Personal Protective Equipment

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Icebreaker

Ice Breaker Video showing OSHA safety violations

Intro to PPE Video

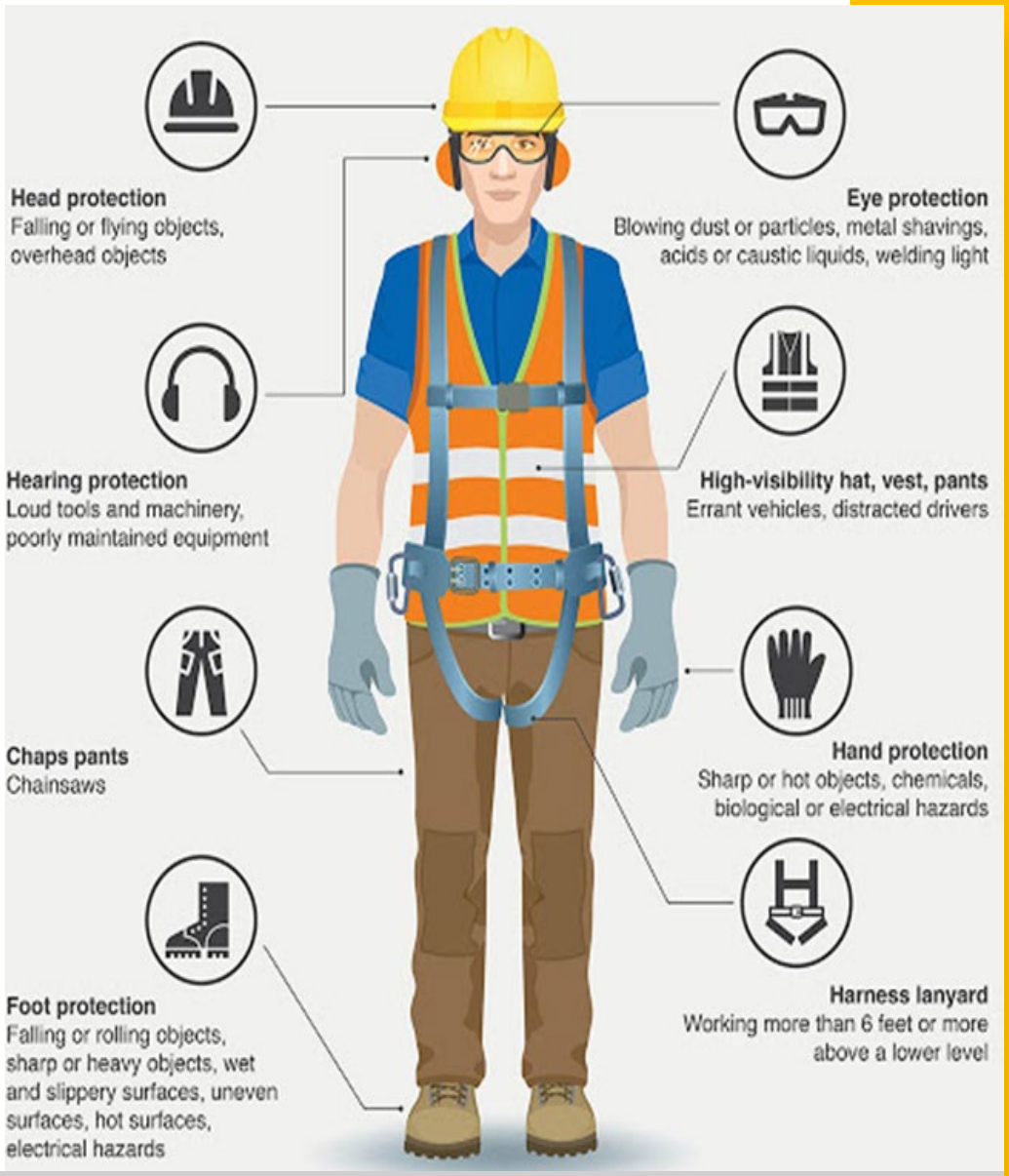
An Intro to PPE

Personal Protective Equipment

- Employers required to provide hazard-free environment
- Protected against potential hazards
- Purpose of Personal Protective Equipment or PPE

