



**TEAMSTERS**

# **Safety & Health FACTS**

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## **Fall Protection in General Industry**

### **Introduction**

Each year hundreds of workers die from falls, a leading cause of on-the-job deaths and injuries in American workplaces. Between 1992-2003, falls (along with highway incidents and homicides) were among the three most frequent work-related fatal events. In 2003, falls to lower level and on same level, combined, were the second highest event leading to injury or illness in private industry, following overexertion. After 'repetitive motion,' falls to lower level resulted in the longest absences from work with a median of 14 days.

Falls and falling objects can result from unstable working surfaces, ladders that are not safely positioned, and misuse of fall protection. Workers are also subject to falls or to the dangers of falling objects if sides and edges, floor holes, and wall openings are not protected.

### **Occupational Safety and Health Administration (OSHA)**

OSHA has a number of standards that cover fall protection in general industry. These standards apply where employees are exposed to falling hazards while performing various tasks, including maintenance, on walking and working surfaces and from elevated surfaces such as, but not limited to, conveyers, tops of machinery and other structures not normally considered "walking and working" surfaces. In addition, OSHA requires employers to provide personal fall protection systems for specific types of general industry workplaces and equipment.

This fact sheet will address the following standards:

#### **Subpart D - Walking-Working Surfaces:**

- ♦ Walking-Working Surfaces, 29 CFR 1910.22

- ◆ Guarding Floor and Wall Openings and Holes, 29 CFR 1910.23
- ◆ Portable Wood Ladders, 29 CFR 1910.25
- ◆ Portable Metal Ladders, 29 CFR 1910.25
- ◆ Fixed Ladders, 29 CFR 1910.27

### **1910 Subpart F - Powered Platforms, Manlifts, and Vehicle-Mounted Work Platforms**

- ◆ Powered platforms for building maintenance, 29 CFR 1910.66
- ◆ Vehicle-mounted elevating and rotating work platforms, 29 CFR 1910.67

### **1910 Subpart I - Personal Protective Equipment**

#### **Walking-Working Surfaces**

Subpart D of 29 CFR part 1910, Walking and Working Surfaces, sets forth general industry requirements for employers to protect employees from slips, trips and falls that may cause serious or fatal injuries. In its general requirements for *Walking-Working Surfaces*, 29 CFR 1910.22, OSHA states: “Covers and/or guardrails shall be provided to protect personnel from the hazards of open pits, tanks, vats, ditches, etc.”

#### **Guarding Floor and Wall Openings and Holes**

In 29 CFR 1910.23, OSHA requires the following:

- ◆ Every stairway, ladderway, hatchway and chute floor opening, and other types of floor openings, should be protected by standard railings on exposed sides;
- ◆ Every manhole floor opening should be guarded by a cover, attendant, or by removable standard railings;
- ◆ Open-sided floors, runways, platforms, wall openings and holes with greater than a 4 foot drop should be guarded. A toe board should also be used if beneath the open sides there is moving machinery; if persons can pass; or if there is a risk of falling materials;
- ◆ All open-sided floors, walkways, platforms, or runways above or adjacent to dangerous equipment, pickling or galvanizing tanks, degreasing units, and similar hazards should be guarded with a standard railing and toe board.

#### **Elevated Surfaces**

OSHA’s requirements for guarding floor and wall openings and holes, as described above, also apply to elevated surfaces not normally considered ‘walking and working’ surfaces, such as conveyers, tops of machinery and other structures, where workers are exposed to falling hazards while performing various tasks including inspections, service, repair or maintenance. OSHA’s directive on *Fall Protection in General Industry* (STD 01-01-013) defines a platform as any elevated surface designed or used primarily as a

walking or working surface upon which employees are required or allowed to walk or work while performing assigned tasks on a *predictable and regular basis* (work performed once every two weeks or for a minimum of 4 man-hours during any 4 week period).

In situations where workers are exposed to falls from an elevated surface other than a 'predictable and regular basis,' OSHA requires that personal protective equipment required by OSHA's *Personal Protective Equipment* standard (§1910.132) or other effective fall protection be provided.

## **Portable and Fixed Ladders**

OSHA has established minimum requirements for the construction of wood ladders, as well as the care, and use of the common types of portable and fixed wood and metal ladders in order to ensure safety under normal conditions of use.

OSHA requires that all ladders:

- ◆ Be maintained in a usable and safe condition at all times; and
- ◆ Be inspected regularly, depending on use and exposure frequency.

OSHA requires that all damaged portable ladders:

- ◆ Be taken out of service and marked as defective until repaired.

