



Personal Protective Equipment (PPE) on Construction Sites

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1 Scope

This Safe Work Procedure is valid for projects where COMPANY's has an overall responsibility for construction and/or commissioning.

This Safe Work Procedure applies to all activities carried out during construction, pre-/commissioning and start-Up phases as well as for repair work and small-scale modifications. In addition, it also applies to all pre-fabrication and sub-construction areas (e.g. Package Units).

2 Purpose

This Safe Work Procedure defines how Personal Protective Equipment (PPE) are managed during the execution of construction and commissioning activities on sites under COMPANY's responsibility. It sets safety requirements for the correct selection, use, maintenance and disposal of Personal Protective Equipment (PPE) to ensure their effectiveness. It also defines the minimum standard for Personal Protective Equipment (PPE) to be used

3 Definitions

ANSI	American National Standards Institute
ASA	American Standards Association
ASSE	American Society of Sanitary Engineering
ASTM	American Society for Testing and Materials
EN	European Norm / Standards
IS	Indian Standards
ISEA	International Safety Equipment Association
ISO	International Organization for Standardization
NFPA	National Fire Protection Association
PPE	Personal Protective Equipment

Clothing or equipment designed to be worn by workers to protect them from health or safety related risks at work.

In the following referenced document numbers with the originator code "&A?" in this project always refer to project documents with entity originator code "&AA".

4 Referenced Documents & Applicable Standards

Reference	Title
EN 166	PERSONAL EYE-PROTECTION
EN 169	PERSONAL EYE PROTECTION - FILTERS FOR WELDING AND RELATED TECHNIQUES
EN 342	PROTECTIVE CLOTHING - ENSEMBLES AND GARMENTS FOR PROTECTION AGAINST COLD
EN 343	PROTECTIVE CLOTHING - PROTECTION AGAINST RAIN
EN 352	HEARING PROTECTORS
EN 354	PERSONAL PROTECTIVE EQUIPMENT AGAINST FALLS FROM A HEIGHT - LANYARDS
EN 355	PERSONAL PROTECTIVE EQUIPMENT AGAINST FALLS FROM A HEIGHT - ENERGY ABSORBERS
EN 360	PERSONAL PROTECTIVE EQUIPMENT AGAINST FALLS FROM A HEIGHT; RETRACTABLE TYPE FALL ARRESTERS
EN 361	PERSONAL PROTECTIVE EQUIPMENT AGAINST FALLS FROM A HEIGHT - FULL BODY HARNESSSES

EN 362	PERSONAL PROTECTIVE EQUIPMENT AGAINST FALLS FROM A HEIGHT - CONNECTORS
EN 388	PROTECTIVE GLOVES AGAINST MECHANICAL RISKS
EN 397	INDUSTRIAL SAFETY HELMETS
EN 420	PROTECTIVE GLOVES
EN 470-1 (replaced by EN ISO 11611)	PROTECTIVE CLOTHING FOR USE IN WELDING AND ALLIED PROCESSES
EN 471 (replaced by EN ISO 20471)	HIGH-VISIBILITY WARNING CLOTHING FOR PROFESSIONAL USE
EN 1149	ELECTROSTATIC PROPERTIES OF PROTECTIVE CLOTHING
EN 14052	HIGH PERFORMANCE INDUSTRIAL HELMETS
EN ISO 374	PROTECTIVE GLOVES AGAINST DANGEROUS CHEMICALS AND MICRO-ORGANISMS
EN ISO 11611	PROTECTIVE CLOTHING FOR USE IN WELDING AND ALLIED PROCESSES
EN ISO 11612	PROTECTIVE CLOTHING - CLOTHING TO PROTECT AGAINST HEAT AND FLAME
EN ISO 13997	PROTECTIVE CLOTHING - MECHANICAL PROPERTIES - DETERMINATION OF RESISTANCE TO CUTTING BY SHARP OBJECTS
EN ISO 14116	PROTECTION AGAINST HEAT AND FLAME
EN ISO 20345	SAFETY FOOTWEAR
EN ISO 20471	HIGH VISIBILITY CLOTHING

5 Procedure

5.1 Selection of PPE

5.1.1 Identify the Need for PPE

The need for PPE must be identified through the risk assessment carried out for the workplaces / activities.

