



T.C. ÇALIŞMA VE SOSYAL GÜVENLİK BAKANLIĞI
İŞ SAĞLIĞI VE GÜVENLİĞİ GENEL MÜDÜRLÜĞÜ

RISK ASSESMENT AND PERSONAL PROTECTIVE EQUIPMENTS

Ahmet ERSOY

Occupational Health and Safety Expert

Ankara

Personal Protection and PPE

- OHS aims to protect the health, safety and welfare of people at work.
- PPE is a factor of risk assessment
- PPE is the last level

Risks

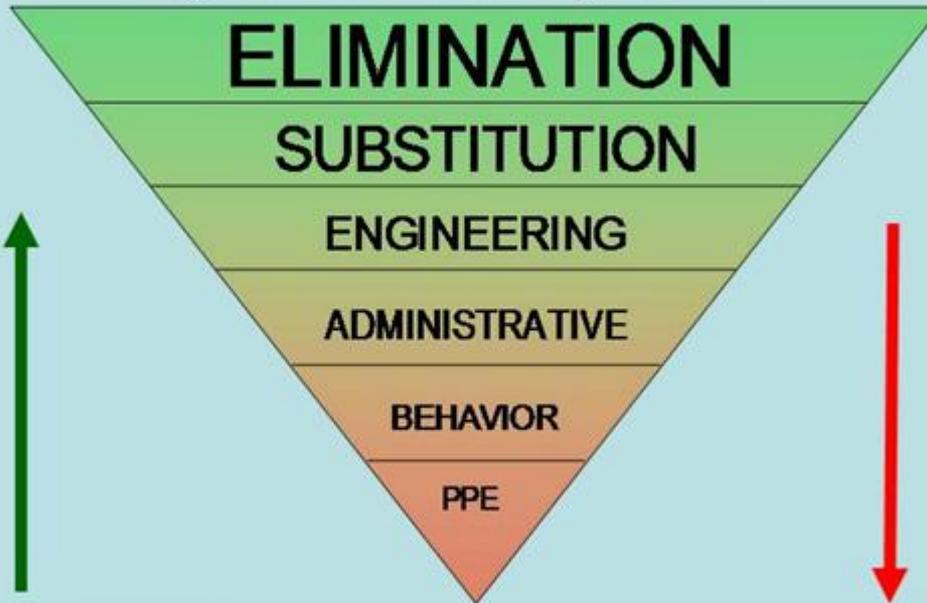
- Physical; Noise, vibration, low or high pressure, low or high temperature
- Chemical; MSDS
- Biological
- Mechanical
- Electrical
- Psychological

Risk Assessment

- Risk = Impact of Risk event x Probability of Occurrence

Hierarchy of Control

Apply the highest level of control commensurate with the risk level— lower value controls may be used in the interim until long-term controls are implemented.



Increasing effectiveness and sustainability



Increasing participation and supervision needed



USE GLASSES
GÖZLÜK KULLAN



WEAR HELMET
BARET GIY



USE GLOVES
ELDIVEN GIY



USE MASK
MASKE KULLAN



USE FOOT FOR WORK
İŞ AYAKKABISI GIY



USE WALKER ROAD
YAYA YOLUNU KULLAN



WEAR JUMPER SUIT
KORUYUCU ELBİSE GIY



USE FACE PROTECTION
YÜZ SİPERİ KULLAN



USE SAFETY BELT
EMNİYET KEME
KULLAN

Responsibilities of workers

- Employers must protect employees from hazards such as falling objects, harmful substances, and noise exposures that can cause injury,
- Employers must:
 - Use all feasible engineering and work practice controls to eliminate and reduce hazards
 - Use personal protective equipment (PPE) if the controls don't eliminate the hazards.
- PPE is the last level of control!

Personal Protective Equipments

- People used kinds of PPE during history.

For example:

Knights-armor

Cowboys – leather
leggings



What is PPE?

PPE is defined as any device or appliance designed to be worn or held by an individual for protection against one or more health and safety hazards;

If . . .

