



Personal Protective Equipment in the Construction Industry

- ***29 CFR 1926.95-106***

Objectives

In this course, we will discuss:

- General provisions
- Hazard assessment
- Basic hazard categories
- Hazard sources
- Personal protective equipment (PPE)



What is PPE?

- Equipment that creates a barrier against workplace hazards
- Examples include hard hats, goggles, gloves, hearing protection, etc.
- A temporary measure



General Safety and Health Provisions

1926.28(a)

- **Personal protective equipment**
 - The employer is responsible for requiring wear of appropriate personal protective equipment in all operations where there is exposure to hazardous conditions...



General Safety and Health Provisions

1926.28(b)

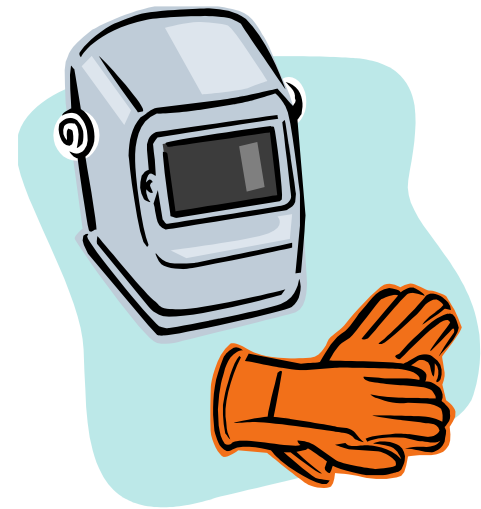
- **Personal protective equipment**
 - Regulations governing the use, selection, and maintenance of personal protective and lifesaving equipment are described under subpart E of this part.



Criteria for PPE

1926.95(a)

- Protective equipment, including PPE for eyes, face, head and extremities etc. ... shall be provided, used, and maintained in a sanitary condition and reliable condition.



Criteria for PPE

1926.95(b)

- **Employee-owned equipment**

- Where employees provide their own protective equipment, the employer shall be responsible to assure its adequacy, including proper maintenance, and sanitation of such equipment.



Criteria for PPE

1926.95(c)

- **Design**

- All personal protective equipment shall be of safe design and construction for work to be performed.





Training

1926.21(b)

- Employer shall instruct each employee in the recognition and avoidance of unsafe conditions and the regulations applicable to his work environment to control or eliminate any hazards or other exposure to illness or injury.





Payment of PPE

1926.95(d)(2) – (5)

- Except as noted, the protective equipment used to comply with this part, shall be provided by the employer at no cost to employees.





Documentation

- Training records
- Fall protection training records
- Hearing conservation program
- Respiratory protection program



Hazard Assessment

1910.132(d)

- Is a multi-step process
- Must involve employees



Assessment Process

1910.132(d)

- Review injury/illness logs
- Involve managers and workers
- Review past records



Assessment Process

1910.132(d)

- Hazard assessment
- Hazard control
- PPE selection





Assessment Process

1910.132(d)

- Use MSDS recommendations
- Must be job and area based
- Check basic hazard categories



Assessment Process

1910.132(d)

- Document everything
- Evaluate the process
- Request free help
- Get NCDOL guidance





Basic Hazard Categories

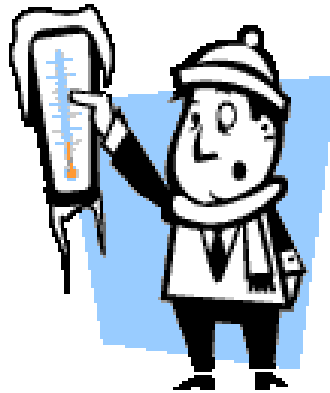
- Impact
- Penetration
- Compression
- Chemical
- Heat
- Harmful dust
- Light radiation
- Falls





Hazard Sources

- Motion
- Temperature
- Chemical exposure
- Light radiation
- Elevation
- Sharp objects
- Rolling/pinching
- Electrical hazards
- Workplace layout
- Worker Location





Employer Requirements

- Conduct hazard assessment
- Insure adequacy of PPE
- Provide employee training
- Maintain written certification



Head Protection

1926.100(a)

- Employees working in areas where there is a possible danger of head injury from impact, or from falling or flying objects, or from electrical shock and burns, shall be protected by helmets.