A renewed identification of the need for PPE must be carried out in case:

- there have been changes in technological process being used in the workplace,
- there has been a change in the materials being used in a process,
- there has been a change in initial hygiene/environmental conditions (e.g. consequences from inclement weather conditions),
- there have been changes in staff resulting in new requirements (e.g. employees with special needs for accommodation),
- there are possibilities to obtain and use new, more effective and more comfortable PPE,
- essential types of PPE cannot be obtained.

5.1.2 Identify PPE as a control measure

The role of PPE is solely to reduce the possibility of exposure to a hazard, it does not eliminate the hazard. The use of personal protective equipment is lowest on the control hierarchy: it should not be relied on as the primary means of risk control until the options higher in the list of control priorities have been exhausted. Therefore, PPE should only be used

- as a last resort, where there are no other practical control measures available,
- or as a short-term measure until a more effective way of controlling the risk can be used,
- preferably together with other controls measures,

5.1.3 Involve Employees and Their Representatives

Workers and/or their representatives must be informed of all measures to be taken with regard to the health and safety when PPE is used by workers at work.

Involving employees in the risk assessment process is a highly effective way of identifying hazards and developing solutions that work. They must be enabled to bring their knowledge, experience and understanding of the activity.

It is important, whenever possible, that employees are given a chance to choose a specific model of PPE, however only if it ensures appropriate protection against existing risks, whilst, the employer attempts to find a balance between the need to ensure effective protection and the employees' suggestions.

5.1.4 Select Suitable Type of PPE

In addition to identifying the need for PPE, it is essential that the right type of PPE is specified. The type and nature of the hazards in the workplace will be a primary indicator of the right types of PPE required.

When identifying the most appropriate types of PPE for use in the workplace following factors must be considered:

- Ability of PPE to provide protection against risk(s)
- Additional risks related to PPE use
- Suitability for the user (incl. adverse impact on the employee's health or well-being)
- Compatibility with work activity, work organization and working conditions,
- Compliance with a recognized national standard of design (see chapters 5.2.2 and 5.6)

The different types of PPE available for use in the workplace include (not limited to):

- head and scalp protection (safety helmet)
- eye and face protection (e.g. safety glasses, face shields)
- hearing protection (e.g. ear muffs, ear plugs)
- respiratory protection
- hand and arm protection (gloves, gauntlets)
- body protection (protective clothing, high visibility vests, life jackets, coveralls, 'barrier' creams, sunscreens)
- foot and legs protection (e.g. safety boots, rubber boots)
- personal fall protection (fall arrest harness)

5.2 Provision of PPE

5.2.1 Purchase of PPE

Selected PPE must be procured and supplied in sufficient quantities.

Personal protective equipment must be provided by the employer.

CONTRACTORs are responsible for the procurement, supply and expenditure of necessary PPE to their own personnel.

Purchases of new types of PPE by COMPANY's construction site personnel are only permitted after receiving expert advice from the Lead Construction and Commissioning HSE.

5.2.2 Conformity of PPE

Purchased PPE must conform or be equivalent to health and safety requirements described in applicable legislative, standard and/or industry standard requirements or guidelines or parts thereof.

Conformity of PPE is the result of a conformity assessment during which the PPE product is examined and tested for its compliance with the required specifications.

The PPE's conformity must be documented with either (in order of prevalence):

- a **conformity assessment certificate / certificate of approval** issued by
 - an **Accredited Product Certifier** (*certification performed by a third-party*),
- OR
- a **Testing and Certification Body**, (*testing performed by a third-party, especially applicable when no accredited product certifier is available on local market*)

OR (only and where the above-mentioned options are not possible)

- a **self-declaration** issued by a **manufacturer or seller** (*testing and certification performed directly by manufacturer or seller*). The self-declaration must be supported by internal test reports, conformity assessments reports stipulating selected and tested standards and a valid ISO 9001 certification).