- The work environment can be physically changed to prevent employee exposure to the potential hazard,

Then . . .

- The hazard can be eliminated with an engineering control.

Engineering Controls

Examples . . .

- Initial design specifications
- Substitute less harmful material
- Change process
- Enclose process
- Isolate process

Responsibilities

□ **Employer**

- Assess workplace for hazards
- Provide PPE
- Determine when to use
- Provide PPE training for employees and instruction in proper use

□ **Employee**

- Use PPE in accordance with training received and other instructions
- Inspect daily and maintain in a clean and reliable condition

PPE Program

- Includes procedures for selecting, providing and using PPE
- First -- assess the workplace to determine if hazards are present, or are likely to be present, which necessitate the use of PPE
- After selecting PPE, provide training to employees who are required to use it
- Discipline

Training

- Why it is necessary
- How it will protect them
- What are its limitations
- When and how to wear
- How to identify signs of wear
- How to clean and disinfect
- What is its useful life & how is it disposed

DIRECTIVE 89/686/EEC

- ***DIRECTIVE 89/686/EEC IS A “NEW APPROACH” DIRECTIVE***
- ***THE DIRECTIVE DEFINES “BASIC REQUIREMENTS”***

PURPOSE OF THE PPE REGULATION

Regulating the procedures and principles in relation to the production, importation, placing on the market, putting into service and control of ppes used for the protection of human health and safety as well as in relation to the users' and third persons' safety of life and property against hazards.

Personal Protective Equipments

(General information about PPE)

- Hearing
- Sight
- Foot
- Respiratory
- Head
- Hand
- Body



HEAD PROTECTION



HEAD PROTECTION

Head protection is required whenever there is a danger of being hit in the head from flying or propelled objects or falling objects or materials.

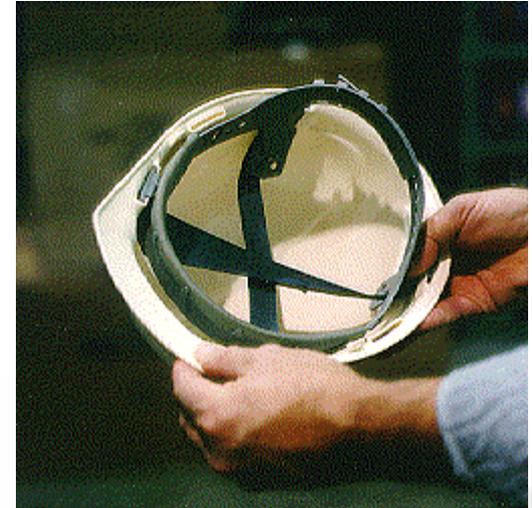
Bumping head against objects, such as pipes or beams.

Contact with exposed electrical wiring or components.

HEAD PROTECTION

– How it protect you?

- It shows endurance against hits,
- It averts shock hits,
- It shows nonconductive (insulating) property against electrical shocks,
- It shows protective property against chemicals for head and shoulders.





