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NCWSC/SCD/CONT/37/2022/VOL.III/8169/BKK

27th March, 2023

To **ALL BIDDERS**

Dear Sir,

RE: ADDENDUM NO. 1 - NCWSC/37/2022 - SUPPLY & DELIVERY OF PERSONAL PROTECTIVE EQUIPMENT (RE-ADVERTISEMENT).

Bidders are advised to take note of the changes made on the Price Schedule and Technical specifications (annex 1) below:

The closing date has been extended from **Friday, 31st March, 2023** at **12:00 noon** to **Friday, 14th April, 2023** at **12:00 noon.**

Benedict Kiema
For Managing Director

ANNEX 1:
PRICE SCHEDULE

Category of PPE	Type of PPE (as per specifications)	Total Quantities	Country of Origin	Unit Price	Total Cost
Head Protection	Industrial Helmet	1325			
	Bump cap	68			
	Bush Hat	101			
Body Protection	Chemical Resistant Coverall/PVC Coverall	687			
	Heavy Coat	352			
	Fleece jacket (Hooded jumper)	100			
	High Visibility Reflective Vest	1691			
	Chest waders	54			
	Chemical resistant aprons	24			
	Welding apron	24			
Foot and Knee Protection	Safety Gumboots	849			
	Knee pads	127			
Hand Protection	Nitrile chemical resistant gloves	1056			
	Leather gloves	1472			
	Impregnated PVC Gloves	6168			
	PVC gloves with cotton lining and extension sleeve	54			
	High Voltage Gloves (Rubber insulating gloves)	10			
	Mechanics Gloves (Anti-Tear and Firm Grip)	798			
Respiratory Protection	Respirator cartridges	72 Pairs			
	Half face respirator	60			
	Full face respirator	12			
Eye Protection	Chemical full face shield	12			
	Safety goggles (chemical/splash)	12			
	Ultraviolet (UV) Safety Goggles	24			
	Welding face shield	24			
Fall Protection	Full body harness	54			
	Twin webbing lanyard with energy absorber with 2 scaffold hooks	54			
Sub Total					
Add 16% Vat					
Grand Total					

Shortest Delivery Period after award and receipt of LPO: ……

Name of Bidder……

Physical Address……

Building……

Town……

Name of Authorized Representative of Bidder……

Signature……

Date……

Official Stamp/Company Seal

TECHNICAL SPECIFICATIONS

TECHNICAL SPECIFICATIONS FOR PERSONAL PROTECTIVE EQUIPMENT (PPE)

1.0 Introduction

NCWSC is required pursuant to Rules 8(1) to (5) of the Factories and Other Places of Work (Hazardous Substances) Rules, 2007, to provide Personal Protective Equipment (PPE) to all staff working in hazardous areas or in worksites where it is not reasonably practical to reduce exposures through appropriate control measures.

In an endeavour to comply with the above provisions, the Company has continuously provided PPEs to her staff. However, while executing this responsibility, particular concerns have been raised, which include but not limited to quality.

These Specifications provide details for all Individual PPEs. The specifications provide minimum requirements expected from the PPEs that will be supplied to the Company.

1.1 Coverage

Head Protection
Industrial Helmet
Bump cap
Bush Hat
Body Protection
Chemical Resistant Coverall/PVC Coverall
Heavy Coat
Fleece jacket (Hooded jumper)
High Visibility Reflective Vest
Foot and Knee Protection
Safety Gumboots
Knee pads