5.3 Information and Training

Manufacturer's instructions

Manufacturer's instructions for any purchased PPE must be supplied to the employee, in a language they can understand. and contain. The manufacturer's instructions should contain, at least:

- the producer's name and address
- a description of the product including the identification symbols
- instructions concerning storage, use, cleaning, maintenance, expiry date and disinfection
- additional equipment to be used with PPE and description of spare parts used with it
- protection class at different risk levels and the scope of use relating to them
- type of packing suitable for transport

Training

Employees must be trained periodically on how to wear and use PPE, at least once per year.

Training *must* include the following details:

- risks the PPE will avoid or limit
- purpose and manner in which the PPE is to be used
- action to be taken by employee to ensure good working order, as well as hygienic condition

Practical exercises must be conducted in addition to the training in the case of PPE intended to protect against potentially fatal health hazards or lasting health damage, e.g. for respirators/breathing apparatus, fall-preventing PPE or PPE for rescuing people from heights and depths.

Training *should* also include details on

- new and changing risks
- what protective properties the PPE used has
- what the consequences of not using it are
- how to use PPE properly, in accordance to its function as stated in the information supplied by the manufacturer
- that PPE is the last resort protection for employees (after all other prevention methods have been exhausted) and therefore it is necessary to use it at all times while exposed to a given hazard
- how to clean PPE and when to change it e.g. when expired, damaged or no longer appropriate for the type of activity being undertaken

PPE-related training should be organized at the employer's cost during working hours.

Communication Material

Consider using following PPE-related Safety Moments:

- "Beat the heat and prevent sweat in eyes" (Attachment 1)
- "Set your sight on Safety" (Attachment 1)

5.4 Use, Storage, Maintenance and Inspection of PPE

5.4.1 Medical Evaluation

For some specific type of PPE (e.g. respiratory protection), where employees are legally, or project specifically required to be medically fit to wear that specific type of PPE, a medical evaluation must be carried out to determine if it is safe for the employee to wear that specific type of PPE.

In case medical restrictions are raised after a medical evaluation, employees must strictly comply with these medical restrictions for the safe wearing and use of the PPE.

5.4.2 Use and Storage

Use of PPE is mandatory

- in areas identified and adequately signed so that all employees are aware of the requirements
- at all times when at project site where risks exposure is expected
- as defined in chapter 4.8

Prior every use, PPE must be:

- visually inspected and functionally tested as per manufacturer's instructions
- fit tested to check if the size and type are appropriate (*applicable for some PPE only*, e.g. respiratory protection)

PPE must be used:

- with caution
- according to any existing restrictions or warning (e.g. legal or manufacturer's wearing time limitation, restricted number of uses per shift, etc.)

Single use PPE (e.g. disposable gloves) shall not be reused after one shift. New single use PPE must be used with the new shift or, at the latest, when there is a noticeable change in their efficiency. Reusable PPE can be used through multiple shifts or be changed, at the latest, when there is a noticeable change in their efficiency

PPE is intended for personal use. Whenever a given piece of equipment is worn by more than one person, action should be taken to ensure that the use of equipment does not pose any threats to health and hygiene of different users.

PPE must be:

- cleaned up after use
- stored in appropriate conditions (e.g. clean area such as a cupboard, drawer or resealable container or box or case in the case of small objects like glasses).

5.4.3 Maintenance and Inspections

Proper care and maintenance are required to ensure PPE continues to provide the necessary level of protection:

- PPE must be kept clean and repaired as per the manufacturer's instructions
- broken or damaged components must be looked for before using PPE and repaired or replaced as needed
- broken, damaged or contaminated PPE must be reported
- PPE that has expired or reached its usable lifespan must be replaced

Simple maintenance works may be conducted by trained employees. In turn, complex repairs should be carried out by specialists.

5.5 Replacement and Disposal of PPE

PPE or its components should be replaced:

- when it exceeds its 'shelf life' or life expectancy as recommended or specified in the manufacturer's instructions. In that case the PPE becomes useless for its intended use or is no longer fit for its purpose.
- When it is so badly damaged that repair is not possible or too costly.