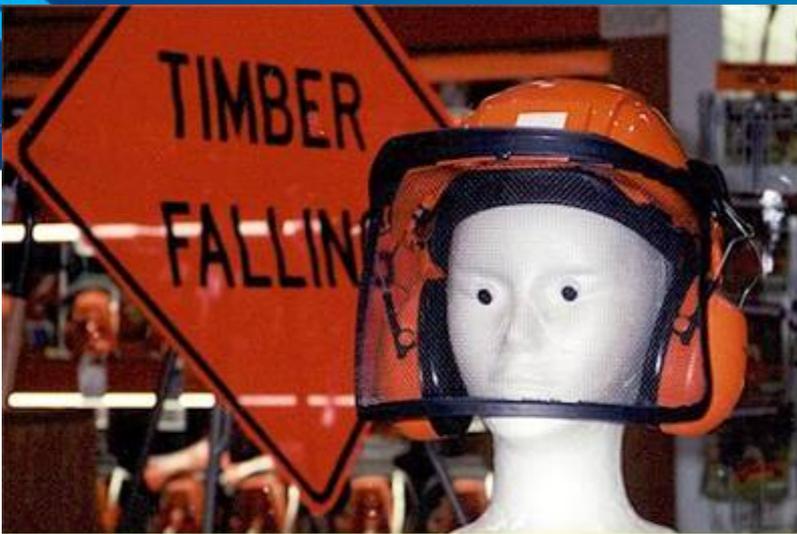
EYE PROTECTION

Eye Protection - Why It's Needed

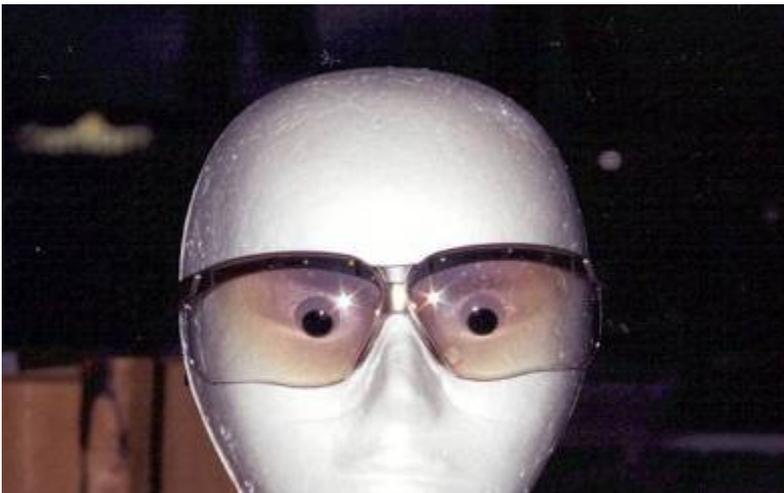


- Historically, we have between 300 – 500 eye injuries a year.