The OSHA standard for *Fixed Ladders*, 29 CFR 1910.27, requires that:

- ◆ Fixed ladders more than 20 feet high be equipped with fall protection devices (i.e., cages, wells or ladder safety devices);
- ◆ When ladders are used to climb to heights exceeding 20 feet, landing platforms should also be provided for each 30 feet of height or fraction thereof, except that when no other fall protection devices are provided, platforms shall be provided for each 20 feet of height or fraction thereof.
- ◆ To provide safe access to the ladder, all landing platforms should be equipped with standard railings and toeboards and should not be less than 24 inches in width and 30 inches in length.

## **Powered Platforms for Building Maintenance**

This section covers permanent powered platform installations for interior or exterior building maintenance of a specific structure or group of structures. Building maintenance includes, but is not limited to, such tasks as window cleaning, caulking, metal polishing and reglazing.

Workers on powered platforms should be protected by a personal fall arrest system meeting the requirements of mandatory portions of Appendix C of 29 CFR 1910.66 concerning its design, training, inspection, and conditions of use.

Appendix C also includes non-mandatory guidelines for personal fall arrest systems, such as matching work conditions and environment with appropriate personal fall protection system; cleaning and maintenance of the system; and means of rescue.

## **Aerial Devices/Lifts**

This standard applies to aerial devices or lifts which elevate workers to jobsites above ground using a platform. It does not, however, apply to firefighting equipment or to the vehicles on which aerial devices are mounted. It requires that:

- ◆ Only trained persons shall operate an aerial lift;
- ◆ Employees shall always stand firmly on the floor of the basket, and shall not sit or climb on the edge of the basket or use planks, ladders, or other devices for a work position; and
- ◆ A body belt shall be worn and a lanyard attached to the boom or basket when working from an aerial lift.

## **Fall Protection Equipment**

Subpart I of 29 CFR Part 1910, Personal Protective Equipment, contains general requirements to provide personal protective equipment (PPE) as well as use, design and performance requirements for various types of PPE. §1910.132 requires that the employer evaluate the workplace (documented in writing) to determine the hazards that may require the use of PPE. If needed, the employer must provide workers with PPE that properly fits each affected worker. When other means of fall protection cannot be used, OSHA requires that personal protective equipment required by OSHA's *Personal Protective Equipment* standard (§1910.132) or other effective fall protection be provided.

Please note: OSHA strongly encourages employers to use body harnesses in place of body belts. In general, body belts are considered to be less protective to workers than full body harnesses when arresting a fall and during post-fall suspension. Consequently, although OSHA does not specifically prohibit the use of a body belt as part of a personal fall arrest system in general industry, it may still cite its use as a violation under the *General Duty Clause* (Section 5(a) (1) of the OSHAct) if such use is deemed as a recognized serious hazard which the employer has not taken reasonable steps to prevent or abate. The *General Duty Clause* states that "Each employer shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees."

## **American National Standards Institute (ANSI)**

The American National Standards Institute (ANSI) has established a national voluntary standard for personal fall arrest systems, the ANSI Z359.1-1992 (R1999)--*Safety Requirements for Personal Fall Arrest Systems, Subsystems and Components*. This standard establishes requirements for the performance, design, marking, qualifications,

instruction, training, inspection, use, maintenance, and removal from service of connectors, full body harnesses, lanyards, energy absorbers, anchorage connectors, fall arresters, vertical lifelines, etc., comprising personal fall arrest systems within the capacity range of 130 to 310 pounds (59-140 Kg). This voluntary consensus standard states that a full-body harness or personal fall systems should be used at working heights above six (6) feet. Body belts, window cleaner belts, and chest waist harnesses are not addressed by the provisions of this standard. The standard also includes, following its 1999 revision, new sections on fall protection training and competency.

The IBT Safety and Health Department would recommend that employers go beyond OSHA's minimum requirements and adopt the most protective provisions of the most recent ANSI and OSHA standards. When working on equipment, such as a particular model of a powered industrial truck, the manufacturer's instruction and the operator's manual should also be consulted to determine appropriate fall protection equipment. Some fall protection equipment may be standard equipment on the truck and others may be ordered from the manufacturer as optional equipment. The manufacturer's equipment should meet all applicable OSHA and ANSI regulations.

## **References**

ANSI Z359.1-1992 (R1999)--*Safety Requirements for Personal Fall Arrest Systems, Subsystems and Components*

Fall Protection in General Industry 29 CFR 1910.23(c)(1) (c)(3), and 29 CFR 1910.132(a), OSHA Instruction STD 01-01-013, 4/16/1984.

Walking and Working Surfaces; Personal Protective Equipment (Fall Protection Systems), Proposed Rule (FR 68:23527-23568).