Head Protection

1926.100(b)

- Helmets for the protection of employees against impact and penetration of falling and flying object shall meet the specification contained in American National Standard Institute (ANSI), Z89.1-1969, Safety Requirements for Industrial Head Protection.



Head Protection

1926.100(c)

- Helmets for the protection of employees exposed to high voltage electrical shock and burns shall meet the specifications contained in American National Standards Institute (ANSI), Z89.2-1971.



Hearing Protection

1926.101(a)

- Wherever it is not feasible to reduce the noise levels or duration of exposure to those specified in Table D-2, Permissible Noise Exposures, in 1926.52, ear protection devices shall be provided and used.



Hearing Protection

1926.101(b)-(c)

- Ear protection devices inserted in the ear shall be fitted or determined individually by competent persons.
- Plain cotton is not an acceptable protective device.



Eye and Face Protection

1926.102(a)(1)

- Employees shall be provided with eye and face protection equipment when machines or operations present potential eye or face injury from physical, chemical, or radiation agents.



Eye and Face Protection

1926.102(a)(2)

- Eye and face protection equipment required by this Part shall meet the requirements specified in American National Standards Institute (ANSI), Z89.1-1968, Practice for Occupational and Education Eye and Face Protection.



Eye and Face Protection

1926.102(a)(3)

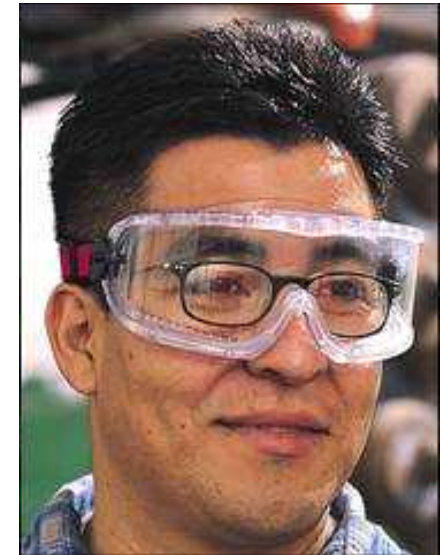
- Employees whose vision requires the use of corrective lenses in spectacles, when required by this regulation to wear eye protection, shall be protected by goggles or spectacles.



Eye and Face Protection

1926.102(a)(3)

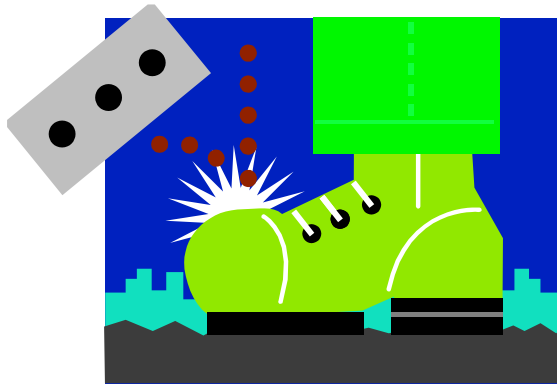
- Spectacles whose protective lenses provide optical correction
- Goggles that can be worn over corrective spectacles without disturbing the adjustment of the spectacles
- Goggles that incorporate corrective lenses mounted behind the protective lenses



Foot Protection

1926.96

- Safety-toe footwear for employees shall meet the requirements and specifications in American National Standard for Men's Safety-Toe Footwear, Z41.1-1967.



Respiratory Protection

1926.103

- Identical to 29 CFR 1910.134
 - Written program
 - Medical evaluation
 - Fit testing
 - Selection and use
 - Maintenance and care
 - Training
 - Program evaluation
 - Recordkeeping
-



Safety Belts, Lifelines, Lanyards

1926.104(a)

- Lifelines, safety belts, and lanyards shall be used only for employee safeguarding.