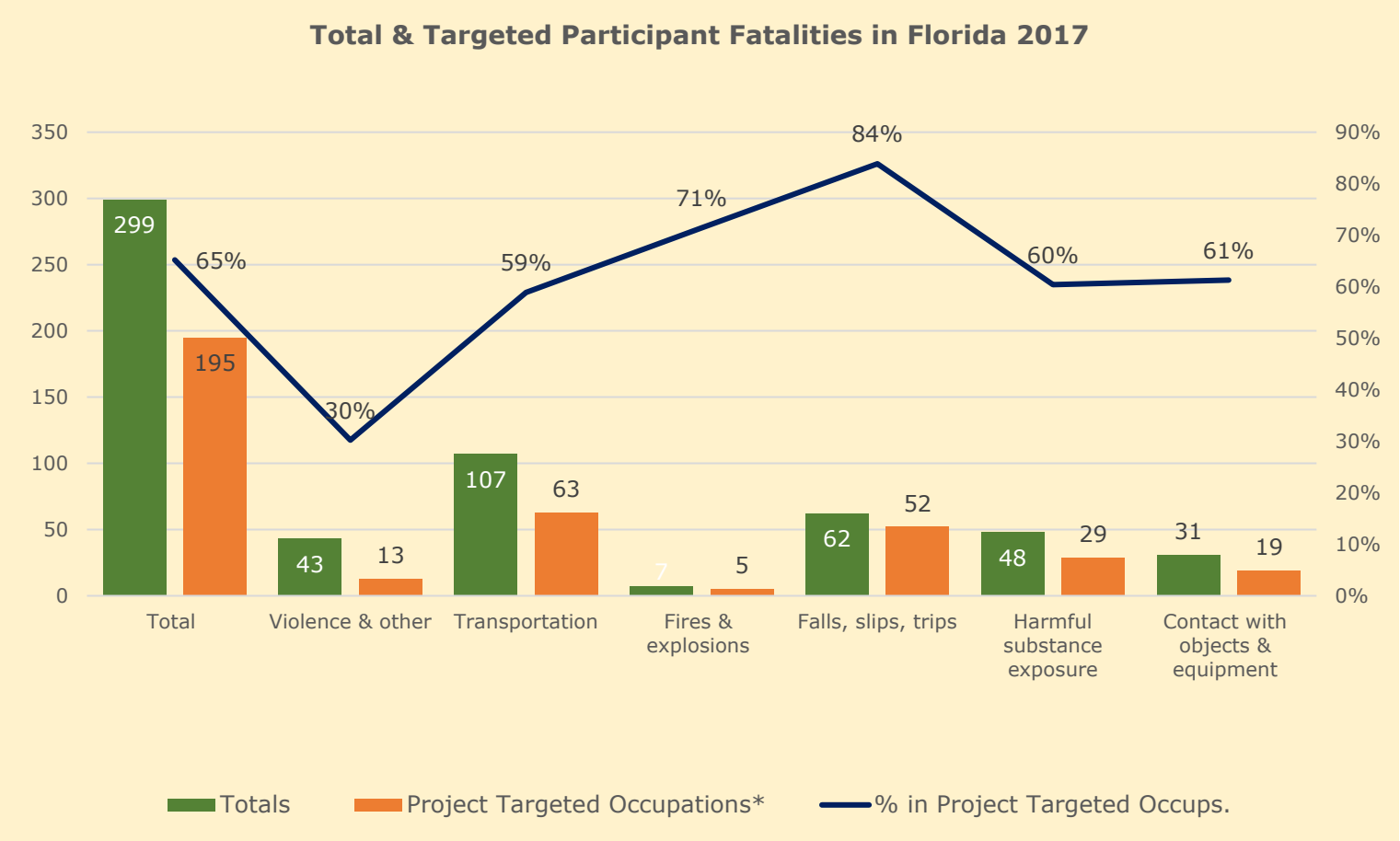
WHAT is PPE?

- Clothing and accessories
- Create a barrier
- Head protection
- Eye and Face protective
- Hearing protection
- Hand protection
- Foot protection
- Respiratory protection



Poster displaying a man wearing all PPE and descriptions listed

Total & Targeting Participant Fatalities in 2017



Personal Protective Equipment

- PPE is selected based on the specific job hazards you face.
- Who pays for PPE?
- Do employees provide PPE?

