

Guidelines on Personal Protective Equipment (PPE)

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- 1) **Additional PPE to be provided for various activities as per requirement of Job Safety Analysis (JSA), OISD and Statutory stipulations.**
- 2) Training inputs as required to be given for proper usage, maintenance of PPE.
- 3) Various EN Standards / BIS codes mentioned are available on line on IOCL CO, HSE website.




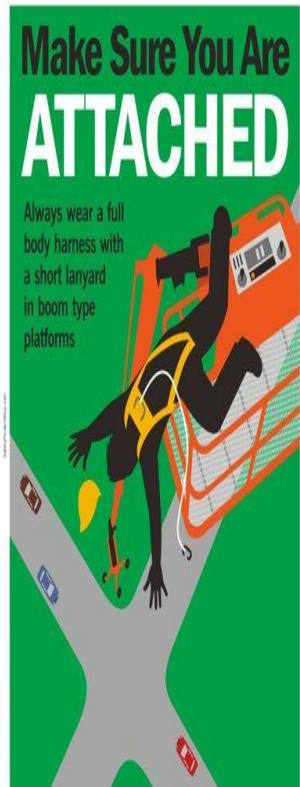
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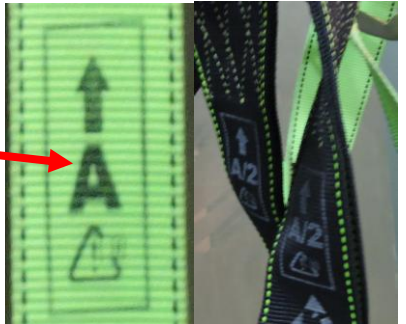
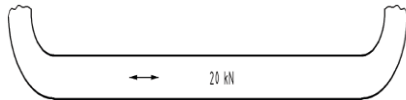

Guidelines on Personal Protective Equipment (PPE)

SN	Activity (Pictorial Display)	Required PPEs	Quality assurance	Protection Against hazard	Limitation of PPE	Hazard of Not wearing of PPE	When to be discard
1	Work at Height (height > 2 M) Contd... 	I) Safety Shoe (A)   <p>A Typical specimen of marking.</p>	<p>The safety shoe shall have following marking as per IS 15298 (part -2) :</p> <ol style="list-style-type: none"> size; manufacturer's identification mark; Year of manufacture and at least quarter; License No (CM/L) IS Mark <p>Category of Safety Shoe</p> <p>Category of Safety shoe (S1,S2,S3 etc) as required as per Table 16 of IS 15298 (part 2) : 2011</p> <p>S1 : Closed seat region, Antistatic properties , Energy absorption of seat region</p> <p>S2 : S1 plus Water penetration and water absorption.</p> <p>S3 : S2 plus Penetration resistance (S3) Cleated outsole</p>	<ul style="list-style-type: none"> Striking against stationary object. Striking by moving object Stepping on hot object Stepping on sharp object Penetration (S3 category) Water penetration and absorption. (S2 & S3 category) 	<ul style="list-style-type: none"> Not suitable for hazards like Chemical burns , electrical flash, welding spark and heat radiation Not suitable if it is necessary to minimise electrostatic charges in the shortest possible time . Not suitable for work in explosive work area. 		<ul style="list-style-type: none"> Exceeding one year from the date of first use of the shoe . sign of crack / damage . Excessive wear As per Manufactures recommendations.




Guidelines on Personal Protective Equipment (PPE)

SN	Activity (Pictorial Display)	Required PPEs	Quality assurance	Protection Against hazard	Limitation of PPE	Hazard of Not wearing of PPE	When to be discard
	<p>Work at Height (height > 2 M) Contd...</p> 	<p>II) Full body Safety Harness with energy absorber : (Alternative -I)</p> <ul style="list-style-type: none"> Lanyard along with 5 Point (1 Dorsal + 2 Textile loops+ 2 sternal D ring) harness to be used for rescue or tower climbing <p>The ABC's of Fall Protection</p> 	<p>1. The full body harness shall conform to EN 361</p> <p>Marking on the full body harness shall conform to 2.2 of EN 365:1992 and any text shall be in English. In addition to conforming to 2.2 of EN 365:1992 the marking shall include the following.</p> <ul style="list-style-type: none"> On the full body harness, a pictogram to indicate that users shall read the information supplied by the manufacturer.  <ul style="list-style-type: none"> A capital letter "A" at each fall arrest attachment element; The model/type identification mark of the full body harness; The number of this European Standard, i.e. EN 361. <p>2. Connector shall conform to EN 362 and Marking on the connector shall conform to EN 365. The marking shall include:</p> <ul style="list-style-type: none"> The model/type identification mark of the connector. EN number & the letter of the class e.g. EN 362:2004/A 	<p>Accidental fall</p> <ul style="list-style-type: none"> Direct the loads to legs. Keeping body upright. Prevent the neck damage slightly opens the breathing way. Prevents from colliding with the ground or structure in case of a fall. Antistatic characteristics 	<ul style="list-style-type: none"> Shall be of no use if anchor point / life line / lanyard is not properly designed. There should be proper arrangement for rescue After accidental fall & before safety harness becoming effective, the person should not strike ground / object. (Prevent risk of bottoming out) <p>SAFETY BELT NOT TO BE USED</p>		<ul style="list-style-type: none"> Sign of crack / damage/ stitching giving way Webbing and rope for cuts, tears, excessive wear and damages If in doubt "Throw it Out" As per Manufact ures recomme ndations

