

TRAINING PROGRAMME FOR ETP OPERATORS IN TEXTILE INDUSTRY

Promotion of Sustainability in the Textile and Garment Industry in Asia - FABRIC

Personal protective equipment

GIZ FABRIC – ETP Operator Course



Contents

- Basic concept
- Different types of personal protective equipment
- Good practices to consider

Basic concept of personal protective equipment

Basic concept of personal protective equipment

Personnel to protect themselves against hazards and risks and take care of their well-being

Personal protective equipment (PPE)

- **exposure barrier** between person and hazard
- **immediate** but not ultimate **risk control**
 - temporary measures until other controls in place
 - precautionary measures
- **limitations** and **drawbacks**
 - only effective upto certain protection level
 - often uncomfortable and affecting worker´s productivity
 - posing risks per themselves



Basic concept of personal protective equipment

Selection requirements

- addressing specific hazards (e.g. dust or vapors)
- protection level to be achieved (e.g. legal threshold limits, reduction rating)
- suitable for conditions of workplace and tasks to be performed
- proper fit and size
- adjustable to user (shape of face, body size)
- comfortable and easy to use



Basic concept of personal protective equipment

Propagating proper use

- Training and instructions on
 - purpose and limitations
 - use and maintain
 - check proper fit
 - detect wear and tear
- Safety signs in location where PPE to be used
- To be used by everybody exposed to the same hazard
 - Manager, supervisor, worker, contractors, visitors



Different types of personal protective equipment

Different types of personal protective equipment



Long rubber gloves



Goggles



Respirator



Waterproof hat



Face shield

Long pants over boots

Rubber boots

Different types of personal protective equipment

Safety helmet

- To be worn whenever **risk of head injury** (falls, falling objects)
- Fitted with **chin strap**
- To be **regularly inspected** for
 - Cracks and signs of impact
 - Rough treatment and wear-out
- Good **condition of inner cradle**
 - important for absorbing shock of blow.
- Damaged protective helmet to be discarded and replaced



Different types of personal protective equipment

Hearing protection

- To be worn against high sound level pressure (noise) throughout duration of exposure
- Selected on basis of noise level measurement
 - Noise level and legal threshold level determining **desired noise reduction rating**
 - **Ear muffs** against very high noise
 - **Ear plugs** against elevated noise levels
- **Proper fitting**, correct seating and comfortable.
- Regular cleaning of muffs required
- Ear plugs not be shared



Different types of personal protective equipment

Eye protection

- To be worn primarily against **physical damage to eye**
 - Also against possible **exposure to chemicals**
- Different types
 - Protective goggles
 - Safety spectacles
 - Visors or screens (splashes, welding arcs, grinding sparks)
- Where practicable, fixed fitted to machinery (e.g. bench grinders)
 - not substituting wearing of personal eye protection.



Different types of personal protective equipment

Respiratory protection

- To be worn for **protecting respiratory system** (mouth, nose, airways, lungs) against airborne contaminants
- Differentiation by **air-purifying** and **air-supply** protection
- Selection based on
 - **type on contaminant**
 - **concentration** of contaminant
 - **work environment** (humidity, oxygen level)
- Recommendation in **safety data sheets**
- Always **training required** for users of respiratory protections



Different types of personal protective equipment

Protective clothing

- To control the exposure of skins to contaminants or external factors such as water, humidity, chemical and biological agents
- Common types
 - Work cloths
 - Gloves
 - Boots
- To be worn at work in place of day-to-day cloths
 - Storage facility
 - Change facility
 - Not to be shared



Different types of personal protective equipment

Protective footwear

- In ETPs
 - Non-slip boots for work in wet and muddy areas
 - Safety shoes or boots for maintenance work
 - Provided with strengthening toe caps
- To be kept clean and in good condition
- Proper sizes and fits
 - Too large footwear dangerous
- Worn down or damage footwear to be replaced



Different types of personal protective equipment

Gloves

- Glove material to be suitable against type of agents and hazards
 - Sharp or hot items - leather working gloves
 - Chemicals – chemical resistant gloves (e.g. acid proof)
 - Electrical work – rated electrical safety gloves
- Gloves not be used while working on moving machinery
- Gloves with metal reinforcement never around electrical apparatus or installations
- Regularly to be checked for wear, tear, holes
- Hand and arms to be washed after removal of any safety glove