Types of Eye Protection



Screens

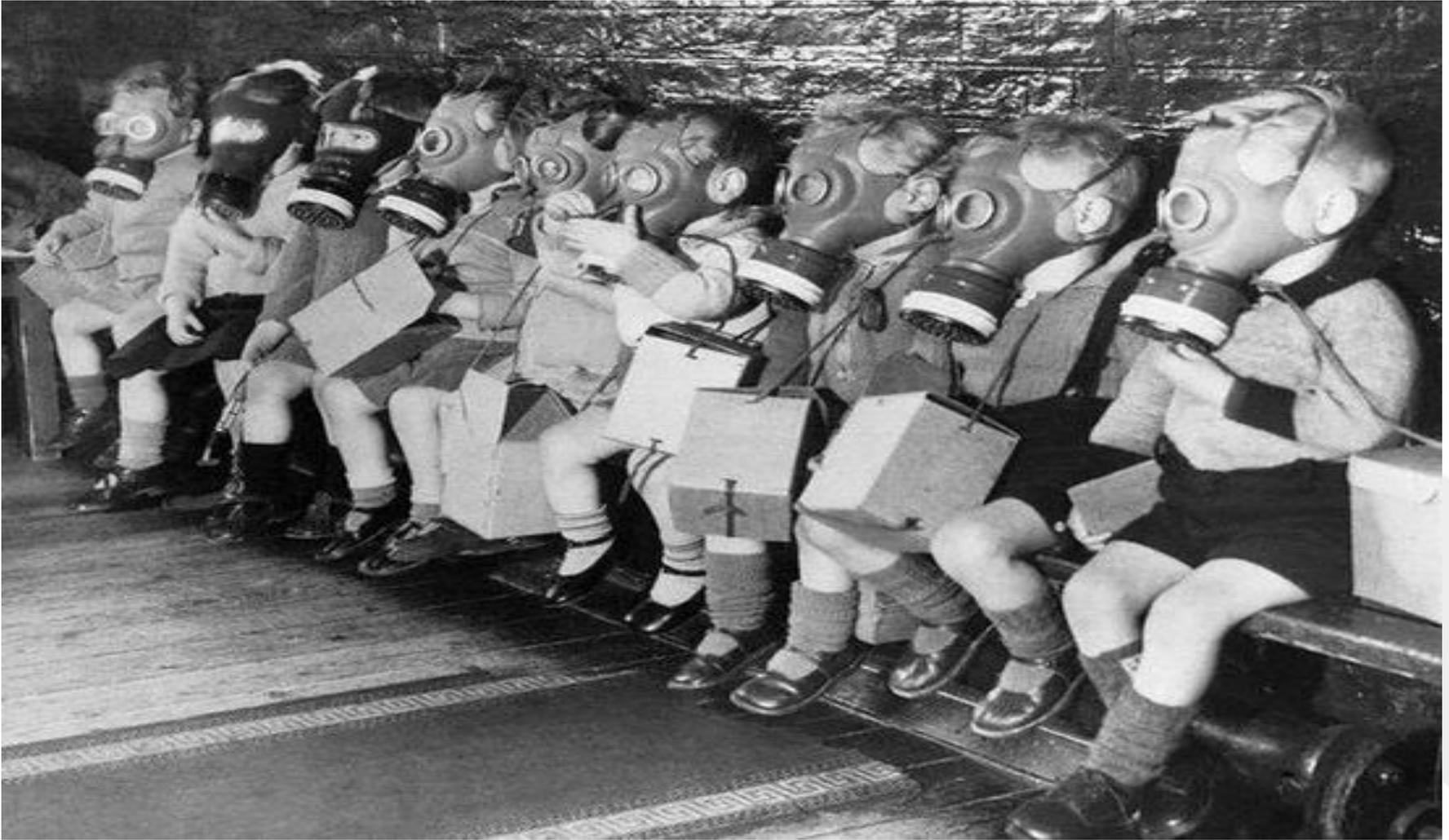


Safety Glasses



Bugz-Eye Goggles

Respiratory Devices



Respiratory Protection

- Dust
- Fog
- Fume
- Gas

HEARING PROTECTION

Effects of Noise Exposure

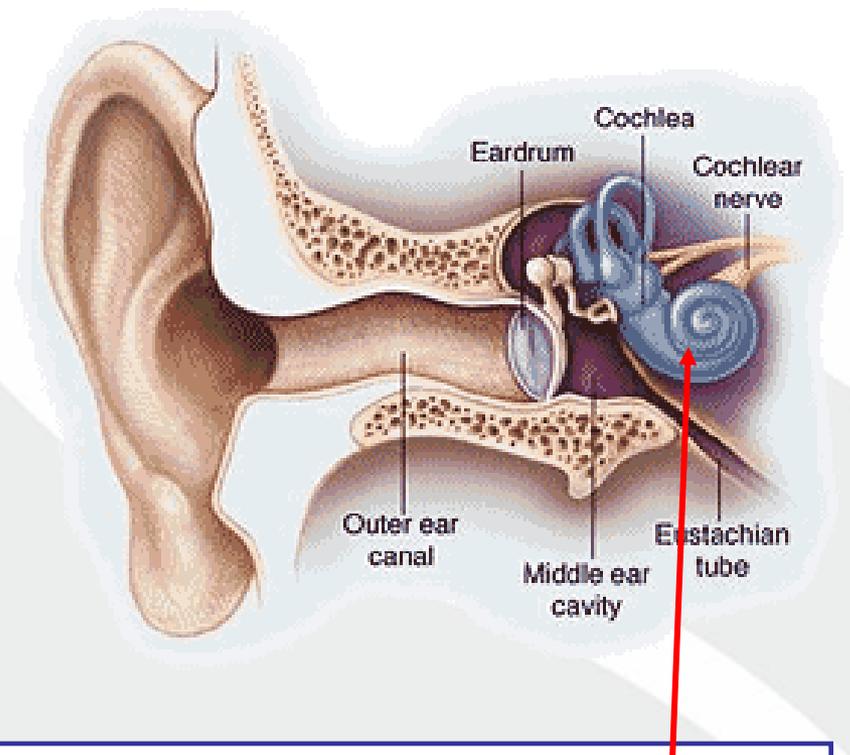
Hearing Loss From Noise Exposure

- Hearing loss from noise exposure is usually not noticed because it is so gradual.
- Usually a person loses the ability to hear higher pitches first.
- Often the first noticeable effect is difficulty in hearing speech.