2.1 Industrial Helmet

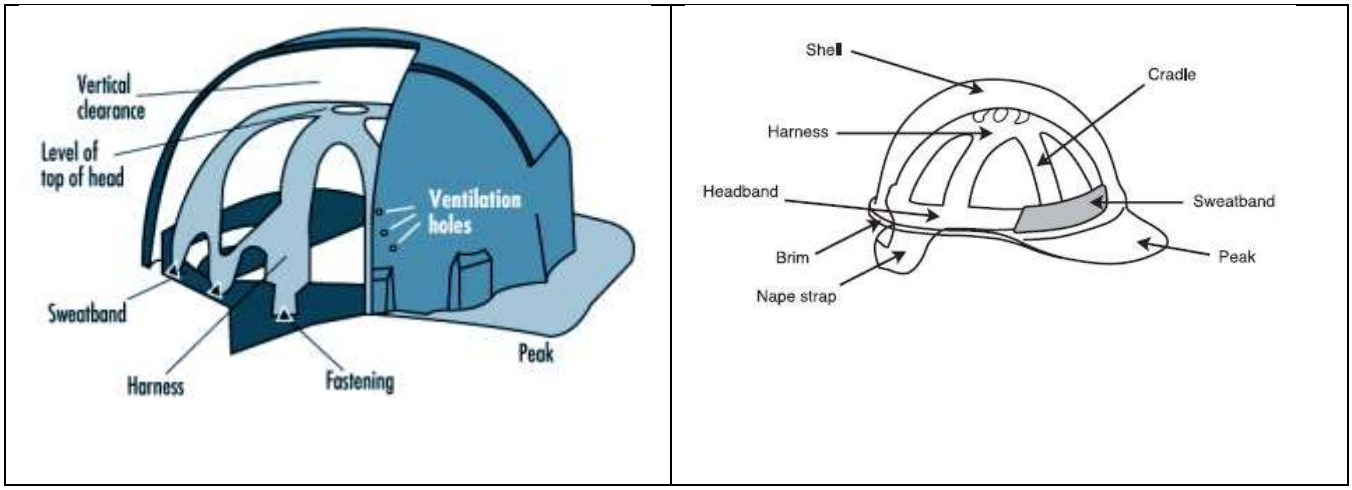
2.1.1 Brief Introduction

This is a safety headgear intended to primarily provide protection to the wearer from falling or flying objects and other hazards with consequential brain injury and skull fracture. It shall also provide some protection from lateral compressive loads.

2.1.2 Target User

The industrial helmet shall be designed for use by field staff who by nature of their work are exposed to falling, flying objects and any other designated environment.

2.1.3 Sketch



2.1.4 Functional and Technical Specifications

- The helmet shall be designed, manufactured and tested in accordance with KS 963:1990, ISO 3873, BS EN 397 and BS EN 960 and shall include at least a shell, a harness and sweatband to improve users comfort.
- It must conform to the mandatory requirements in accordance to EN 397 and ISO 3873 for shock absorption, resistance to penetration, flame resistance, chinstrap anchorage and label. The shell shall be manufactured from high density Polyethylene that is comfortable, tough and lightweight.
- It shall have 4-point ratchet suspension with height adjustment to provide perfect impact protection.
- The helmet shall have slots for accessories attachments, such as face shields and earmuffs.
- It shall have fixed adjustable chinstrap.
- The following markings shall appear on the helmet;
    - Standard of manufacture.
    - Name or trademark of the manufacturer.
    - Country of origin.

- Month and year of manufacture (Supply date not older than one year from the manufacture date).
- Low Temperature -20°C for the low temperature requirement which should provide protection when worn in or above these temperatures.
- '440V' for the electrical insulation requirement which is to protect user against short term accidental contact with live electrical conductors up to this voltage.

- The helmets colors shall be provided by NCWSC.
- NCWSC logo shall be marked in indelible ink at the front of the helmet.

Bidders response…… Yes/No……

2.2 Bump cap

2.2.1 General Introduction
A bump cap is intended to protect the wearers head against injury caused by striking the head against hard, stationary objects.

2.2.2 Target user
The bump caps are designed for use by staff working in enclosed, confined working arears like garage and any other designated environment.

2.2.3 Sketch

2.2.4 Technical and Functional Specifications

- The bump cap shall be designed, manufactured and tested in accordance with BS EN 812:2012.
- The bump cap will consist of a smooth shell which is enclosed by an outer covering. It shall incorporate means to absorb the energy of an impact.
- There shall be no sharp edge roughness or projection on any part of the cap which is in contact or potential contact with the wearer when the cap is worn.
- N.C.W.S.C initials of size 40mm height shall be marked in indelible ink centrally at the back as per the approved sample.

Bidders response…… Yes/No……

2.3 Bush Hat

2.3.1 Brief Introduction

The bush hat is ideal for protecting field staff from direct sunlight.

2.3.2 Target User

The bush hat is suitable for field staff working in waste water treatment plants and any other designated areas.

2.3.3 Sketch

2.3.4 Technical and Functional Specifications

- The bush hat shall be lightweight (approx. 100g) and can easily be folded away and carried in a pocket or bag when not needed.
- The material shall be 100% Cotton, Breathable and have inbuilt sun factor protection.
- The bush hat shall have a fastening strap around the chin.
- NCWSC logo shall be embroidered at the front.
- The sizes shall be as indicated in the table below;

Bush Hat	Small	Medium	Large	Extra Large
Size in CM	56-57	57-58	59-60	60-61

Bidders response…… Yes/No……

2.4 Chemical Resistant Coverall (ISO 13982-1:2004 (E)

2.4.1 Brief Introduction

- The chemical resistant Coverall shall be designed to be worn over every day clothes to protect the wearer from direct contact with acid, chemical and wastewater splashes.
- The coverall shall be made so that the wearer has freedom of movement and shall be as comfortable as possible, consistent with the protection afforded by the garment. It shall cover the body against effect of acids, which could enter the body through skin absorption or tissue damage upon contact with the skin. It shall protect the body, arms and legs of the wearer.
- It shall be yellow in colour.

