



Project Personal Protective Equipment Procedure



EXPLO National Manual for Projects Management

Volume 11, Chapter 3

Project Personal Protective Equipment Procedure



Document No. EPM-KSS-PR-000003 Rev 003



Project Personal Protective Equipment Procedure

Document Submittal History:

Revision:	Date:	Reason For Issue
000	28/08/2017	For Use
001	03/12/2017	For Use
002	19/11/2018	For Use
003	09/08/2021	For Use



Project Personal Protective Equipment Procedure

THIS NOTICE MUST ACCOMPANY EVERY COPY OF THIS DOCUMENT

IMPORTANT NOTICE

This document, ("Document") is the exclusive property of Government Expenditure & Projects Efficiency Authority.

This Document should be read in its entirety including the terms of this Important Notice. The government entities may disclose this Document or extracts of this Document to their respective consultants and/or contractors, provided that such disclosure includes this Important Notice.

Any use or reliance on this Document, or extracts thereof, by any party, including government entities and their respective consultants and/or contractors, is at that third party's sole risk and responsibility. Government Expenditure and Projects Efficiency Authority, to the maximum extent permitted by law, disclaim all liability (including for losses or damages of whatsoever nature claimed on whatsoever basis including negligence or otherwise) to any third party howsoever arising with respect to or in connection with the use of this Document including any liability caused by negligent acts or omissions.

This Document and its contents are valid only for the conditions reported in it and as of the date of this Document.



Project Personal Protective Equipment Procedure

Table of Contents

1.0	PURPOSE	5
2.0	SCOPE	5
3.0	DEFINITIONS	5
4.0	REFERENCES	5
5.0	RESPONSIBILITIES	5
5.1	Project Manager.....	5
5.2	Site Construction Manager.....	6
5.3	HSSE Manager.....	6
5.4	Project Personnel.....	6
6.0	PROCESS	6
6.1	General.....	6
6.2	Clothing.....	7
6.3	Eye and Face Protection.....	7
6.4	Head Protection.....	9
6.5	Respiratory Protection.....	9
6.6	Hearing Protection.....	9
6.7	Hand and Arm Protection	10
6.8	Body Protection.....	10
6.9	Personal Fall Arrest Systems.....	10
6.10	Electrical Protection Equipment.....	11
6.11	Specialized PPE.....	12
6.12	Inspection and testing.....	12
6.13	Enforcement.....	12
7.0	ATTACHMENTS.....	12
	Attachment 1 - Sample Gate PPE Sign.....	13
	Attachment 2 - Welding Helmet Lens Shade Selection.....	14
	Attachment 3 - Sample Glove Matrix.....	15



Project Personal Protective Equipment Procedure

1.0 PURPOSE

The purpose of this procedure is to establish the minimum Personal Protective Equipment “PPE” requirements, and a guidance on the selection and use of PPE for particular tasks and the associated risk that may have been identified as a risk

2.0 SCOPE

The scope of this procedure applies to all works performed where there is a requirement to wear Personal Protective Equipment PPE under all Government Construction Contracts executed throughout the Kingdom of Saudi Arabia.

3.0 DEFINITIONS

Definitions	Description
ANSI	American Nation Standards Institute
AIHA	American Industrial Hygiene Association
BS	British Standards.
dB(A)	A-weighted decibels, Sound Pressure level commonly applied to instrument-measured sound levels to account for the relative loudness perceived by the human ear
Entity	A Saudi Government organization, which is responsible for the delivery of government, funded infrastructure construction projects.
Equivalent	Alternative designs, materials, or methods to protect against a hazard, which the employer can demonstrate, will provide an equal or greater degree of safety for employees than the methods, materials or designs specified in the standard.
HSSE	Health, Safety, Security and Environment
JHA	Job Hazard Analysis
OSHA	Occupational Safety and Health Administration
PPE	Personal Protective Equipment
RPE	Respiratory Protective Equipment
SDS	Safety Data Sheet.