Safety Belts, Lifelines, Lanyards

1926.104(b)

- Lifelines shall be secured above the point of operation to an anchorage or structural member capable of supporting a minimum dead weight of 5,400 pounds.



Safety Belts, Lifelines, Lanyards

1926.104(c)

- Lifelines used on rock scaling operations, or in areas where the lifeline may be subjected to cutting or abrasion, shall be a minimum of $\frac{7}{8}$ inch wire core manila rope.
- For all other lifeline applications, a minimum of $\frac{3}{4}$ -inch manila or equivalent, with a minimum breaking strength of 5,400 pounds, shall be used.



Safety Belts, Lifelines, Lanyards

1926.104(d)

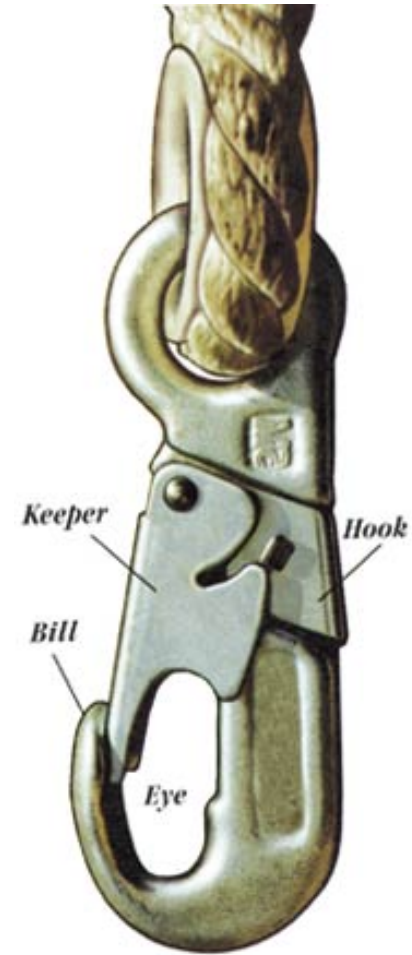
- Safety belts lanyard shall be a minimum of ½-inch nylon, or equivalent, with a maximum length to provide for a fall of no greater than 6 feet.
- The rope shall have a nominal breaking strength of 5,400 pounds.



Safety Belts, Lifelines, Lanyards

1926.104(e)

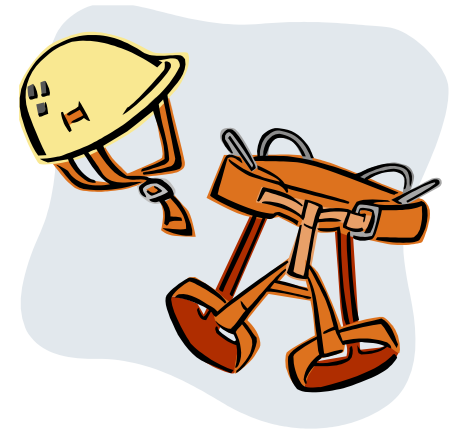
- All safety belt and lanyard hardware shall be drop forged or pressed steel, cadmium plated in accordance with Type 1, Class B plating specified in Federal Specification QQ-P-416.
- Surface shall be smooth and free of sharp edges.



Safety Belts, Lifelines, Lanyards

1926.104(f)

- All safety belts and lanyard hardware, except rivets, shall be capable of withstanding a tensile loading of 4,000 pounds without cracking, breaking, or taking a permanent deformation.



Safety Nets

1926.105(a)

- Safety nets shall be provided when workplaces are more than 25 feet above the ground, or water surface, or other surfaces where the use of ladders, scaffolds, catch platforms, temporary floors, safety lines, or safety belts is impractical.



Safety Nets

1926.105(b)

- Where safety net protection is required by this part, operations shall not be undertaken until the net is in place and has been tested.