PPE or its components must be disposed according to the applicable regulations and requirements, and as per the manufacturer's instructions, unless a PPE return policy is in place, i.e. formal agreement with the PPE supplier for returning used PPE.

5.6 PPE Required on Construction Sites

5.6.1 Standard PPE

The standard requirements for PPE on site are as follows:

Safety helmet: EN 397 or EN 14052 or equivalent labelled with the wearer's company's name

Ankle safety boots: EN ISO 20345 S3 or equivalent

Protective clothing: Closed work clothes with long sleeves and long pants, i.e.

- shirt/jacket/coat and trousers or
- coverall

The top layer of clothing must consist of

- at least 35% cotton or
- meet the requirements for clothing to protect against heat and flame or for clothing for use in welding acc. to at least one of the following standards (equivalent national or international standards are acceptable):
- EN 470-1 or
- EN ISO 11611 or
- EN ISO 11612 or
- EN ISO 14116

This also applies to the specification of weather protection clothing (see below).

Safety glasses: with side protection against mechanical hazards (EN 166 or equivalent)
Note: In high wind weather conditions goggles should be worn to prevent dirt and dust from getting into worker's eyes.

Hi-Visibility vest or jacket: EN 471 or EN ISO 20471 - Class 2

Besides this, the following PPE must **always be carried along** and be used if necessary (*as defined in related risk assessments*):

Hearing protection: for work with an exposure level >80 dB (EN 352 or equivalent) and according to labelled areas

Protective gloves against mechanical hazards: according to EN 420 or equivalent

If necessary (*as defined in related risk assessments*) further PPE must be provided and used, e.g.

Weather protection clothing Appropriate weather protection clothing (EN 343 or equivalent) or cold weather protection clothing (EN 342 or equivalent) for working in cold environment.

Protective gloves against chemical hazards according to Europe: EN ISO 374

Respiratory protective devices according to relevant EN standards

5.6.2 Job-specific PPE

For jobs with specific hazards, additional PPE and/or PPE with higher protection level must be provided.

Job-specific PPE comes *in addition* to the Standard PPE required on site and shall not lower or impair the level of protection granted by the standards PPE.

5.6.2.1 Working with the Risk of Skin & Flash Burns

During the execution of hot works with the risk of skin & flash burns, such as welding, burning, grinding, abrasive cutting etc. following job-specific PPE is required:

Protective clothing for use in welding Protective clothing for use in welding must be compliant with: EN 470-1 or EN ISO 11611 or equivalent

Note: Hi-Visibility vests or jackets must either comply with the same requirements or be taken off during the performance of respective works.

Safety Glasses / Face Screens Special glasses or full-face screens (hand shields, goggles etc.) to protect against hazardous radiation (e.g. UV, IR radiation) (EN 166, 169 or equivalent)

5.6.2.2 Working with an increased Risk of Eye Injuries

During the execution of works with an increased risk of eye injuries, such as chipping, grinding, abrasive cutting, jackhammer use etc. following job-specific PPE is required:

Double Eye Protection full-face shield must be worn over safety glasses (EN 166 or equivalent)

5.6.2.3 Working with the Risk of Falling from Height

When the provision and use of Personal Protective Equipment against falling from height of above 2 m. (e.g. safety harness with lanyard and energy absorbers) is necessary, this must comply with the following requirements:

Personal Protective Equipment against falling from height EN 354, 355, 360, 361, 362 or equivalent

5.6.2.4 Working with Rotating Equipment with the Risk of Entanglement

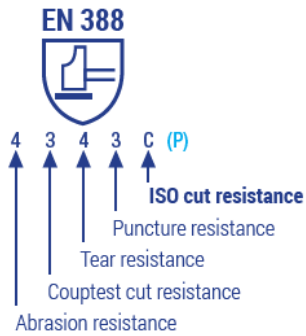
The use of gloves while working with rotating equipment (e.g. drilling machines, circular saws, bending machines) creates the potential risk of getting caught by the hand or fingers. Therefore, the risks must be reviewed and mitigated via a risk assessment so to eliminate the possibility of any hand or finger injury.