4.0 REFERENCES

- EPM-KSS-PR-000001 Project General Safe Working Requirements Procedure
- EPM-KSH-PR-000004 Project Respiratory Protective Equipment Procedure.
- EPM-KSS-PR-000005 Project Fall Protection Procedure.
- EPM-KSH-PR-000010 Project Hearing Conservation Program
- EPM-KSS-PR-000013 Project Working on or Near Water Procedure.
- OSHA 29 CFR Subpart E - Personal Protective and Life Saving Equipment.
- American Nation Standards Institute ANSI
- American Industrial Hygiene Association AIHA

5.0 RESPONSIBILITIES

5.1 Project Manager

Project Manager's responsibilities include the following:

- Overall responsibility for this procedure and for supporting this process and verifying all Project entities actively participate.
- Providing the personnel, facilities, and other resources necessary to effectively accomplish this procedure.



Project Personal Protective Equipment Procedure

5.2 Site Construction Manager

The Site Construction Manager is responsible for monitoring that the site is in compliance with applicable Health, Safety, Security and Environment HSSE requirements by:

- Providing the resources to implement the requirements of this procedure.
- Communicating with management concerning Project HSSE expectations concerning general safe work practices.
- Providing leadership regarding HSSE requirements and expectations for Managers, Project Supervisors, Superintendents and other leadership.

5.3 HSSE Manager

Site HSSE Manager's responsibilities include the following:

- Auditing this procedure.
- Confirming that this procedure meets the government requirements and regulations in the location of the Project facility.

5.4 Project Personnel

Project personnel's responsibilities include the following:

- Knowing and understanding the Environmental Safety and Health requirements of this Procedure that apply to the work they perform.
- Requesting additional information and further clarification before starting work if personnel receive assignments they do not understand.
- Complying and abiding by this Procedure for any work they perform.

6.0 PROCESS

6.1 General

All efforts must be made to control hazards at the source by means of elimination, engineering and substitution. Personal Protective Equipment use is to be considered as a last line of control.

When working in the vicinity of any vehicle or construction plant, a High Visibility Vest (with reflective strips) must also be worn.

Additional personal protective and Life Saving equipment requirements are determined based on the risks introduced by a specific work activity in accordance with the following:

- Ability of PPE to provide protection against risk without compromising individual safety.
- Suitability for the user.
- Compatibility with work activity.

All PPE must comply with a recognized national and/or international standards of design and construction.

The responsible entity site rules should cover the work's PPE requirements. A proper visual notice signs outlining the required PPE should be posted at the site entrance/zones where such equipment is required, signs must be both languages Arabic and English as a minimum. (See Attachment 1) for details.

PPE shall be selected and provided by the employer, and used to provide protection for all personnel, including visitors against the following hazards:

- General Construction.
- Mechanical Injury



Project Personal Protective Equipment Procedure

- Inhalation and respiratory tract
- Skin contact
- Chemical, biological & radiation
- Environmental.
- Biological.
- Radiological.

Personal Protective Equipment (PPE) shall be worn within all industrial facilities and construction work sites and whenever there is a significant risk of injury that can be prevented or have its severity reduced by the use of such equipment. The requirement applies to all entrants to such facilities/sites. Essential required PPE typically include but not limited to:

- Head Protection.
- Occupational Foot Protection.
- Eye Protection.
- Hand Protection.
- Employees must be provided with the necessary PPE as identified in the risk assessment for the particular work activity.
- When wearing different types of PPE at the same time (i.e. eye and hearing protection). compatibility between those PPE must be checked.
- Employers shall provide the required PPE and the necessary information, instructions and training relating to the effective use of the equipment.
- Employees are responsible for the proper care and reasonable use of any PPE supplied to them.
- Employers shall ensure that the PPE used by their employees are not defective.
- Employees not wearing, or refusing to wear PPE issued to them shall not be allowed to work, disciplinary actions against the employee may be taken under the managing entity policies and procedures and in accordance with the Saudi labor law.
- PPE shall be inspected by the User prior to each use.
- Respiratory Protective Equipment (RPE) shall be inspected by the work supervisor on a weekly basis; records of such inspections must be maintained made available to Saudi governmental inspecting agencies.