2.4.2 Target User
It shall be suitable for use in the chemical warehouse/store, laboratory/testing area, treatment plants and any other designated environment.
2.4.3 Sketch

2.4.4 Technical and Functional Specifications
The coverall shall have long sleeves, high collar and front zip (waist to top) the zip shall be made of corrosion resistant material.
It shall have 2 front patch pockets comprising of one chest (145mm wide by 155mm deep) and two hip pockets (190mm wide by 230 mm deep) With a tolerance of ±10mm and a tool pocket with a flap on the right leg. All pockets except hip pockets shall have buttons for fastening. Each side of the coverall next to the hip pocket shall have an opening of 180mm length for a hand to access the inner pockets of ordinary clothes.
NCWSC Logo shall be embroidered on the left chest area above the pocket. The Logo shall be at least 65mm by 65mm in size, with a tolerance of ±10mm.

N.C.W.S.C initials of size 40mm height shall be printed in indelible ink centrally at the back as per the approved sample.

The coverall shall have a quality retro-reflective material that meets the minimum requirements of international high visibility standards (ANSI 107:2004 and EN471:2003, up to at least 25 home wash cycles according to ISO 6330:2A. It shall have one horizontal reflective band plus two shoulder bands for improved night-time visibility in all work environments as per the approved sample.
The physical Characteristics for the fabric for Acid protective coverall shall be as per KS 08-541:1
The acid protective coverall shall be made from materials of minimum physical characteristic given below;

Fabric Reference	Fibre Composition	Weave	Threads/cm		Mass g/m2	Breaking Load N		Tear Strength	
			Warp	weft		warp	weft	warp	weft
TP1	100% polyester	Plain	15	13	230	1840	1490	160	175

Bidders response…… Yes/No……

2.5 Heavy Coat

2.5.1 Brief Introduction

The heavy coat shall protect workers from extreme cold conditions. In addition, the heavy coat will feature a waterproof material that will keep the wearer dry and protected.

2.5 2 Target User

The heavy coat shall be suitable for use during cold weather and rainy seasons by employees working in the water production areas, water transmission and distribution and other designated working areas.

2.5.3 Sketch

2.5.4 Technical and Functional Specifications

- The Heavy Coat Shall satisfy the essential safety and health requirements of the PPE Regulation (EU) 2016/425; EN 342 (0.435(M^2.K/W)) (2017);
- The Shell Fabric of the heavy coat shall be 100% Polyester 300D Oxford Weave, PU Coated 190g
- The Lining Fabric shall be 100% Polyester 55g
- The Filling Fabric shall be 100% Polyester 320g
- The heavy coats shall be long sleeved, with fur lined collar and a Concealed detachable hood.
- The Coat shall be Waterproof, comprise Inner knitted cuff and Taped seams to provide additional protection, shall be wind resistant and have elasticated back waist for a secure fit.
- The closure type shall be Zipper
- The heavy Coat shall have 2 external hip pockets with flip closure and 2 other pockets located on the inside lining of the coat and located at the rib zone.
- NCWSC Logo shall be embroidered on the left chest area. The Logo shall be at least 65mm by 65mm in size.
- N.C.W.S.C initials of size **40mm** height shall be printed in indelible ink centrally at the back as per the approved sample.

- A quality retro-reflective material that meets the minimum requirements of international high visibility standards(ANSI 107:2004 and EN471:2003, up to at least 25 home wash cycles according to ISO 6330:2A.
- The heavy coat shall have one horizontal reflective band plus two shoulder and arm bands for improved night time visibility in all work environments as per the approved sample.
- **Certification shall be in accordance to EN 342**

Bidders response…… Yes/No……

2.6 Fleece jacket (Hooded jumper)—(KS 2888: 2020)

2.6.1 Brief Introduction

A fleece jacket is lightweight casual jacket made of polyester synthetic wool. It's a garment made primarily from 100% fleece fabric (wool like fabric).

2.6.2 Target User

It shall be suitable for use in cold weather work areas and any other designated environment.

2.6.3 Sketch

2.6.4 Technical and Functional Specifications

• The fleece jacket shall be manufactured and tested in accordance with KS 2888: 2020

- They shall comply with the technical requirements given in the Table below when tested in accordance with the prescribed standards.

SL/No	Characteristic	Requirement	Test standard
1	Dimensional (Procedure 4N)	± 5 % KS	change ISO 3759, KS ISO 5077 and KS ISO 6330
2	Fiber composition and proportion	As declared ± 5 %	KS ISO 1833 series

- NCWSC Logo shall be embroidered on the left chest area above the pocket. The Logo shall be at least 65mm by 65mm in size, with a tolerance of ±5mm.