Different types of personal protective equipment

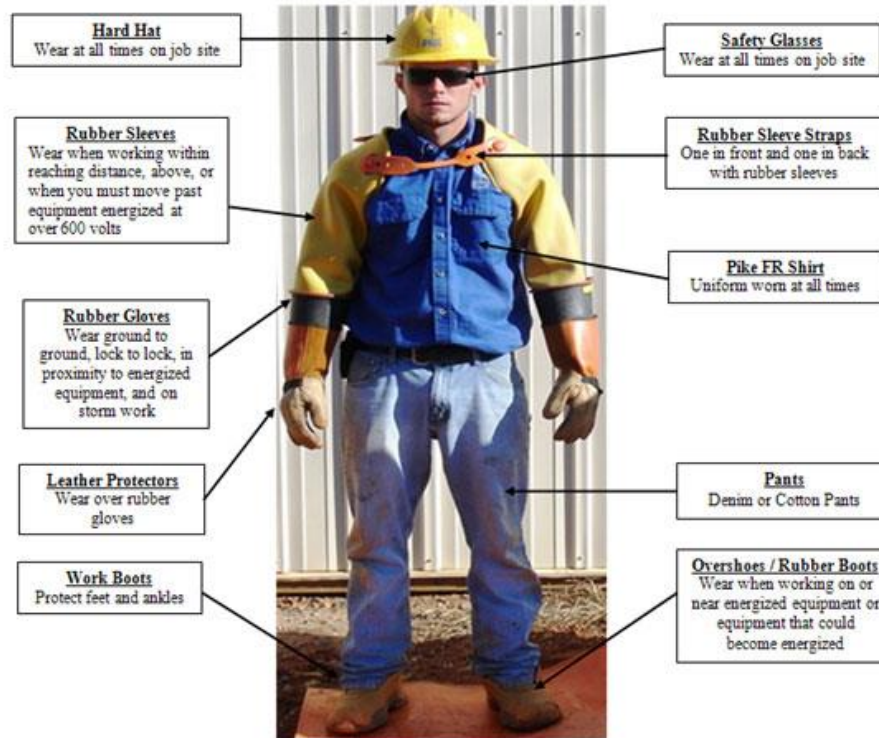
Fall protection equipment

- Use for working at elevated locations and for confined space entry, exit and rescue
- Main components.
 - anchorage,
 - body support
 - connector
- Tripod winch for vertical entry into confined space (e.g. manhole entry) without ladders
 - easily set-up by one worker and transported to locations
 - limitation for larger size openings



Different types of personal protective equipment

Ready? Check

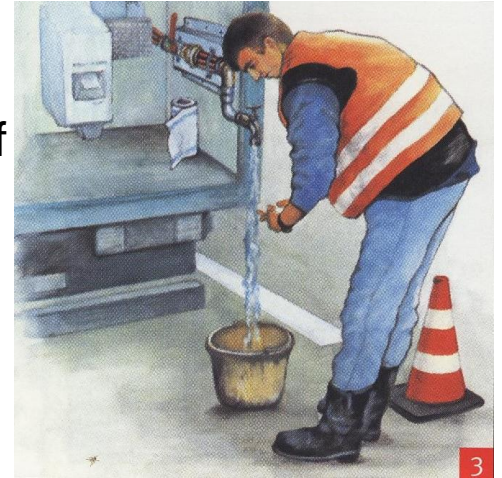


Good practices to consider

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Personal hygiene practices

- Wash hands before eating or drinking as well as at end of shift.
- Avoid smoking with soiled hands because of risk of infection
- Non-potable water to be clearly marked not to confuse with potable water
- Keep food items away from areas with chemical and biological agents
 - Designated storage place in ETP



Good practices to consider

Good housekeeping practices

- **Use cleaning facilities** before entering ETP office or laboratory
 - Clean soiled footwear
 - Clean or change washable working clothes and protective clothing.
- Provide and use **doormats or gratings** for roughly cleaning boots or shoes
- **Change into clean clothes** before leaving work



Good practices to consider

Special case - Chlorination for disinfection

- Chlorine used for disinfection in some ETPs
 - highly toxic in very low concentrations.
 - incorrect use resulting in hazardous situations without warning

Important

- Keep water away from chlorine cylinders at all times
- Small leaks detectable by smell or use of aqueous ammonia
- Discoloration of joints sign of leakage



To remember



- Being safe during work to be way of life rather than practice
- Use of PPE under one's direct control
- PPE not inconvenience, but essential control
- Carefully select PPE for specific hazard and fit of worker
- Be clear what PPE to use when and how
- Be aware of limitations of PPE
- Check PPE regularly and keep in good order

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