6.2 Clothing

Every employee will, at all times, wear clothing that protects the body and extremities. The typical personnel hazards listed below can be prevented as follows:

- Thermal burns from contact with hot surface can be prevented by using long sleeve shirts and cloth gloves.
- Chemical burns and/or skin absorption of allergens and toxins can be prevented or minimized by use of appropriate chemical protective clothing.

The following additional requirements shall apply:

- Loose clothing will not be worn where it can contact or catch on energized conductors, moving parts, equipment, or other hazards of this type.
- Preference should be given to natural fibers in the clothing worn by personnel.
- Short pants are prohibited as outerwear.
- Sleeveless shirts are prohibited as outerwear.
- Jewellery such as finger rings or necklaces are prohibited when there is a danger entanglement or contacting energized conductors.

6.3 Eye and Face Protection

Suitable protective goggles, face shield or screens shall be worn by personnel involved in, assisting with or working adjacent to any activity where there may be a danger of projected debris, sparks or other particles, corrosive fluids or mists, excessive heat, light or other harmful radiation. Only approved protective eyewear may be worn. Such work situations include, but are not limited to:



Project Personal Protective Equipment Procedure

- Working with rotating equipment such as grinders, drills, lathe.
- Cutting and welding.
- Chipping, chiseling or caulking.
- Using cartridge operated tools.
- Blasting - abrasive and grit.
- Working with chemicals.
- Mixing drilling fluids, acids or other toxic hazardous fluids.
- Working with paints, disinfectant, pesticides or other toxic or hazardous fluids.
- Working with strong sources of electromagnetic radiation, welding, machines, etc.
- Working in the open with the risk of windblown particles.

Safety glasses are required at all times, with the following exceptions:

- Vehicle and equipment operators inside enclosed cabs.
- Administration building (office work).
- Lunch and break periods (provided that no work is in progress in the immediate break area).
- Offices and supervisor shacks.
- When goggles are worn (unless the activity calls for double eye protection).

Safety sunglasses should be worn in strong sun glare to reduce eyestrain and fatigue. However, caution is warranted when employees must frequently move from outdoor to indoor locations. Wearing of sunglasses is not permitted indoors. Non-light-sensing glasses with tinted lenses are prohibited inside buildings or other structures with limited illumination. This includes prescription glasses. Employees whose vision requires the use of corrective lenses will wear one of the following:

- Personal eye glasses whose protective lenses provide optical correction with permanent fixed side shields and conform to the requirements of a recognized national or international standard (e.g., BS, ANSI, or equivalent).
- Safety goggles over their glasses, or goggles that incorporate a corrective lens mounted behind the protective lens, or safety over-glasses.

The following requirements to the use of eye/face protection shall apply:

- Welding and other construction activities require special types of protection, including, in some cases, double protection (Attachment 2).
- Safety glasses will have approved side shields (slip-on side shields are prohibited).
- Employees who work in tight or enclosed spaces will wear goggles, face shield, and other protective equipment.
- All grinding operations will be performed while wearing a full-face shield and safety glasses or goggles.
- Welders will wear both safety glasses and a welding hood while welding.



Project Personal Protective Equipment Procedure

6.4 Head Protection

Hard hats protect heads from falling and flying objects and from limited electrical shock and burns. Hard hats are required at all times while on a construction facility, with the following exceptions:

- Vehicle and equipment operators inside enclosed cabs.
- Administration building (office workers).
- Lunch and break periods, provided that no work is in progress in the immediate break area.
- Offices and supervisor shacks.