Effects of Noise Exposure

- The damage from exposure to noise occurs in the inner ear.
- There are tiny hair cells in this part of the ear that are flattened out when exposed to noise.



Damage occurs in this part of the ear

Effects of Noise Exposure

- If the exposure is short, the hair cells raise back up. If the exposure is long or extremely loud, the hair cells don't recover and hearing ability is reduced.
- When all the hair cells are damaged, complete deafness occurs.
- “People who say they are “used to the noise” often have already lost some of their hearing.”

Types of Hearing Protection

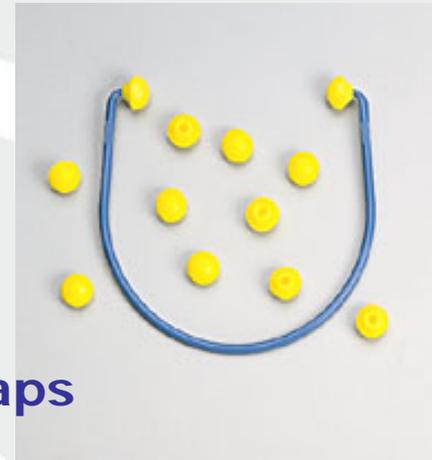


earmuffs

- The WISHA noise regulations require that we have at least 2 types of hearing protection to choose from.
- There are three types of hearing protection – ear muffs, earplugs and ear caps.
- Ear muffs and earplugs provide about equal protection, ear caps somewhat less.