- N.C.W.S.C initials of size 40mm height shall be printed in indelible ink centrally at the back as per the approved sample

- The design, material and color shall be as per the approved sample.

Bidders response…… Yes/No……

2.7 High Visibility Reflective Vest

2.7.1 Brief Introduction

The reflective vest shall be worn over every day clothes, covering the torso for visibility.

2.7.2 Target User

The vest shall be suitable to increase visibility of field staff working in hazardous environments and sites with low visibility.

2.7.3 Sketch

2.7.4 Technical and Functional Specifications

- The high visibility vests shall be designed, manufactured, stitched and constructed as per ISO EN 20471:2013 offering class 3 protection.
- The testing methods for performance, mechanical requirements on tensile/bursting strength and physiological performance shall be in conformity to the ISO 20471:2013 standards.
- The vest shall have front fastness construction for greater wearer comfort and maneuverability.
- Polyamide/metal zip fasteners with metallic stoppers on both ends shall be provided for closing and opening of the vest.
- The arm cut shall be at reasonable distance such that the wearer shall find no obstacles in wearing or working with the vest.
- The fabric content shall be 65% polyester & 35% cotton fabric. This fabric shall be ISO 20471 approved for colour-fastness from a well-known testing laboratory (test certificate to be submitted with the tender).
- The Mass of background materials shall be 170-180 GSM.
- The basic fabric used shall be high visibility fluorescent dyed material (yellow-green in colour) for enhanced day-time visibility as per the approved sample.
- The Vest shall have 3 front flap pockets comprising of one chest(100mm wide by 120mm deep) and two lower expandable pockets(120mm wide by 150mm deep). With a tolerance of ±10mm

- NCWSC logo shall be printed in the left chest area. The logo shall be 65mm by 65mm in size with tolerance of ±5mm. N.C.W.S.C initials of size 40mm height shall be printed in indelible ink centrally at the back as per the approved sample.

Bidders response…… Yes/No……

2.8 Safety Gumboots

2.8.1 Brief Introduction

The safety gumboots shall have protective features to protect the wearer from foot injury arising from falling objects, slipping, tripping, falling, sharp objects, burns and high temperatures as well as preventing wetness and providing wide access.

2.8.2 Target user

The safety gumboots are designed to offer protection to field staff in areas like treatment plant, workshops, garage and any other designated environments.

2.8.3 Sketch

2.8.4 Technical and Functional Specifications

Their Technical Specifications shall be similar to that of Safety Shoes save for the following

The classification shall be Class II, design D as per the BS EN ISO 20345:2011,

- shall be made to the pattern and shape in accordance with **ISO EN 4643:1992**.
- shall be made from all-rubber (i.e. entirely vulcanized) or all-polymeric (i.e. entirely moulded).
- The ergonomic features shall include comfortable vulcanised rubber soles, keeping feet dry and warm, and providing wider access.
- The insole and outsole Material shall be PVC with BK mesh lining.

Bidders response…… Yes/No……

2.9 Knee Pad (BS EN 14404)

2.9.1 Brief Introduction

The knee pads are designed for work requiring support to the knees. It reduces the chances of one overextending or collapsing the knees after prolonged working on the knees.

2.9.2 Target User

The knee - pad is suitable for plant operators, mechanics and other designated users.

2.9.3 Sketch

2.9.4 Technical and Functional Specifications

- The knee pad shall be type 1(Kneepads independent of other clothing, fastened around the legs) in conformity to BS EN 14404 protection class 2.
- The knee pad shall not adversely affect the ability to perform kinematic actions when undertaking general mechanical works.
- The knee pad shall provide fastening and adjustment mechanisms that are easy to use under operational conditions.
- The overall weight of the product shall be minimised (not more than 400g).

Bidders response…… Yes/No……

1.0 UNIT BASED PPEs

Personal protective equipment, commonly referred to as "PPE", is equipment worn to minimize exposure to hazards that cause serious workplace injuries and illnesses. These injuries and illnesses may result from contact with chemical, radiological, physical, electrical, mechanical, or other workplace hazards. The Unit Based PPEs are those that are centrally stored and shared among staff for specific assignments only.

