Construction PPE Standards – Quick Tips

Employers must protect their employees from workplace hazards. If the work environment can be physically changed to help prevent exposure to the potential hazard, then the hazard has been eliminated with an engineering control. If the potential hazard exposure is removed by changing the way employees do their jobs, then the hazard has been eliminated with a work practice control. All feasible engineering and work practice controls must be implemented to help eliminate and reduce hazards before personal protective equipment (PPE) is used.

In accordance with the safety and health regulations for construction and the general safety and health provisions, employers must ensure that appropriate PPE is used in all operations where there is an exposure to hazardous conditions (29 Code of Federal Regulations (CFR) 1926.28). The Occupational Safety and Health Administration (OSHA) regulations governing the use, selection and maintenance of personal protective and lifesaving equipment are described in Subpart E of Part 1926.

1926.95 – General Construction PPE Standards

Protective equipment including PPE for the eyes, face, head, extremities, protective clothing, respiratory devices and protective shields and barriers must be provided, used and maintained in a sanitary and reliable condition.

Although not specifically addressed by the construction standards, hazard assessments should be conducted for all work areas so the proper protective equipment can be selected if needed. When choosing PPE, you should consider such hazards as heat, impact, penetration, compression, chemical, electrical, light radiation, harmful dust and falls.

1926.96 – Foot Protection

According to 29 CFR 1926.96, footwear must comply with the American National Standard Institute's (ANSI's) Z41-1967 standard. This standard was withdrawn and replaced by ASTM F2412-05 and F2413-05 standards on March 1, 2005. ASTM F2412-11 Standard Test Methods for Foot Protection and ASTM F2413-11 Standard Specification for Performance Requirements for Protective (Safety) Toe Cap Footwear are the current footwear consensus standards. For an overview of ASTM F2413-11, please see Quick Tips #252 Protective Footwear Requirements.

1926.97 – Electrical Protective Equipment

Design requirements for rubber insulating blankets, rubber insulating matting, rubber insulating covers, rubber insulating line hose, rubber insulating gloves and rubber

insulating sleeves are provided in 1926.97. Manufacturing, testing, workmanship, finish, in-service care, use and marking of the specific types of electrical protective equipment are outlined. For more information on rubber insulating gloves, see Quick Tips #262 Electrical Safety Gloves: Inspection and Classification. Check out Grainger's selection of electrical gloves.

1926.100 – Head Protection

Head protection must be provided whenever there is a possible danger of head injury due to falling or flying objects, impact, electrical shock or burns. This standard incorporates by reference the performance specifications contained in American National Standards Institute (ANSI) Z89.1-2009, Z89.1-2003 or Z89.1-1997. ANSI Z89.1 was updated in 2014. Quick Tips #241 Hard Hat Requirements provides a review of all incorporated references. Check out our full selection of hard hats.

1926.101 – Hearing Protection

In determining noise exposure, you must first refer to Table D-2, "Permissible Noise Exposures", in 1926.52. If you are exceeding the noise exposures indicated in that section, hearing protection is required.

When an employee is exposed to a 90 decibels (dB) time-weighted average (TWA) and engineering and administrative controls are not sufficient, hearing protection must be provided. Plain cotton ear plugs are not allowed, and any ear protective device inserted in the ear must be fitted by a competent person.

When selecting hearing protection, look at the noise reduction rating (NRR) assigned to the protective device and monitor the actual noise level at the job site. The NRR is defined as the maximum number of dB that the hearing protector will reduce the sound level by when worn. When using the NRR to assess the adequacy of the hearing protector, OSHA suggests:

1. If using a C-weighted TWA, subtract the NRR from the TWA to determine the attenuated noise level.
2. If using an A-weighted TWA, first subtract 7dB from the NRR, then subtract the remainder from the TWA to determine the attenuated noise level.

OSHA also suggests reducing the NRR by an additional safety factor of 50%; however, this is only a suggestion, and citations cannot be issued for not using the 50% reduction factor. Check out Grainger's full selection of hearing protection products.

1926.102 – Eye and Face Protection

Employees must be provided with eye and face protection when machines or operation present potential eye or face injury from physical, chemical or radiation agents.

The original OSHA standards addressing eye and face protection were adopted in 1971 from established Federal standards and national consensus standards. Since then, OSHA has amended its eye and face protection standards on numerous occasions. On March 2, 2015, OSHA began the direct final rule process to incorporate by reference the three most recent American National Standards for Occupational and Education Personal Eye and Face Protection Devices, ANSI/ISEA Z87.1-2010, Z87.1-2003 and Z87.1-1989 (R-1998), into the general industry, shipyard employment, longshoring, marine terminals and construction industry standards.