Hard hats are to be worn in accordance with all manufacturer requirements. Painting hard hats shall be prohibited. Hard hats must be worn directly on the head to ensure proper function and head protection. The wearing of baseball caps or other headgear under the hard hat shall be prohibited.

6.5 Respiratory Protection

Respiratory protection will be worn in accordance with the requirements established in EPM-KSH-PR-000004 Project Respiratory Protective Equipment Procedure. In summary, the following requirements shall apply:

Respiratory protective equipment shall be available to all persons who are exposed to any situation in which there is a possibility of the atmosphere being or becoming deficient in oxygen or containing any harmful substance (e.g., particle, dust mist, vapor or gas), including the following:

- o Work in containers or vessels where a danger of oxygen deficiency or harmful gases may be present.
- o Work in shafts, sewers or enclosed septic tanks.
- o Work in refrigeration plants where the danger of escape of refrigerant gas exists.
- o Grit or abrasive blasting operations.

Respiratory protective equipment will be used, stored, and maintained in accordance with the manufacturer's requirements.

Respiratory protective equipment will be selected on the basis of hazards to which the employee will be exposed. Protection will be selected following a risk assessment of the work to be performed (e.g., Job Hazard Analysis JHA, method statement, etc.) and based on the information provided on the Safety Data Sheet (SDS) associated with the substance being used.

6.6 Hearing Protection

Hearing protection will be worn in accordance with the requirements established in EPM-KSH-PR-000010 Project Hearing Conservation Program. In summary, the following requirements shall apply:

- Suitable hearing protection shall be made available to all workers exposed to noise levels of 85 dB(A) or above.
- When noise levels reach 85 dB(A) for an eight-hour work period, implementation of Hearing Conservation Program requirements is mandatory.
- At least two types of hearing protectors will be made available to employees. In general, hearing protection worn frequently shall be issued on a personal basis. In addition to personal issue it is recommended to leave suitable hearing protection by the entrance into high-level noise areas.
- Other than disposable hearing protection, equipment shall be properly inspected and cleaned.
- The workplace Health, Safety, Security and Environment HSSE Supervisor is responsible for establishing areas under control of the construction group where hearing protection may be required to be worn. This includes the use of protective equipment required when operating equipment that produces sound levels above 90 dB(A).
- If hearing protection requirements are not posted in an area, but it is suspected that hearing protection is needed there, the matter shall be reported to the HSE Supervisor to conduct noise monitoring to confirm decibel levels.



Project Personal Protective Equipment Procedure

- All individuals in areas where the noise exposure meets or exceeds the following established limits will wear hearing protection. If hearing protection requirements are not posted in an area, but it is suspected that hearing protection is needed there, the matter shall be reported to the HSE Supervisor.

Table 1 Decibel (dB) Exposure Timeline Guidelines

Hours duration Per day	Sound Level [dba]
16	82
12	83
10	84
8	85
4	88
2	91
1	94
30 min.	97
15 min.	100
7.5 min.	103
6.0 min	104
4.5 mins	105
89 Sec.	110
28 Sec.	115

6.7 Hand and Arm Protection

Adequate hand and arm protection shall be available for all manual labor. The type of protection worn shall be selected according to the hazard to be protected against. These include but not limited to:

- Impacts, cuts, abrasions and infections.
- Extreme temperatures.
- Chemical, toxic, corrosive and other hazardous substances.

The HSE Department is responsible for the selection of appropriate hand protection. Selection will be based upon the hazards and tasks to be performed. A Sample glove matrix is in (Attachment 3).

6.8 Body Protection

Specific and adequate body protection shall be supplied for all work activities, which present certain hazards to personnel, including but not limited to:

- Working in extremes of temperature, such as firefighting, heating furnace attendance, working in refrigeration plants, etc.
- Welding, burning, cutting and grinding.
- Handling or mixing of acids and other toxic, corrosive or hazardous chemicals.
- Clean up and disposal of hazardous wastes (e.g. asbestos, hydrocarbons etc.).

