N and CC of this part.

**1926.858(c)**

Steel construction shall be dismantled column length by column length, and tier by tier (columns may be in two-story lengths).

**1926.858(d)**

Any structural member being dismembered shall not be overstressed.

**VOSHA Subpart CC: 29 CFR 1926.1400 – 1926.6 – incorporated by reference  
Annotated**

**§ 1926.800 Underground construction.**

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(t) *Hoisting unique to underground construction.* Except as modified by this paragraph (t), employers must: Comply with the requirements of subpart CC of this part, except that the limitation in Sec. 1926.1431(a) does not apply to the routine access of employees to an underground worksite via a shaft; ensure that material hoists comply with Sec. 1926.552(a) and (b) of this part; and ensure that personnel hoists comply with the personnel-hoists requirements of Sec. 1926.552(a) and (c) of this part and the elevator requirements of Sec. 1926.552(a) and (d) of this part.

**§ 1926.856 Removal of walls, floors, and material with equipment.**

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(c) Cranes, derricks, and other mechanical equipment. Employers must meet the requirements specified in subparts N, O and CC of this part.

**§ 1926.858 Removal of walls, floors, and material with equipment.**

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(b) *Cranes, derricks, and other hoisting equipment.* Employers must meet the requirements specified in subparts N and CC of this part.

**§ 1926.1427 Operator qualification and certification.**

(k) *Phase-in.*

(1) The provisions of this section became applicable on November 8, 2010, except for paragraphs (a)(2) and (f), which are applicable November 10, 2017.

(2) When § 1926.1427(a)(1) is not applicable, all of the requirements in paragraphs (k)(2)(i) and (ii) of this section apply until November 10, 2017.

(i) The employer must ensure that operators of equipment covered by this standard are competent to operate the equipment safely.

(ii) When an employee assigned to operate machinery does not have the required knowledge or ability to operate the equipment safely, the employer must train that employee prior to operating the equipment. The employer must ensure that each operator is evaluated to confirm that he/she understands the information provided in the training.