Not wearing gloves (in case of no other significant risks) or wearing gloves only with stiff outer material and fitting tightly around the fingers can provide a safer working condition, while in combination with additional safety measures (protective devices, training, regular monitoring etc.) the risks can be further reduced significantly.

Only protective gloves meeting following protection classification requirements must be used with rotating equipment presenting a risk of entanglement:

Cut Resistance Performance level "C" or higher (EN 388-2016/EN ISO 13997) or "A3" or higher (ANSI/ISEA 105-2016/ASTM F2992-15)

Tear Resistance Performance level "4" or higher (EN 388-2016)



EN/ISO Pictogram



EN/ANSI Pictogram

Product Examples

HexArmor "Rig Lizard 2021" (4243-A3)



uvex "phynomic C5" (4X42C)



Mapa "Krotech 851" (4X43DP)



5.6.2.5 Handling of Perlite

For the handling of Perlite (if not processed in a closed system) following job-specific PPE is required:

Safety Goggles Eye protection against dust

Respiratory Protection see chapter 5.6.2.6" Working with Typical Hazardous Materials from Process Plants"

5.6.2.6 Working with Typical Hazardous Materials from Process Plants

5.6.2.6.1 Respiratory protection

• Filtering Respiratory Protection Device

In order to ensure the effectivity of the respiratory protection device, its type must be selected with consideration to the Occupational Exposure Level (OEL) and the exposure concentration as follow:

- ½ mask with **gas** filter for concentration <10 OEL
- full-face mask with **gas** filter for concentration <20 OEL
- Turbo hood (TH2) or Turbo mask (TM2) with **gas** filter for concentration <20 OEL
- ½ mask with **dust** filter for concentration <20 OEL
- full-face mask with **dust** filter for concentration <40 OEL
- Turbo hood (TH2) or Turbo mask (TM2) with **dust** filter for concentration <20 OEL

Mask with filter	<ul style="list-style-type: none"> • HCN/H₂S/COS/NH₃: Full-face mask with ABEK filter type when in area of Rectisol unit with potential for gas releases exceeding exposure limits for Hydrogen Cyanide (HCN), Hydrogen Sulphide (H₂S), Carbonyl sulphide (COS), Ammonia (NH₃). It is recommended always to take along respiratory protection devices to enable escape from danger area. • H₂S: Full-face mask with Hydrogen Sulphide (H₂S) filter (at least B type) when <i>entering</i> H₂S designated operational areas. • Chlorine: Full-face mask with Cl/Cl₂ filter (at least B type) when <i>attending</i> chemical cleaning activities • NO_x: Full-face mask with Nitrogen Oxide (NO_x) filter (at least NOP3 type) when entering operational Ethylene Plant not designed by COMPANY. It is recommended always to take along respiratory protection devices to enable escape from danger area. • Acid gases & heavy metal dust: ½ mask or full mask respirator with filter type including E2 and HgP3 types when <i>attending</i> operations at a copper smelting plant in FSU. • Dust, Adsorbent & Perlite (fresh): ½ Mask with dust filter (P3) when <i>attending</i> handling operation of <u>fresh</u> adsorbents or Perlite where it is expected that dust will be generated. • Aero dispersed fibres (asbestos material related): ½ Mask with dust filter (P3) when <i>attending</i> area(s) adjacent to plant/areas with ongoing demolition activities of asbestos containing material.
Air Purifying Respirator	<ul style="list-style-type: none"> • Adsorbent & Perlite (fresh): Full-face air-purifying respirator equipped with dust filters (P3) when <i>carrying out</i> handling operation of <u>fresh</u> adsorbents or Perlite (e.g. filling/de-filling or loading/unloading) • Adsorbent & Perlite (spent): Full-face air-purifying respirator equipped with <i>appropriate</i>* filter when <i>carrying out</i> handling operation of <u>spent</u> adsorbents or perlite (e.g. filling/de-filling or loading/unloading). <p>(*Note: Spent adsorbents or perlite may contain toxic, flammable materials, or residue of N₂ or other process gas or cryogenic liquid. In such cases, filter must always be selected as per the safety information provided by the manufacturer or the shipping documents or the Safety Data Sheets or Risk assessment).</p>