ANSI Z87.1 was first published in 1968 and revised in 1979, 1989, 2003 and 2010. The 1989 version emphasized performance requirements to encourage and accommodate advancements in design, materials, technologies and product performance. The 2003

version added an enhanced user selection chart with a system for selecting equipment, such as spectacles, goggles and face shields, that adequately helps protect from a particular hazard. The 2010 version focuses on a hazard, such as droplet and splash, impact, optical radiation, dust, fine dust and mist, and specifies the type of equipment needed to help protect from that hazard.

For more information on protective eyewear, see Quick Tips #125 Personal Protective Equipment (PPE) Requirements – Eye and Face Protection. Check out our full selection of eyewear products.

1926.103 – Respiratory Protection

The respiratory protection requirements that are applicable to construction work under this section are identical to those set for General Industry in 29 CFR 1910.134. Visit Grainger's Info Library where you will find 14 different Quick Tips discussing various aspects of respiratory protection, from starting a respiratory protection program to supplied air respirators. Check out Grainger's full selection of respirator products.

1926.104 – Lifelines, Safety Belts and Lanyards

Lanyards, lifelines and safety belts must only be used for employee safeguarding. Their definitions are found in 29 CFR 1926.107. Lanyard means a rope, suitable for supporting one person. One end is fastened to a safety belt or harness and the other end is secured to a substantial object or a safety line. Lifeline means a rope, suitable for supporting one person, to which a lanyard or safety belt (or harness) is attached. It must be secured above the point of operation to an anchorage or structural member capable of supporting a minimum dead weight of 5400 pounds. A safety belt is a device, usually worn around the waist which, by reason of its attachment to a lanyard and lifeline or a structure, will help prevent a person from falling.

1926 Subpart M covers fall protection in its entirety and explains when and where fall protection systems are required and for what construction work activities. It also identifies system component requirements. For more information on fall protection devices. Check out Grainger's full selection of fall protection products.

1926.105 – Safety Nets

When working more than 25 feet above the ground, water surface or other surfaces, and when using ladders, safety lines, scaffolds, catch platforms or temporary floors is impractical, safety nets must be provided. These nets must extend eight feet beyond the edge of the work surface and be installed as close under the work surface as practical, but cannot exceed 25 feet. The nets must also be hung with sufficient clearance to help prevent user's contact with the surfaces or structures below. American National Standard ANSI/ASSE A10.11-2010 Safety Requirements for Personnel and Debris Nets establishes safety requirements for the selection, installation and use of personnel and debris nets during construction, repair and demolition operations.

1926.106 – Working Over or Near Water

Employees working over or near water, where the danger of drowning exists, must be provided with U.S. Coast Guard-approved life jackets or buoyant work vests. Ring buoys with at least 90 feet must also be provided and readily available for emergency rescue operations.

Frequently Asked Questions

Q: How much extra buoyancy do most adults need to keep their head above water?

A: Most adults need an extra seven to 12 pounds of buoyancy to keep their head above water. Below is a list of minimum buoyancy for each type of life jacket:

- Type I – 22 pounds
- Type II – 15.5 pounds
- Type III – 15.5 pounds
- Ring Buoy – 16.5 pounds
- Boat Cushion – 18 pounds
- Hybrid inflatable – 7.5/22 pounds (contains some internal buoyancy and are inflatable to provide additional flotation)
- Special use device – 15.5 to 22 pounds

Q: Do particulate respirators (N, P, R categories and 95%, 99% and 99.97% efficiencies) have a specific service life?

A: Per the National Institute for Occupational Safety and Health (NIOSH), unless the respirator manufacturer identifies a specified duration of use, for example “single use only,” the service life of all filters is limited by considerations of hygiene, damage and breathing resistance. All filters should be replaced whenever they are damaged, soiled or causing noticeably increased breathing resistance. Always follow manufacturer’s instructions for specific information on the model being used.

Sources

1926.28 – Personal Protective Equipment

1926 Subpart E – Personal Protective and Life Saving Equipment

1926 Subpart M – Fall Protection

American National Standard

ANSI/ASSE A10.11-2010 Safety Requirements for Personnel and Debris Nets

Source: Grainger Know How – https://www.grainger.com/know-how