Guidelines on Personal Protective Equipment (PPE)

SN	Activity (Pictorial Display)	Required PPEs	Quality assurance	Protection Against hazard	Limitation of PPE	Hazard of Not wearing of PPE	When to be discard
	Work at Height (height > 2 M) Contd...	<p>A Typical specimen of marking.</p>  <p>CE marking EN Marking Pictogram</p>  <p>Capital letter A marking at attachment Element</p>	<ul style="list-style-type: none"> Marking of major axis strength with gate closed & locked.   <p>Marking of Strength</p> <p>Please see required PPE of "Energy absorbing lanyard " for attaching to safety Harness. Energy absorbing lanyard double 'Y' Type</p> <p>To be attached to full body harness at one end and life line at other end</p> <ul style="list-style-type: none"> Must if full body harness being used for protection against fall. The total length of a lanyard connected to an energy absorber (including terminations and connectors) shall not exceed 2 m. 				

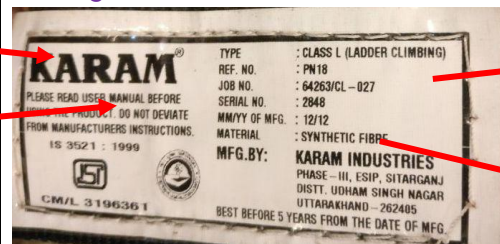
Guidelines on Personal Protective Equipment (PPE)

SN	Activity (Pictorial Display)	Required PPEs	Quality assurance	Protection Against hazard	Limitation of PPE	Hazard of Not wearing of PPE	When to be discard
	<p>Work at Height (height > 2 M) - Contd...</p> 	<p>III) Full body Safety Harness with energy absorber (Alternative -II)</p> 	<p>Full body harness conforming to IS 3521 may be allowed in "Green field project" where antistatic safety harness are not required. Following marking to be ensured in case of IS marked full body Harness.</p> <ul style="list-style-type: none"> The name, trade-mark or other means of identification of the manufacturer or the supplier who is responsible for acting on behalf of the manufacturer for claiming compliance with this standard; Manufacturer's product identification information that shall include the manufacturer's batch or serial number that enables the origin of the item to be traced; The year of manufacture; The identity of the fibre used as the material of construction; Information that states by appropriate means the intended purpose of each attachment element and to identify specifically those attachment elements that are designed to be used as part of a complete fall arrest system; and Warning for not to deviate from the manufacturer's instructions. 	<p>Accidental fall</p> <ul style="list-style-type: none"> Direct the loads to legs. Keeping body upright. Prevent the neck damage slightly opens the breathing way. Prevents from colliding with the ground or structure in case of a fall. 	<ul style="list-style-type: none"> Shall of no use if anchor point / life line / lanyard is not properly designed. There should be proper arrangement for rescue After accidental fall & before safety harness becoming effective, the person should not strike ground / object. (Prevent risk of bottoming out) SAFETY BELT NOT TO BE USED ISI marked full body harness are not antistatic hence not recommended in running plants. 		<ul style="list-style-type: none"> Sign of crack / damage/ stitching giving way Webbing and rope for cuts, tears, excessive wear and damages If in doubt "Throw it Out" As per Manufactures recommendations

Name of Manufacture and other details

ISI Mark and number

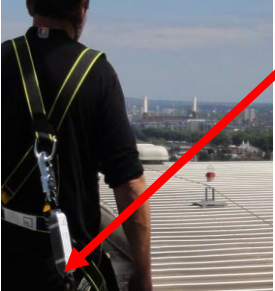
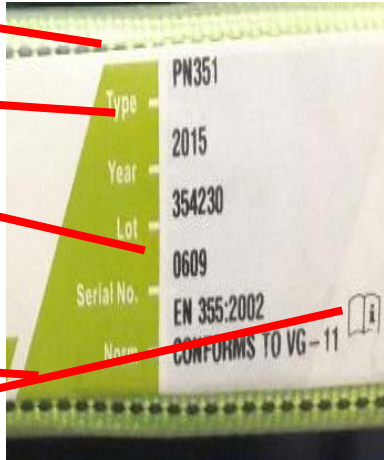