The Unit Based PPEs for NCWSC comprises of the following 17 items

1.0 Full Face Respirator
2.0 Half Face Respirator
3.0 Respirator- Cartridges
4.0 Full Body Harness
5.0 Chest Waders
6.0 Apron (Chemical Resistant)
7.0 Full Face Shield
8.0 Welding Face Shield
9.0 Safety Goggles
10.0 Ultraviolet (UV) Safety Goggles
11.0 Welding Apron
12.0 PVC Gloves
13.0 Nitrile Gloves
14.0 Leather Gloves
15.0 High Voltage Gloves
16.0 Twin webbing lanyard with energy absorber with 2 scaffold hooks
17.0 Mechanics Gloves (Anti-Tear and Firm Grip)

2.0 FULL FACE RESPIRATOR

2.1 Brief Introduction

These are air purifying respirators that protect the users from splashes and inhaling hazardous vapours, gases, fumes. They protect the face as well as the eyes, and filter out contaminants with the help of cartridges and filters, which are changed regularly in order to ensure effective protection of the wearer.

2.2 Target User

The full face respirator shall be suitable for staff working in environment that have harmful gases such as laboratories, treatment plants, sewers or any other designated area.

2.3 Sketch

2.4 Functional and Technical Specifications

- The respirator shall be designed and manufactured in accordance to KS 2409 - 6.
- The respirator shall be used for protection against organic, inorganic, vapours, acid gases and ammonia up to 10 times Occupational Exposure Limit (OEL).
- The Harness type shall be 4 point and the primary material shall be thermoplastic elastomer (TPE).
- The respirator shall be reusable and compatible with cartridge that protect the user against the organic vapours, ammonia, acid gasses, and high efficiency (HE) Filter, P100 Filters.
- The products shall be tested to the applicable KS and European Standards.

Bidders response…… Yes/No……

3.0 HALF FACE RESPIRATOR

3.1 Brief Introduction

These are air purifying respirators that protect the users from inhaling hazardous vapours, gases and fumes. They filter out contaminants with the help of cartridges and filters, which are changed regularly in order to ensure effective protection of the wearer.

3.2 Target User

The half face respirator shall be suitable for staff working in environment that have harmful gases such as laboratories, treatment plants, sewers or any other designated area.

3.3 Sketch

3.4 Functional and Technical Specifications

- The respirator shall be designed and manufactured in accordance to KS 2409 - 6.
- The respirator shall be used for protection against organic, inorganic, vapours, acid gases and ammonia up to 10 times the Occupational Exposure Limit (OEL).

- The Harness type shall be 4 point and the primary material shall be thermoplastic elastomer (TPE).
- The respirator shall be reusable and compatible with cartridge that protect the user against the organic vapours, ammonia, acid gasses, and high efficiency (HE) Filter, P100 Filters.
- The products shall be tested to the applicable KS and European Standards.

Bidders response…… Yes/No……

4.0 RESPIRATOR- CARTRIDGES

4.1 Brief Introduction

These are air filters fitted in respirators to protect the users from inhaling particulates, hazardous vapors, gases and fumes.

4.2 Target User

The cartridges are for use with respirators in the identified areas.

4.3 Sketch

4.4 Functional and Technical Specifications

- The cartridge shall be manufactured and tested in accordance to EN14387.
- The cartridge shall provide protection against organic, inorganic, vapours, acid gases and ammonia up to 10 times the Occupational Exposure Limit (OEL).
- It shall be compatible with Half and Full Face Mask.
- The Cartridge shall have been manufactured within the year of delivery.
- The cartridge shall be packed and factory sealed individually or in any suitable way that they are protected against mechanical damage and contamination.
- The markings shall be in accordance with EN14387 and the relevant KS Standards.

Bidders response…… Yes/No……

5.0 FULL BODY HARNESS

5.1 Brief Introduction

The harness is designed to hold the wearer upright during a fall from a height and to distribute the energy across the worker's body in the event of a free fall to reduce injury.

5.2 Target User

It is designed for use by staff working in heights to prevent a fall event.

5.3 Sketch

Full-Body Harness

5.4 Technical and Functional Specifications

- The Full body harness shall be manufactured and tested according to EN 361
- Harness buckles include tongue, quick attachment, and spring tension buckles.
- The full body harness has straps and buckles that tighten around the shoulders, legs, and chest. It is designed with one or more attachment points.
- The harness shall have a D-ring to secure the worker.
- The sizing is One Size Fits All with adjustable Leg; 45mm UV-resistant polyester webbing with a minimum breaking load of 2.6 tonnes and Elasticated Chest Straps, interlocking corrosion resistant steel buckles and corrosive resistant double Scaffolding Hooks with a 50mm gate opening.