Safety Nets

1926.105(c)

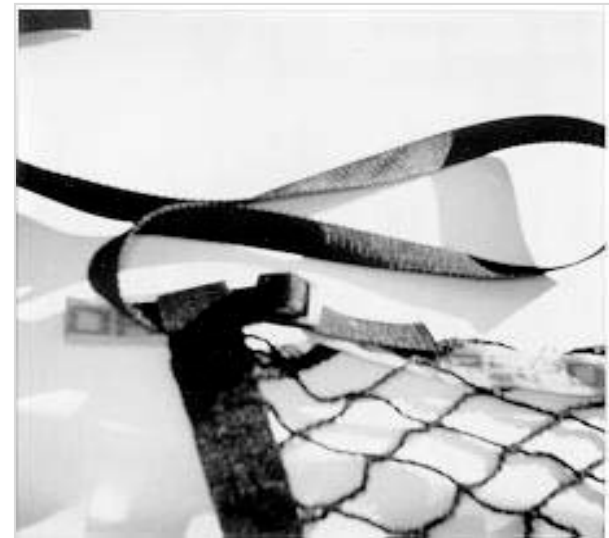
- Nets shall extend 8 feet beyond the edge of the work surface where employees are exposed and shall be installed as close under the work surface.
- It is intended that only one level of nets be required for bridge construction.



Safety Nets

1926.105(d)

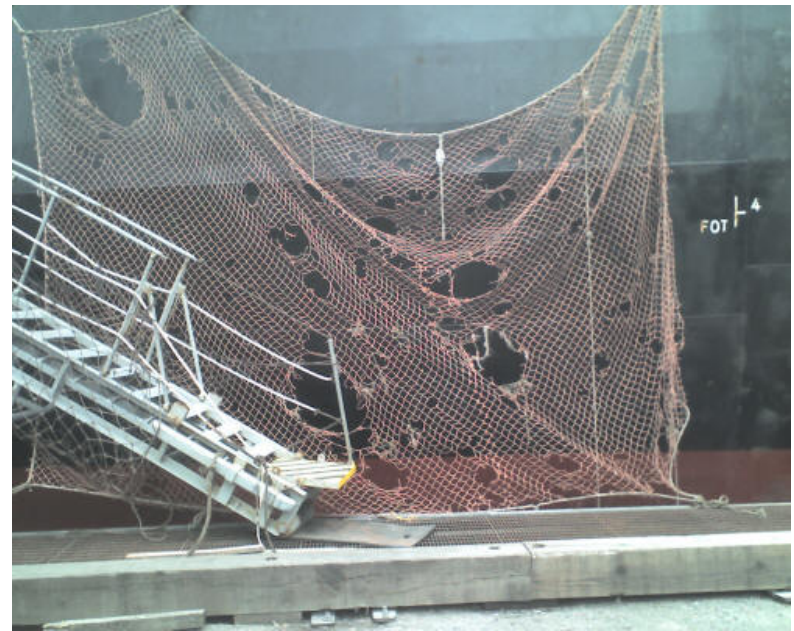
- The mesh size of nets shall not exceed 6 inches by 6 inches.
- All nets shall meet accepted performance standards of 17,500 foot-pounds minimum impact resistance as determined and certified by the manufacturers and shall bear a label of proof test.



Safety Nets

1926.105(e)-(f)

- Forged steel safety hooks and shackles shall be used to fasten the net to its supports.
- Connections between net panels shall develop the full strength of the net.



Working Over or Near Water 1926.106(a)-(d)

- Life jacket or buoyant work vests must be U.S. Coast Guard approved.
- Prior to and after each use, the buoyant work vests or life preservers shall be inspected for defects.
- Ring buoys shall be provided for rescue operations.
- Lifesaving skiff shall be immediately available.



Summary

- We have covered the following topics:
- General provisions
- Hazard assessment
- Hazard sources
- PPE standards



Thank You For Attending!

Final Questions?