6.9 Personal Fall Arrest Systems

Fall protection will be used in accordance with the requirements established in EPM-KSS-PR-000005 Project Fall Protection Procedure. In summary, the following requirements shall apply:

- Safety harnesses and lifelines shall be provided, worn and properly secured in all work situations where any of the following dangers exist:
 - o Falling from a height greater than 2 meters.
 - o Succumbing to toxic atmospheres or oxygen deficiency.



Project Personal Protective Equipment Procedure

Such situations include, but are not limited to:

- Working on scaffolding.
- Work on any high structure, whether in construction or maintenance, including petroleum processing plants.
- Drilling rigs, storage tanks, etc.
- Work over water.
- Rescue work, in firefighting, from high structures and from hazardous atmospheres.

Only safety full body harnesses shall be used. All such safety harnesses and lifelines shall be manufactured and inspected in conformance to a recognized national or international standard.

6.10 Electrical Protection Equipment

Electrical protection equipment appropriate for the voltage to be encountered will be worn when working on lines, unless the lines are de-energized and grounded; when changing, or moving ground wires or neutrals on energized equipment; when working within 2 meters of exposed energized lines or exposed live parts; or whenever a worker considers it advisable.

Manufacture classification will be clearly marked on all electrical protection equipment.

Repairs can be made to electrical protection equipment but must strictly conform to the standard.

Rubber gloves will be worn at all times when a worker is in the primary zone and can contact an energized conductor. Rubber sleeves will also be worn whenever the worker regards it as advisable for safety reasons. The primary zone extends 2 meters from conductors and equipment energized in excess of 600 volts.

When racking out 4.16 kV bus breakers, personnel will use safety spectacles or goggles covered by a face shield to prevent personal injury in the event of an electrical flash.

All electrically insulating equipment will be inspected for damage.

All electrical insulating equipment will be tested at least every 12 months.

The following specific requirements apply to insulating blankets, covers, line hose, gloves, and sleeves made of rubber:

- Insulating equipment will be inspected for damage before each day's use and immediately following any incident that can reasonably be suspected of having caused damage. Insulating gloves will be given an air test, along with the inspection.
- Insulating equipment with any of the following defects may not be used:
 - o A hole, tear, puncture, or cut.
 - o Ozone cutting or ozone checking (the cutting action produced by ozone on rubber under mechanical stress into a series of interlacing cracks).
 - o An embedded foreign object.
 - o Any of the following texture changes: swelling, softening, hardening, or becoming sticky or inelastic.
 - o Any other defect that damages the insulating properties.
- Insulating equipment found to have other defects that might affect its insulating properties will be removed from service and returned for testing.
- Insulating equipment will be cleaned as needed to remove foreign substances.
- Insulating equipment will be stored in such a location and in such a manner as to protect it from light, temperature extremes, excessive humidity, ozone, and other injurious substances and conditions.
- Protector gloves will be worn over insulating gloves, but need not be used with Class 0 gloves, under limited-use conditions, where small equipment and parts manipulation necessitate unusually great finger dexterity.



Project Personal Protective Equipment Procedure

- Marking on gloves will be confined to the cuffs and be of non-conducting material.

6.11 Specialized PPE

Life jackets will be worn by employees when working from a boat, near open water, or in any place where the danger of drowning exists. This includes work in specific areas of cooling tower basins. For more information regarding working near water refer to EPM-KSS-PR-000013 Project Work over or Near Water Procedure

6.12 Inspection and testing

All personal protective equipment shall be inspected at regular intervals, tested in accordance to manufacturer's guidance, and conform to international standards.

6.13 Enforcement

Supervisors are responsible for ensuring that the requirements of these procedures are discussed with and implemented by their assigned personnel. All supervisors of work activities will ensure that all personnel in the work area comply with the requirements of this procedure.