Engineering Controls

- PPE is always considered a last resort
- Temporary type of protection
- First choice will always be to eliminating hazard
  - Examples:
    - Initial design specification
    - Substitute less harmful material
    - Change process
    - Enclose process
    - Isolate process

White board with Hierarchy of Hazard Control

Employees can change the process

Work Practice Controls

Examples:

- Job rotation
- Wet method
- Personal Hygiene
- House Keeping
- Increase Maintenance

Job Hazards

Examples of Job Hazards are:

- Noise
- Chemicals
- Accidental Impact
- Sharp objects
- Flying Particles
- Dust & Mists
- Bright Light
- Vibration

About PPE

You should know:

- Limitations of PPE
- How to use PPE
- When to use PPE
- Inspect before use
- Replacement
- Cleaning & Storage

PPE Limitations
PPE acts as a barrier between you and a hazard

PPE will not protect you if it is:

1. not designed for the specific hazard
2. damaged or worn
3. not adjusted properly

Illustration of 4 figures working

Using PPE

For PPE to be effective in protecting you must:

1. Use it in the manner you have been trained

2. Use it only for the specific hazards for its design

Inspect before using

Before you use your PPE, inspect it for:

1. Worn or damaged parts
2. Leaks, cracks or deformities
3. Cleanliness
4. Correct size

The word inspection written on a window

Replace

If any PPE is damaged or worn

1. Get it repaired or replaced immediately
2. Do not work without replacement PPE
3. Tell your supervisor you need new PPE

Cleaning & Storage

- Clean your PPE regularly
- Do not store it where it will be in contact with:
  - Dust & Dirt
  - Chemicals
  - Sunlight
  - Water

Blue storage cabinet for storing & organizing PPE

Written PPE Program

1. An employer should verify written hazard assessment has established for the workplace. This verification should include the following:
   - Written certification that workplace has been evaluated.
   - The person certifying the evaluation
   - The date(s) evaluation performed

2. Two basic objectives of a PPE Program
   - Protect the wearer
   - Prevent injury

Comprehensive PPE Program

- Hazard identification
- Medical monitoring
- Selection
- Use
- Maintenance
  Decontamination
- Training

Pictures of eye and face protection

Eye & Face Protection

Protecting your eyes

- Your eyes are very sensitive organs and may be easily injured.
- Eye Hazards include:
  - Chemical Splashes
  - Flying dist, chips, sparks
  - High Heat
  - Intense or UV light

Caution sign and 5 ways eyes can be damaged without eye protection

Specific hazards include…

- IMPACT - Chipping, grinding machining, masonry work, woodworking, sawing, drilling, chiseling, powered fastening, riveting, and sanding.
- HEAT - Furnace operations, pouring, casting, hot dipping, welding
- LIGHT or RADIATION - Electric arc welding, gas welding, gas cutting
- IRRITANTS / CORROSIVES - mists, dusts, sprays, splashes

Face Protection

- Use a face shield when any of the following hazards exist:
    - Chemical splashes
    - Liquid spray
    - Flying chips or sparks
    - High Heat
        - Special faceshield

Photo of a Faceshield

When using a face shield…

- Always us the correct type eye protection with a face shield….
- A face shield is NOT designed to protect your eyes

Photo of a man wearing a face shield and full body Tyvek suit

Types of Eye Protection

- Safety Glasses – for flying chips & low hazards
- Vented Goggles – for dust and non-hazardous mist
- Non-Vented Goggles – hazardous chemicals
- Dark Lenses – intense or UV light

Corrective glasses and eye protection

- Spectacles with protective lenses
- Goggles worn over corrective spectacles
- Goggles that incorporate corrective lenses

Inspection& Maintenance of Eye protection

- Keep lenses clean
- Daily inspection and cleaning
- Replace pitted lenses, like dirty lenses, can be a source of reduced vision
- Headbands
- Storage

Photo of a hard hat

Head Protection

Hardhats

Hard hats are needed to protect against:

- Falling objects
- Accidental impact

Use an electrically rated hard hat when there is a potential for contact with live circuits

Head Protection

- Resist penetration
- Absorb the shock of a blow
- ANSI Standards
  - Z89.1-1986
  - Z89.1-1997

Photo showing the specifications of a hard hat

Protective Hat Types

- Type 1
- Type 2

Three Classes

- Class G
- Class E
- Class C

Types of Protective Hard hats

Helmet Construction

Water Resistant

Slow Burning

Shell and suspension

Adjustable headbands

Photo showing the components of a hard hat

Replace your hard hat if:

- The suspension system shows signs of deterioration such as:
  - Cracking,
  - Tearing, or
  - Fraying
- The suspension system no longer holds the shell from 1 inch to 1 1/4 inches away from the head.