• Isolated Respiratory Protection Device

Life Support System (LSS)	<ul style="list-style-type: none"> • Adsorbent: Filling / De-filling of adsorbent in <u>Radial</u> Adsorbers.
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• Escape / Evacuation Masks

<ul style="list-style-type: none"> Escape masks with or without filter 	<ul style="list-style-type: none"> NH3: It is recommended always to take along evacuation mask to enable escape from danger area. Other specific hazardous substance – as per Client requirements
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5.6.2.6.2 Gas Detector

Gas detector	Types of activities
O2 Meter	<ul style="list-style-type: none"> Attending or carrying out pre-commissioning / commissioning activities requiring process access where <i>inert gas</i> (e.g. N2, Ar) or <i>cryogenic liquid</i> (e.g. He) are used. (e.g. cleaning (flushing, blowing, drying, draining), inertization, purging, tightness testing, leak testing, etc.) Handling of <i>spent adsorbents or perlite</i> (e.g. filling/de-filling or loading/unloading). <i>(Note: Spent adsorbents or perlite may contain toxic, flammable materials, or residue of N2 or other process gas or cryogenic liquid. In such cases, always follow the special precautions provided by the manufacturer or on the labels of the shipping documents and in the Safety Data Sheets).</i> Entering confined space
CO Meter	<ul style="list-style-type: none"> Attending or carrying out pre-commissioning / commissioning activities requiring process access where <i>Carbone Monoxide</i> (CO) is used. (e.g. leak testing with CO, opening of process systems with CO, etc.)
HCN Meter	<ul style="list-style-type: none"> Opening of Rectisol purification system containing <i>Hydrogen Cyanide</i> (HCN). <i>Important note: HCN gas detector must be equipped with an H2S scrubber which eliminates the positive interference created by this gas. If hydrogen sulphide is present in the atmosphere it will cause a meter to indicate the presence of HCN when it may actually not be present. If HCN meter is not equipped with an H2S scrubber, use an H2S Meter.</i>
H2S Meter	<ul style="list-style-type: none"> Entering H2S designated operational areas*. <i>(* H2S areas are defined as location which could be expected to contain atmospheric concentrations of H2S ≥ 10 ppm from time to time in the event of any single equipment leakage.)</i> Attending or carrying out commissioning activities requiring process access where <i>Hydrogen Sulphide</i> (H2S) can be released to the atmosphere. (e.g. Sampling, venting (during operational upset), draining, when equipment or piping system is opened (ex. Rectisol purification system).
NH3 Meter	<ul style="list-style-type: none"> Attending or carrying out activities at or near by operating <i>Ammonia</i> processing plant.
Multigas detector (CO-H2S-O2-Ex/Ox)	<ul style="list-style-type: none"> Attending or carrying out pre-commissioning / commissioning activities requiring process access where <i>explosive gases</i> (e.g. <i>Natural Gas, LPG, Hydrocarbons, Alcohol, Solvents</i>), H2S, CO are present and O2 deficient.

5.6.3 Environment-specific PPE

For onsite activities taking place in environment with specific hazards, additional PPE and/or PPE with higher protection level must be provided. These must be defined in a risk assessment.

Environment-specific PPE comes *in addition* to the standard PPE and/or the job-specific PPE required onsite and shall not lower or impair the level of protection granted by the standards/ job-specific PPE.

5.6.3.1 Plants Containing Flammable/ Oxidising Substances

Following environment-specific PPE is required

- when attending or working at existing plants or at new plants after the introduction of flammable substances (e.g. hydrogen, hydrocarbon),
- when attending or working at existing plants containing oxidising gases (e.g. oxygen) or at new plants, after start of production of oxidising gases.

Protective clothing:

Closed and flame resistant/retardant and antistatic protective clothing with long sleeves and long pants, i.e.

- shirt/jacket/coat and trousers or
- coverall

The top layer of the clothing must meet the requirements for flame resistant/retardant and antistatic protective clothing acc. to the following standards and categories (equivalent national or international standards are acceptable):

- EN ISO 11612 - Categories A, B1, C1 and
- EN 1149

This also applies to the specification of necessary weather protection clothing, warning clothing or protective clothing for use in welding.

