



**HEALTH, SAFETY &
ENVIRONMENTAL PROGRAM**

Section: Personal Protective Equipment

PREPARED BY: HEALTH AND SAFETY TEAM

DATE OF ORIGIN: 02/02/2023

REVISION # 1

OF PAGES: 7

PPE

PURPOSE

All workers must wear the basic requirements for personal protective equipment (PPE) in all CF workplaces at all times. Supervisors will adequately assess the need for PPE and ensure it is supplied and worn when necessary. When additional personal protective equipment is required in the workplace, all workers shall comply with the requirements. Workers will be trained in the proper use of PPE and any worker failing to comply with PPE requirements will not be permitted into CF workplaces.

SCOPE

Personal Protective Equipment (PPE)

Each worker must be:

- Instructed in the proper use and maintenance of personal protective equipment.
- Instructed when and why it is to be used.
- Informed of its limitations.
- Instructed when and how it is to be replaced.
- Instructed to inform supervisors of any physical or medical limitations while wearing the equipment.
- Checked for proper fit.

Basic Requirements

- All safety equipment must meet CSA standards and shall carry markings, numbers, or certificates of approval. See table below for a guide to personal protective equipment.
- Hard hats are to be worn in accordance with pertinent safety standards.
- Safety glasses shall be equipped with side shields and fit high enough on the nose to adequately protect the eyes.
- All prescription glasses shall meet all safety glass requirements including permanently affixed side shields.
- All PPE should be visually inspected prior to use and as per manufacturer requirements.
- Ear protection must be adequate and comfortable.
- Safety footwear must be worn.
- All eye and face protection must fit properly with appropriate head protection.
- Safety harnesses and shock-absorbing lanyards are to provide maximum safety and be as comfortable as practical.
- High visibility vests must be worn in high traffic areas.
- Basic clothing shall be worn by all workers (full legged pants and shirts with a sleeve). Muscle shirts and shorts will not be permitted. Full body clothing may be required in certain jurisdictions.
- Respiratory equipment must fit properly and be used within its limitations. Manufacturer's specifications must be followed. Where an airtight seal is required, workers must be clean shaven.
- Regular safety audits will include checking to ensure that all personal protective equipment is worn and used as per manufacturer's requirements.

Note: Safety equipment must fit properly and provide protection. More than one style of personal protective devices may be necessary. Old or defective equipment must be discarded.



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Personal Protective Equipment Guide

Body Area	Work	Required PPE's
Eyes, Face & Mouth	Low velocity flying particles	Safety glasses with side shields
	High velocity chips and sparks	Impact goggles or safety glasses with rated full-face shield
	Corrosive liquid splash during transfer	Splash-proof goggles and face shield
	Breaking into an acid piping system	Acid hood
	Medical emergencies	Face mask, safety glasses & whenever CPR is administered a micro shield. Bleach clean-up.
Head	e.g. Overhead rigging Material Handling Maintenance & general construction operation, etc.	Hard hat must be CSA approved
Ears	High noise level	Ear plugs or muffs
Respiratory Protection	Low hazard inert dusts	Dust mask
	Low concentration solvent vapours	Cartridge type organic vapour respirator
	Acid mists	Cartridge type acid mist respirator
	High concentration of dust or vapour	Supplied air respirator
	Oxygen deficiencies or gases	Confined Space Procedure
	Airborne silica	Approved NIOSH half mask, high efficiency air purifying respirator. See respirator program.
Hands & Arms	Handling rough or sharp objects	Cut resistant gloves/Insulated gloves
	Handling hot objects	Insulated Gloves approved for heat
	Using solvents	Approved gloves for this use
	High voltage work	Approved rubber gloves with covers (dielectric approved)
	Medical emergencies	Rubber gloves - Bleach clean-up
	Vibrating tools	Anti-vibration gloves/mats



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Trunk & Full Body	Working with steam corrosive liquid	Synthetic apron
	Punctures, impacts or cuts	Canvas or leather kickback apron or metal mesh apron
	Breaking acid lines	Full body suit made of appropriate materials
	Traffic areas	High visibility vests
	Outdoors	Sunscreen/and or clothing
Knees	Kneeling	Gel knee pads
Fall Protection	Working from elevated structure of platform without guardrails	Fall Protection full body harness and shock-absorbing lanyard OR Travel-restraint systems.
	Vessel entry; specifically review Confined Space requirements	see Confined Space Procedure
	Work at elevation where hazards below exist or potential for hitting ground	Approved Anchor Point, Full body harness and retractable lanyard/lifeline.
	Suspended scaffolds	Lifeline, rope grab, full body harness and shock-absorbing lanyard.
Feet	General Safety	Steel-toed Boots
	Corrosive Areas	Rubber or other suitable steel-toed boots
	Slippery surface	Appropriate grip soled steel-toed boots



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Hand & Arm Protection

Standard

Hand and arm protection suitable to the hazard shall be used.

Hand Protection

Procedure

Hand protection shall be used as follows:

- Skin damage due to solvents, chemicals and other agents shall be prevented by using the protective gloves or barrier cream required by the WHMIS 2015 / Hazard Communications Safety Data Sheet / SDS.
- Dielectrically tested rubber gloves are required on all power line work and where there is possible contact with energized circuits. Gloves will need to be retested as per manufacturer requirements.
- Tool holders are required where the hazard of being struck by a driving force exists.
- Tag lines are required to control loads. Keep hands clear of loads and sling pinch points. Do not wrap tag lines around hands.
- Clamps shall be used to hold small pieces when using power tools.
- Rings and other jewelry must be removed if there is a likelihood of entanglement.
- Leather faced gloves are required when handling wire rope, sharp objects, or hot metals.
- Cut resistant gloves should be worn when working with sharp tools and materials.
- Anti-vibration gloves may be necessary with certain tooling/machinery. (refer to hand arm vibration for more information)

Arm Protection

Long sleeves or arm protectors are required to protect the arm during hot work or other work that poses a risk of heat, burns, arc flash, flames or other thermal hazards.