Photo of cracked hard hat

Replace your hard hat if…

1. The brim or shell is cracked, perforated, or deformed.

2. The brim or shell shows signs of exposure to heat, chemicals, ultraviolet light, or other radiation. Signs include:
   - - Loss of surface gloss,
   - -Chalking, or
   - - Flaking

Photos of damaged hard hats

Helmet Maintenance and Inspection

- Cleaning helmets
- Inspect daily
- Exposure to unusual conditions
- Storage

Caution Safety Shoe Sign

Foot Protection

Foot Hazards

- Heavy objects such as barrels or tools that might roll onto or fall onto your feet.
- Sharp objects such as nails or spikes that might pierce the soles or uppers of ordinary shoes.
- Molten metal that might splash
- Hot, slippery or wet surfaces
- Corrosive Chemicals

Hazardous Conditions:

IMPACT - Carrying or handling materials such as packages, objects, parts or heavy tools which could be dropped

COMPRESSION - Work activities involving skid trucks (manual material handling carts, around bulk rolls, around heavy pipes

PUNCTURE - Sharp object hazards such as nails, wire, tacks, screws, large staples, scrap metal, etc

CHEMICAL - Check MSDS for protection

5 types of foot protective boots

Types of Foot Protection

- Types of foot protection
- Safety shoes
- Boots
- Leggings

Inspect Footwear Daily

Look for

- Cracked, torn or worn uppers
- Wear, holes, tears, cracks, loss of tread on bottom
- Separation between soles and uppers

Requirements for Safety Shoes

- Sturdy
- Impact resistant toe
- ANSI Z41.1 1967

Hand Protection

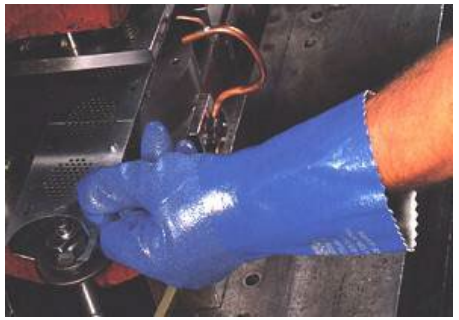
Gloves mounted on a chart with a man labeling the types

Hand Protection

Funny video about hand protection

Why Use Hand Protection?

- Burns
- Cuts
- Electrical shock
- Amputation
- Absorption of chemicals



Types of hand protection

Pictures of protective gloves used for cutting meat, welding metal and electrical work

Glove selection

- Not all gloves are created equal…. Ensure the glove you use will protect your hands from the specific hazards of the job.
- Chemical gloves do not last forever… understand the chemical and “break-through” characteristics of your specific glove

Before you use…

- Use the proper glove for the task
- Remove rings & bracelets
- Do not wear gloves if they can be caught in machinery
- Check gloves for wear and damage

Electrical glove checks

- Hole, tear, puncture, or cut
- Ozone cutting or ozone checking An embedded foreign object
- Swelling, softening, hardening, or becoming sticky or inelastic.
- Any other defect that damages the insulating properties
- AIR TEST before each use

Picture of electrical protective gloves

Hearing Protection

Caution sign saying hearing protection is required

Protect Your Hearing

Use hearing protection when:

- in high noise areas
- using power saws, impact tools, etc.
- off the job when shooting, using power tools, etc.