Improper use or failure to use personal protective equipment and wearing apparel is considered a violation of safe work practices and work rules. Disciplinary action could be taken according to project/facility work rules.

In some cases, disciplinary action may also be directed beyond employees observed in the actual violation (e.g. Failure to report unsafe acts and those cases where it is determined that supervisors or foremen had knowledge that employees were consistently violating safety work practices and the supervisor failed to initiate any action to correct the situation).

7.0 ATTACHMENTS

1. Sample Gate PPE Sign.
2. Welding Helmet Lens Shade Selection.
3. Sample Glove Matrix.



Project Personal Protective Equipment Procedure

Attachment 1 - Sample Gate PPE Sign

Site Safety Instructions تعليمات سلامة الموقع	
	Authorized Persons Only الدخول للأشخاص المصرح لهم فقط
	Safety helmet must be worn يجب ارتداء خوذة السلامة
	Safety boots must be worn يجب ارتداء أحذية السلامة
	Eye protection must be worn يجب ارتداء نظارات السلامة
	High visibility vest must be worn يجب ارتداء السترة العاكسة
	Safety gloves must be worn يجب ارتداء قفازات السلامة



Project Personal Protective Equipment Procedure

Attachment 2 - Welding Helmet Lens Shade Selection

Type of Work	Filter Shade Numbers
Shielded metal-arc welding: 1/16-, 3/32-, 1/8-, 5/32-inch electrodes	10
Gas-shielded arc welding (nonferrous): 1/16-, 3/32-, 1/8-, 5/32-inch electrodes	11
Gas-shielded arc welding (ferrous): 1/16-, 3/32-, 1/8-, 5/32-inch electrodes	12
Shielded metal-arc welding: 3/16-, 7/32-, 1/4-inch electrodes	12
Shielded metal-arc welding: 5/16-, 3/8-inch electrodes	14
Atomic hydrogen welding	10-14
Carbon arc welding	14
Soldering	2
Torch brazing	3 or 4
Light cutting, up to 1 inch	3 or 4
Medium cutting, 1 inch to 6 inches	4 or 5
Heavy cutting, 6 inches and over	5 or 6
Gas welding (light) up to 1/8 inch	4 or 5
Gas welding (medium) 1/8 inch to 1/2 inch	5 or 6
Gas welding (heavy) 1/2 inch and over	6 or 8



Project Personal Protective Equipment Procedure

Attachment 3 - Sample Glove Matrix

Important Note: This matrix is only to be used as a suggestive general guide. Consult with your HSE Supervisor for further guidance

Work /Glove type	Cut Resistant	Impact Protection /Cut Resistant	Abrasion Protection/ Leather	Chemical (Neoprene & Nitrile)	Hot Works	Latex / Nitrile
Access to Site All employees/Visitors						
Carpentry/Form Work		**				
Chemical, Glues, Epoxies, Paint, Resins Handling				*		
Electrical Wiring (Not Energised)						
Heavy Duty Drilling						
Fuel Handling/Refuelling				*		
Handling Sharp, Jagged Objects		**				
Jack Hammering						
Masonry Work (Wet Cement)				*		
Masonry Work (Excluding Wet Cement)						
Medical / First Aid						
Mechanical		**				
Oils, Fuels, Grease Handling				*		
Pipefitting		**				
Rebar, Steel Work		**				
Rigging		**				
Saw Cutting Protected Blade						
Scaffold Erection/Dismantling						
Using Electrical/Hand Tools						
Using Knife/Unprotected Blade						
Welding, Cutting, Burning (Hot Works)						

*Check Chemical Safety Data Sheet and complete chemical evaluation through SDS/and risk assessment to determine the type of gloves

** Where risk of impact is present

LIVE ELECTRICAL WORK – Specific gloves to be prescribed by Electrical Field Engineer and HSE, in line with specific regulations and standards.

ANTI-VIBRATION GLOVES – Specific gloves to be prescribed where the tool is not fitted with anti-vibration technology.