Bidders response…… Yes/No……

6.0CHEST WADERS

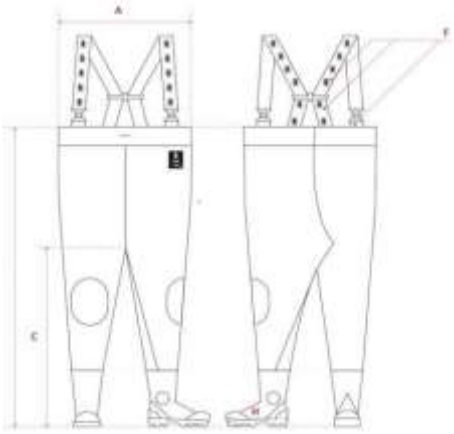
6.1 Brief Introduction

Chest waders are made to offer good protection to the wearer working in deep water.

6.2 Target User

The chest wader is designed for use by staff working in wet, flooded and marshy work areas.

6.3 Sketch



6.4 Technical and Functional Specifications

- The fabric meets the requirements of BS EN 343:2019.
- The chest wader boots shall be manufactured and tested according to ISO 20347:2012 The chest wader shall be made of a polyester-based fabric coated on one side with PVC.
- The material shall be highly resistant to tearing with waterproof stitching.
- The material shall be resistant to adverse weather conditions and bending at temperatures down to -50°C.
- The chest wader shall be produced with high quality PVC boots welded in and the boots shall have elasticated braces.

Bidders response…… Yes/No……

7.0 APRON (CHEMICAL RESISTANT)

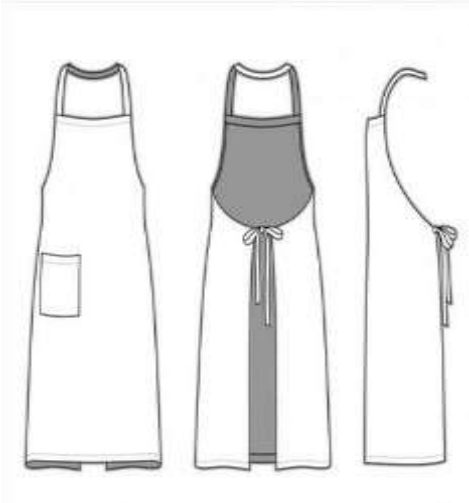
7.1 Brief Introduction

Chemical-resistant apron provides frontal protection against chemical splashes and toxic particles. The longer length ensures the user's chest and knees are protected from light splashes and sprays.

7.2 Target User

The apron is designed for use by staff working in the laboratory.

7.3 Sketch



7.4 Technical and Functional Specifications

- The apron shall be manufactured and tested in accordance to EN ISO 13688:2019 and EN 343 standards.
- The apron shall be made of a flexible chemical resistant PVC-Coated cloth.
- It shall have a reinforcement at the points of strain.
- It shall be full front apron design to cover past knee height, as per the approved design/sample.
- It shall have one front pocket, two tie straps at the back and one neck loop all designed for comfort and convenience.
- NCWSC Logo shall be screen printed on the left chest area proportionate to the size of the garment as per the approved sample.
- The colour shall be Company's corporate colour (peacock blue) and shade as per the approved sample.

Bidders response…… Yes/No……

8.0 FULL FACE SHIELD

8.1 Brief Introduction

The face shield is designed to cover both the eyes and the face while protecting the wearer against injuries resulting from chemical/water splashes and solid projections.

8.2 Target User

Employees working in the Laboratory, Treatment Works or other designated workplaces.

8.3 Sketch

8.4 Technical and Functional Specifications

- The face shield shall be CE certified and Compliant to EN 166 (1 B / 3 B) and tested in accordance to EN 168
- The face shield shall be made of clear, flexible plastics (impact resistant polypropylene) designed to come off their gasketing for ease in cleaning.
- The face shield shall have wheel ratchet size adjustment for easy fitting.
- The face shield shall have soft foam sweat band included
- The face shield shall be adapted to be used over prescription glasses

Bidders response…… Yes/No……

9.0 WELDING FACE SHIELD

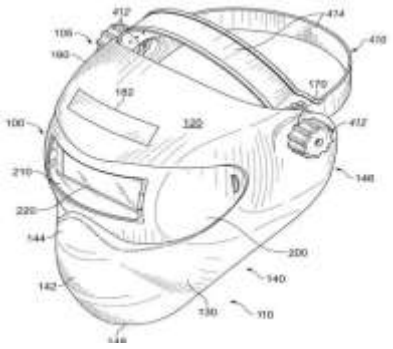
9.1 Brief Introduction

The Welding face shield is designed to offer protection to the user's face during welding operations. The same shall protect the user from radiation, flying particles, debris, hot slag, sparks, intense light or irritation and chemical burns.

9.2 Target User

The welding shield will be used by employees doing welding works in Company's workshops or other designated areas.