Replace worn or broken hearing protectors immediately

Photos of 3 different types of Hearing protectors

Types of Hearing Protectors

Noise Levels

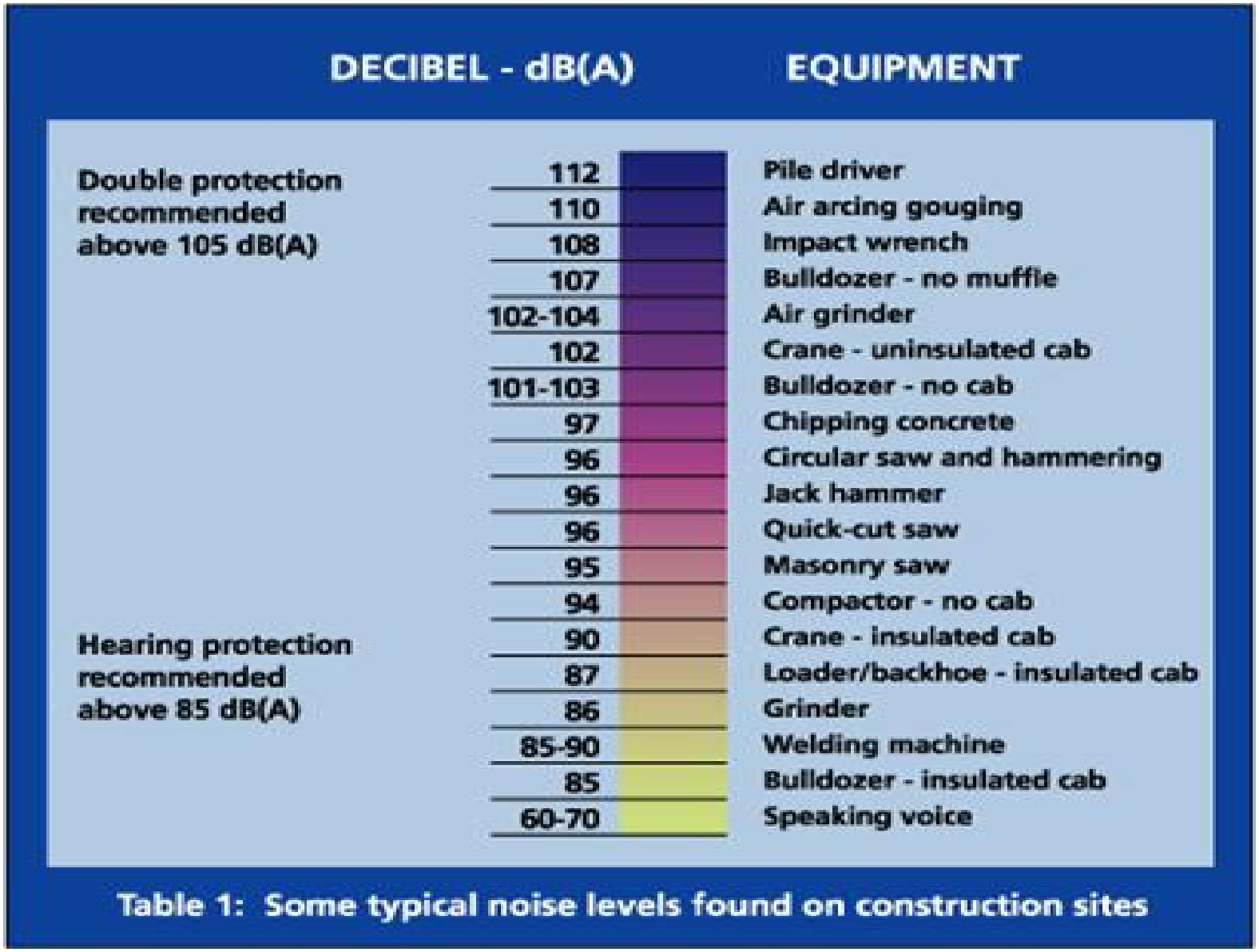
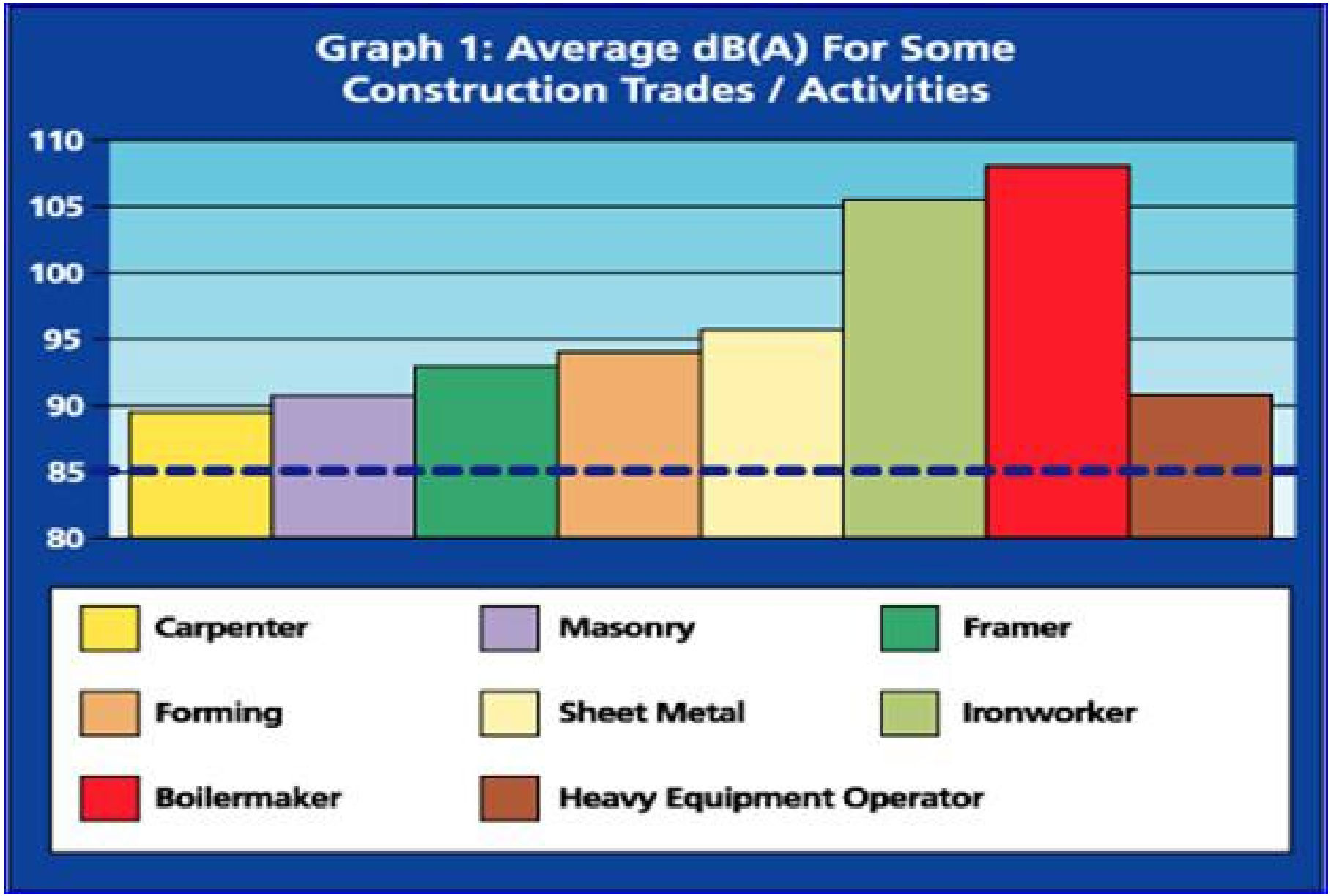


Table 1: Some typical noise levels found on construction sites

Noise Levels by Trade



Symptoms of Hearing Loss

- Ringing in ears
- Difficulty hearing normal conversations
- Noises are "fuzzy" or muffled

Hearing Protection Devices (HPD)

Must provide the proper protection for the noise level the employee is exposed to. Earmuffs, Plugs, or Double Protection may be needed

- Be kept clean
- Fit snugly against the head or in the ear
- Have no gaps or breaks

The HPDs must effectively reduce the noise reaching the worker's ears to a level that is at or below the 8-hour TWA PEL of 90 dB.

Fall Protection Equipment

A person standing in front of a building with safety harness on

Fall Protection Equipment

- Lifelines
- Safety
- Lanyards

Protect yourself…

- Use the right PPE for the Hazard
- Inspect your PPE before using
- Replace damaged or worn PPE
- Store your PPE properly so it will be ready for the next use
- Keep your PPE clean
- Notify your supervisor if you need new PPE

Other Hazards

- Life jackets and drowning
- Moving vehicles
- Retroreflective garments

Think Safety First

Sign that displays all of the PPE and a person wearing eyes, head and face protection