Wearing easily melting fabric under the protective clothing should be avoided.

5.6.3.2 Hot Climatic Conditions

Following environment-specific PPEs are considered best practice:

**Hard Hat Sweat
Absorbing
Accessories:**

Consider wearing, in addition to the sweat headband of the hard hat, a bandannas or skull cap or any similar sweat absorbing accessory under the hard hat to protect from the sweat brought on by a hot work environment.

**Safety
Shoes for hot
climate**

Consider wearing a safety shoes which is suitable to the hot climate condition, its lighter and allows more ventilation for the feet e.g., LARROX Work GTX

**Head
cooling bandana**

Consider wearing a cooling Bandana e.g., Bandana Air, on the head to as a mean of cooling, please note to use a helmet with a twist fix, in order to ensure it will not fall down during work.

Cooling vests

In very hot climate condition, consider wearing cooling vests e.g., Powercool SX3 RaceWeste & Powercool SX3 Shirtweste

6 Documentation and Records

This document and relevant records shall be controlled as defined in "Preparation of Internal Documents" (&AZ-Q-PP 1050.060.010 (EN)), "Distribution of Documents" (&AZ-Q-PP 1050.063.010 (EN)) and "Archiving of Documents" (&AZ-Q-PP 1050.066.010 (EN)).

7 Amendments

Amendment recommendations shall be sent in writing to the Global Execution department 'Construction and Commissioning HSE'.

8 Distribution

This document will be administered and distributed by the Global Execution department 'Construction and Commissioning HSE'.


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All rights reserved in the event of the grant of a patent, utility model or design.

9 Attachments


Attachment 1: Safety Moments

For the editable version of the safety moments, click on the icon on the left.

 Safety Moment -
Beat the heat and p

Safety moment

Beat the heat and prevent sweat in eyes



Description


- An inspector was conducting an inspection inside a vessel when he felt some sweating in his eyes due to the hot weather conditions.
- To comfort himself, he removed his gloves and safety glasses and gently scrubbed around his eyes. Shortly after, he started feeling irritation in eyes and his left eye got swollen.
- The following day he was confirmed with an eye abrasion and received some prescription eye-gels.

Causes


- Hot climatic condition at site.
- The sweatband of the hard hat was insufficient to prevent sweat from dripping from forehead down to eyes.
- Dust was present inside vessel to be inspected (normal condition)

Good Practices Guidance

- Consider wearing, in addition to the sweat headband, a bandanna or skull cap or any similar sweat absorbing accessory under the hard hat to protect from the sweat brought on by a hot work environment.



sweat headband




Sweat headband and bandanna

 Safety Moment - Set
Your Sights on Safety.

Safety Moment

Set Your Sights on Safety



More than **5** eyes injuries occur on Linde project sites each year.

1/10 of workers that suffered eyes injuries were not wearing proper eye protection during the incident.

LWDC (Lost Workday Cases)
About 2 in 5 eye injuries require one or more missed workdays.

90% of injured workers were wearing protective eyewear when the incident happened.

Most common workplace eye injuries requiring medical care

Scrape or Strike	Thermal Burns
Foreign Objects in the Eye	Blunt Force Trauma
Penetration	Chemical Burns

About **4/5** of the injuries are treated in Clinic or hospital

Most frequent activities & conditions when eye injuries occurred

Welding/Cutting	Grinding	Hot liquids/Steam/Hot weather conditions
Cleaning/Blowing/Blowing	Vessel Inspection	

How did you set your sights on safety today?

Safety Eyewear

Safe Practices

- Double safety eyewear with face shields and helmets during welding, cutting, grinding, blowing, blowing.
- Select the right colored or tinted safety glasses to prevent removing eyewear to adjust vision to brightness or contrast.
- Consider sweat absorbing accessory or integrated ventilation design features to prevent sweating in the eyes.
- Wipe clean hand tissues at all time in case eyes or face clothing is necessary.
- When practicable, let yourself be assisted to lift your face shield and have your eyes or face cleaned.
- Make use of eye wash stations instead of rubbing your eyes.