9.3 Sketch



9.4 Technical and Functional Specifications

- The Welding face shield shall be manufactured and tested in accordance with the EN 175, EN 379, EN 166 and EN 169.
- The material shall be made from a high impact resistant polycarbonate for protection from radiation, impact and scratches.
- The helmet shell must be opaque to light and resistant to impact, heat and electricity.
- The face shield shall be equipped with a flip up front window that the user can choose to open when not performing an operation.
- The filter lens shall be made of glass containing filler which reduces the amount of light passing through to the eyes.
- The head band of Welding face shield shall have 4 adjustment positions and provided with an anti-sweat comfort pad for increased comfort.
- It shall consist of ratchet for easy harness adjustment.

Bidders response…… Yes/No……

10.0 SAFETY GOGGLES

10.1 Brief Introduction

It is an eyewear intended to primarily provide protection against impact, water and chemical splashes. It offers protection to the wearer from hazards with consequential eye injury.

10.2 Target User

The goggles are intended for use by employees working at the workshops, laboratory, treatment plants and any other designated areas who by nature of their work are exposed to splashes or flying objects.

10.3 Sketch

10.4 Functional and Technical Specifications

- The safety goggle shall be manufactured in accordance with the EN 166: and tested in accordance to EN 168.
- Eye protectors to be free from projections, sharp edges or other defects which are likely to cause discomfort or injury.

- The goggles should primarily provide protection against impact and splashes.
- The construction material for the lens shall be toughened polycarbonate lens with antifogging and anti-scratch coating.
- Should have a soft PVC shroud that gently hugs the face and is indirect vented to allow cooling air flow and help prevent fogging.
- The goggle shall have silicon rubber strap to provide comfort.
- The safety goggles shall be packed in polythene packs individually or in any suitable way that they are protected against mechanical damage and contamination.

Bidders response…… Yes/No……

11.0 ULTRAVIOLET (UV) SAFETY GOGGLES

11.1 Brief Introduction

The Ultraviolet safety goggles protect the eyes of the user from harmful ultraviolet radiation.

11.2 Target User

This is designed for all personnel in the laboratory operating UV light sources and anyone in the path of UV emissions.

11.3 Sketch

11.4 Functional and Technical Specifications

- The goggles shall be manufactured and tested in accordance with DIN EN 170.
- Made from a hard, durable non- UV transmissive plastic with close fitting side shields to shield eyes from UV radiation, without compromising comfort.
- These UV goggles shall absorb harmful UV radiation before it reaches the eye.
- The goggles shall be comfortable and light weight UV eye protection UV safety goggles shall have soft and adjustable flexible frame.
- The goggles shall be packed in polythene packs individually or in any suitable way that they are protected against mechanical damage and contamination.

12.0 WELDING APRON

12.1 Brief Introduction

This is a safety gear designed to protect the user and clothing from the hazards of hot metal contact and slag that is generated while welding, grinding or using a cutting torch.

12.2 Target User

It is designed for use by employees at the workshops, treatment plants or any other designated areas who by nature of their work are exposed to hot metal and slag that's generated while welding or grinding.

12.3 Sketch

12.4 Functional and Technical Specifications

- The apron is manufactured and tested in a accordance to KS ISO 11611:2015.
- The apron shall be made of relatively thick cow-hide leather which prevents heat from penetrating through the garment and also provide excellent abrasion and puncture resistance.
- The apron shall be heat and moisture resistant.
- The apron shall be full length with adjustable neck and waist straps.
- It shall have a handy utility pocket.

Bidders response…… Yes/No……

13.0 PVC GLOVES - IMPREGNATED

13.1 Brief Introduction

PVC gloves provide adequate hand protection against strong acids and bases as well as salts, alcohols and water solutions and micro-organisms.

13.2 Target User

The gloves are designed for use by laboratory staff, cleaners, sewer and water operators and other designated users who by nature of their work come into contact with water, chemical products, and micro-organisms.

13.3 Sketch

13.4 Functional and Technical Specifications

- The PVC gloves' manufacture and testing shall be in accordance with the requirements of BS EN 420 and BS EN 388.
- The glove shall be PVC-coated on cotton support and the material shall be 100% PVC vulcanized.
- Penetration (Lowest Value is 1 and Highest value 3): The gloves shall prevent diffusion, at a molecular scale, of a chemical product and/or a micro-organism through porosities, seams, micro-holes or other imperfections presents in the protective glove material in accordance with EN374-3:2003. The value shall be minimum 2.
- Permeation (Lowest Value is 1 and Highest value 6): The gloves shall prevent diffusion of chemicals through the material at the molecular scale in accordance with EN374-3:2003. The value shall be minimum 5
- Each glove shall have a performance level of 4:1:1:1 in accordance with BS EN 388. The performance level in this order represents Abrasion (4), Blade cut resistance (1), tear resistance (1) and puncture/perforation resistance (1) respectively
- The length shall be in two sizes; 27cm (Medium) and 60cm (Large)