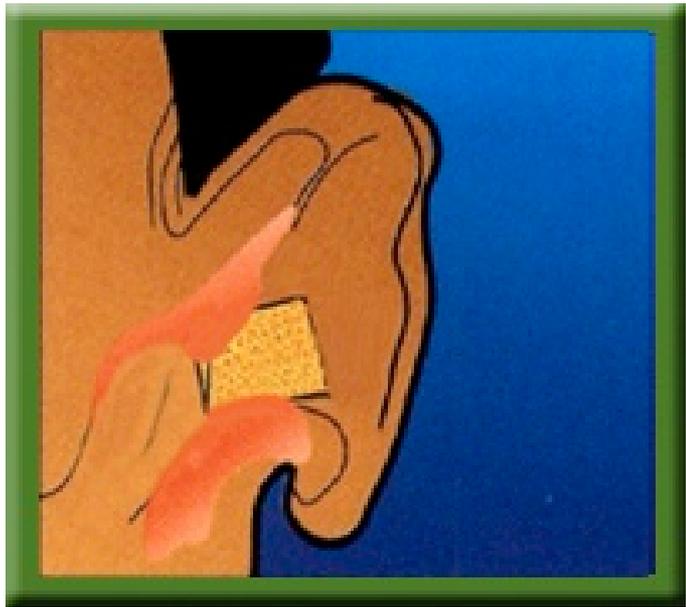


earplugs

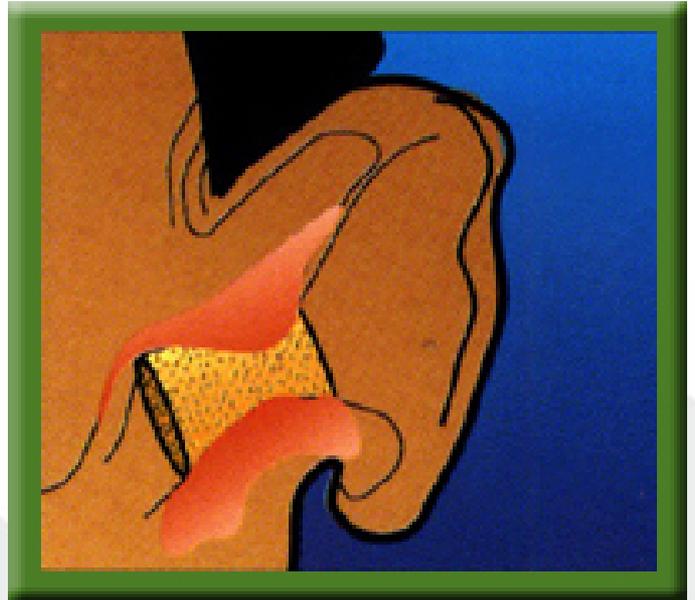


ear caps

Inserting Foam Earplugs



Earplug incorrectly inserted



Earplug correctly inserted

Effects of Noise Exposure Daily Allowable Exposure Times to Noise

The table below shows noise levels and how long a person can be exposed without hearing protection before there is damage to the ear.

<u>Noise Level</u>	<u>Allowable Exposure Time</u>
85 decibels	8 hours
90 decibels	4 hours
100 decibels	1 hour
105 decibels	30 minutes
110 decibels	15 minutes
115 decibels	0 minutes

Foot Protection



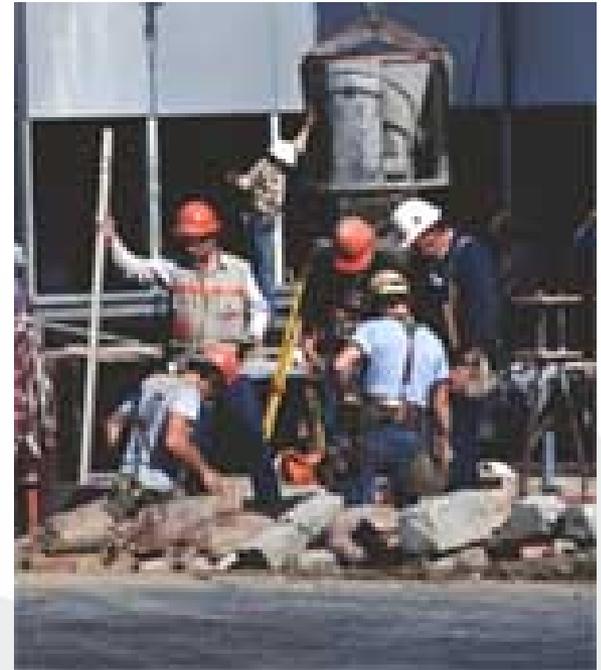
When Must Foot Protection be Provided?

When any of these are present:

- Heavy objects such as barrels or tools that might roll onto or fall on employees' feet
- Sharp objects such as nails or spikes that might pierce ordinary shoes
- Molten metal that might splash on feet
- Hot or wet surfaces
- Slippery surfaces

Training

- Why it is necessary
- How it will protect them
- What are its limitations
- When and how to wear
- How to identify signs of wear
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Body Protection



Major Causes of Body Injuries

- Intense heat
- Splashes of hot metals and other hot liquids
- Impacts from tools, machinery, and materials
- Cuts
- Hazardous chemicals
- Radiation

Body Protection

Criteria for Selection

- Provide protective clothing for parts of the body exposed to possible injury
- Types of body protection:
 - Vests
 - Aprons
 - Jackets
 - Coveralls
 - Full body suits



HAND PROTECTION



HAND PROTECTION

- **Milled Nitrile**
 - Use where sense of touch is a must
 - Stand up to mechanical abuse
- **Natural Rubber**
 - Good pliability over large temperature range
 - Long term resistance to chemicals & acids
- **Vinyl Coated**
 - Chemical & abrasion resistant
 - Use for handling oils, acids, caustics, most solvents

Fall from height