Flame Resistant Coveralls Standard

Flame resistant coveralls are required to be worn where there is the potential for flash fire.

Procedure

Flame resistant clothing shall be worn as follows:

- Cutting and welding on live lines
- Purging gas from a line
- Within 5 meters of blowing gas
- When plant systems have been altered by damage or hazardous environmental changes
- Abandoning mains or services
- Cutting (hot or cold) on live pipelines
- Until the pipe has been completely blown down and purged
- In excavations/trenches where natural gas is present
- During high volume tapping tee fusions
- Welding on live, open end pipelines
- Stopping and tapping operations



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- Gouging
- Leak repair; or any other situation where potential for gas to blow or accumulate, or of an accidental flash fire exists.

Note: Consult the H&S Department

Other requirements for the wearing of flame resistant clothing can be when working in refineries and similar workplaces.

Wearing Flame Retardant Clothing

The garment is made of a material that will slow, terminate or prevent flaming combustion. Follow these simple steps to ensure you are adequately protected.

- Fasten the coveralls up the front
- At the wrists
- At the ankles
- Tightly draw the hood to prevent escaping gases from accumulating inside the coveralls.
- Draw the hood over the head for added protection.
- Flame resistant hoods or balaclavas must be worn underneath hard hats.

Protection

The coveralls are designed to provide some degree of protection from a flash fire and give you time to escape the fire area.

They are not intended to protect from prolonged exposure to fire.

Note: Generally, coveralls provide more protection if worn over cotton or woolen clothing as opposed to synthetic fabric, like nylon or polyester.

Maintenance of Clothing

The flame retardant coveralls are to be kept reasonably clean, free of oils, greases and other flammable items, and have not reached the point of serious deterioration. The supervisor shall ensure flame resistant clothing is changed as required.

If you wash your coveralls:

- Refer to manufacturer guidelines
- Use cold water and usual laundry detergent
- Do not wash with other light coloured clothing articles, se the material is not colour- fast
- Do not use bleach (bleach removes the flame retardant qualities)
- Dry at a low temperature to prevent shrinking

Storage

When not in use, store coveralls in a clean, dry place.



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Note: Flame Resistant coveralls form a component to Arc Flash protection. Refer to Arc Flash guidelines for further information.

Respirators

Standard

Where workers are exposed to hazardous dusts, fumes, mists, vapours, etc, suitable respiratory protection will be worn.

Protection Factors

The level of protection offered by the various types of respirators is rated by the amount of leakage that can be typically expected and is referred to as "Protection Factor."

Protection Factor = Amount of contaminants outside the respirator/Amount of contaminants inside the respirator

Example - A half face Air Purifying Respirator Protection Factor = 100/10

Protection Factor = 10

The Protection Factor is assigned by NIOSH and is determined by laboratory testing of the equipment.

½ Face APR	FF APR	FF PAPR	Hood PAPR	Airline SAR	Airline SAR w/escape	SCBA
10	50	100	25	100	10,000	10,000

Definitions:

- ½ Face APR = ½ Face Air Purifying Respirator
- FFAPR = Full Face Air Purifying Respirator
- FFPAPR = Full Face Powered Air Purifying Respirator
- Hood PAPR = Hooded Powered Air Purifying Respirator
- Airline SAR = Airline Supplied Air Respirator
- Airline SAR w/escape = Airline Supplied Air Respirator with escape bottle
- SCBA = Self Contained Breathing Apparatus

Respirator Selection

The type of hazardous dusts, mists, gases, fumes and the concentration in which they are present in the workplace dictate which type of respirator that needs to be worn. Specific information regarding a product and the potential toxicity can be found in the Safety Data Sheets (SDS). The SDS should indicate whether or not a product can cause harmful effects if it is inhaled and what levels of exposure are hazardous. The SDS should also indicate what type of respirator is required. When contaminants are unknown, atmospheric testing will have to be performed by qualified personnel to determine what personal protective equipment will be necessary to adequately protect workers. Consult the H&S Team for assistance.



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Note: The selection of an Air Purifying Respirator requires the use of appropriate filter Cartridges matched to the hazard.

Training

Each worker that is assigned respiratory protection must receive training on the best safe practices regarding the use, care and limitations of the respirator he/she is assigned. Training must be delivered by a competent worker and recorded by means of a Training Memo (see orientation, training and education section of this manual).

Fit Testing

All workers required to wear a respirator will receive a fit test to determine what size of respirator they require and to ensure an adequate face seal is achieved with the respirator face piece.

Workers with beards, long sideburns, or heavy stubble may not wear respirators because the hair breaks the seal between the skin and the respirator mask.

Only facial hair that does NOT contact or break the respirator seal is permitted.

When wearing a full-face respirator, eyeglasses may not be worn as this will break the respirator seal. Breaking the seal means that the respirator mask will "leak" and will not provide the needed respiratory protection.

Contact the H&S Team for any questions regarding respirator fit or fit testing.

There are two basic types of fit testing, Quantitative and Qualitative. A Qualitative fit test will be performed. Contact the safety department for assistance. In order to ensure an effective face seal, you must be clean shaven.