    - The following conventional colours shall be adopted;
    - Water - Blue,
    - Sewer - Brown and Black
    - Cleaners – Green and Black
    - Laboratory – Yellow

Bidders response…… Yes/No……

14.0 NITRILE GLOVES

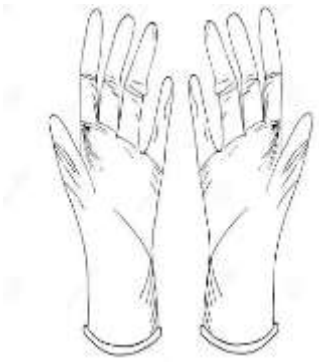
14.1 General Introduction

Nitrile Gloves protect hands against bacteria, Virus and other environmental contaminants as well as hazardous chemicals and cleaning solutions.

14.2 Target user

The gloves shall be designed for use by staff who by nature of their work are exposed to microbial and chemical hazards in the Laboratories and other designated areas.

14.3 Sketch



14.4 Technical and Functional Specifications

- The gloves shall be manufactured and tested in accordance with KS ISO 11193-1:2020 The gloves shall be 100% nitrile, non-latex, protein free and powder free.
- The gloves shall have a micro-texture finish for grip in wet or dry conditions with beaded cuff.
- The gloves shall comply with Food and Drug Administration (FDA) regulations for food contact.
- Nitrile Gloves shall meet the requirements of the relevant part(s) of ISO 10993.
- The gloves shall be easy to Wear & Remove
- The gloves shall be for single use only (Disposable).
- The gloves shall have been manufactured within the year of delivery with a five year expiry.

Bidders response…… Yes/No……

15.0 LEATHER GLOVES

15.1 General Introduction

The Leather gloves are used to protect the hands against cuts, bruises, burns and punctures.

15.2 Target user

They are designed for use by staff working in the field and are exposed to cuts, bruises, burns and punctures. They are suitable for operation and maintenance staff.

15.3 Sketch

15.4 Technical and Functional Specifications

- The leather gloves shall be designed, manufactured and tested in accordance with BS EN 388, BS EN 420.
- The leather glove shall be made from cow hide leather and the base from a multilayer technology of cotton/high performance polyethylene (HPPE).
- The leather glove shall be designed to offer grip, dexterity and anti-static properties

Bidders response…… Yes/No……

16.0 HIGH VOLTAGE GLOVES

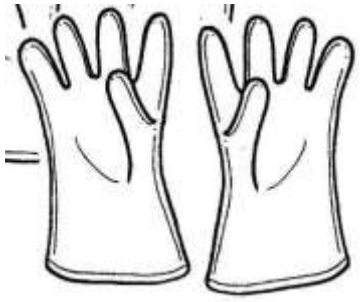
16.1 Brief Introduction

The gloves are designed to protect workers from coming into contact with high voltage. It offers hand protection when handling and working with live voltages.

16.2 Target User

The high voltage gloves shall be designed for use by electrical/electro-mechanical personnel who by nature of their work are exposed to high electrical voltages during maintenance activities or installation of new plant and equipment.

16.3 Sketch



16.4 Functional and Technical Specifications

- The gloves shall be manufactured, tested and certified for use in accordance with IEC 60903 and EN 60903 standards.

- The gloves shall be individually tested and provided in a sealed plastic bag.
- The gloves shall comprise higher mechanical properties for working in full safety without leather over-gloves.
- The gloves shall have other environmental resistance properties including; oil, acid ozone and very low temperatures and shall be classified as such.
- The insulating gloves shall be Bi-color gloves to allow contrast and rapidly detect any excessive abrasion, cut, tear and other mechanical surface damage that could alter the dielectric properties of the glove.
- The Characteristic symbol for the insulating glove shall clearly be embossed on the glove
- Clear marking shall be available on the following details; Month and year of Manufacture, product code, class/category, glove size, IEC live working symbol, CE mark and notified body number, IEC standard reference, Voltage level used, product reference on CE type examination certificate, manufacturers lot number, manufacturer/distributer and area for marking first date of use and subsequent test dates

The Insulating gloves shall be Arc flash tested in accordance with IEC 61482-1-2. Class 2 and ASTM F2675/F2675M

Bidders response…… Yes/No……

17.0 Twin webbing lanyard with energy absorber with 2 scaffold hooks

As per sample.

Bidders response…… Yes/No……

18.0 Mechanics Gloves (Anti-Tear and Firm Grip)

As per sample.

Bidders response…… Yes/No……