A Typical specimen of marking




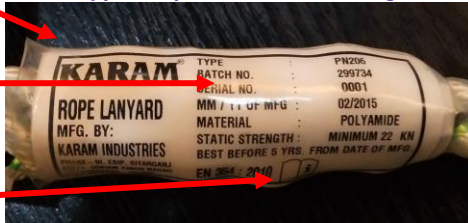


Other details such year of manufactures , batch number etc

Material used

Guidelines on Personal Protective Equipment (PPE)

SN	Activity (Pictorial Display)	Required PPEs	Quality assurance	Protection Against hazard	Limitation of PPE	Hazard of Not wearing of PPE	When to be discard
	<p>Work at Height (height > 2 M) - Contd...</p>  <p>Model / Type and identification mark</p> <p>Year of manufacturing</p> <p>EN number</p> <p>Maximum length</p> <p>Pictogram</p>	<p>Energy absorbing lanyard double 'Y' Type</p> <p>To be attached to full body harness at one end and life line at other end</p> <ul style="list-style-type: none"> Must if full body harness being used for protection against fall. The total length of a lanyard connected to an energy absorber (including terminations and connectors) shall not exceed 2 m. <p>A Typical specimen of marking</p> 	<p>Energy absorbing lanyard shall conform to EN 355 and shall have the following marking :</p> <p>a) On the energy absorber, a pictogram to indicate that users shall read the information supplied by the manufacturer (see figure);</p>  <p>b) the maximum length allowed of the energy absorber including lanyard;</p> <p>c) the model/type identification mark of the energy absorber;</p> <p>d) the number of this European Standard, i.e. EN 355.</p> <p>The marking shall conform to EN 365 and additionally shall include the following :</p> <ol style="list-style-type: none"> Means of identification, e.g. manufacturer's name, supplier's name, or trademark; Manufacturer's production batch or serial number or other means of traceability; Model and type/identification; Number and year of the document to which the equipment conforms; Pictogram or other method to indicate the necessity for users to read the instructions for use. 	<p>Accidental Fall</p>	<ul style="list-style-type: none"> Shall of no use if anchor point / life line is not properly designed. There should be proper arrangement for rescue After accidental fall & before safety harness becoming effective, the person should not strike ground / object. (Prevent risk of bottoming out) 		<ul style="list-style-type: none"> Sign of cut / damage After every fall. As per manufacturer's recommendation.

Guidelines on Personal Protective Equipment (PPE)




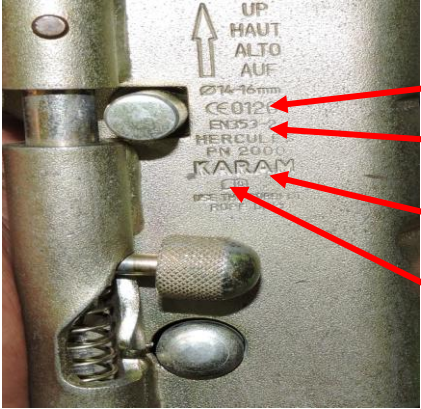

SN	Activity (Pictorial Display)	Required PPEs	Quality assurance	Protection Against hazard	Limitation of PPE	Hazard of Not wearing of PPE	When to be discard
	Work at Height (height > 2 M) - Contd... 	IV) Restraint lanyard <ul style="list-style-type: none"> To be secured to properly designed anchorage The restraint lanyards need not have shock absorption element incorporated in them 	<p>Lanyard shall conform to EN 354 (latest edition). Connector incorporated in lanyard shall conform to EN 362.</p> <p>Marking on the lanyard shall conform to EN 365 and, in addition, shall include at least the following:</p> <p>a) the maximum lanyard length, in accordance with 4.1.6; b) the month and year of manufacture.</p> <p>As per EN 365 marking shall include :</p> <ul style="list-style-type: none"> Means of identification, e.g. manufacturer's name, supplier's name, or trademark; Manufacturer's production batch or serial number or other means of traceability; Model and type/identification; Number and year of the document to which the equipment conforms; Pictogram or other method to indicate the necessity for users to read the instructions for use. <p>A Typical specimen of marking</p> 	<p>Accidental fall - Lets a worker travel just far enough to reach the edge but not far enough to fall over</p>	<ul style="list-style-type: none"> Shall be of no use if life line & anchor points are not properly designed. To ensure that fall restraint lanyards are never used for the purpose of fall arrest 		<p>Check metal fittings for sharp edges, excessive wear, correct operation and distortion.</p> <ul style="list-style-type: none"> If in doubt "Throw it Out"  <ul style="list-style-type: none"> As per Manufactures recommendations

Name of manufacture

Batch Number, serial
Number, Material,
Static strength,
Pictogram





Pictogram

Guidelines on Personal Protective Equipment (PPE)


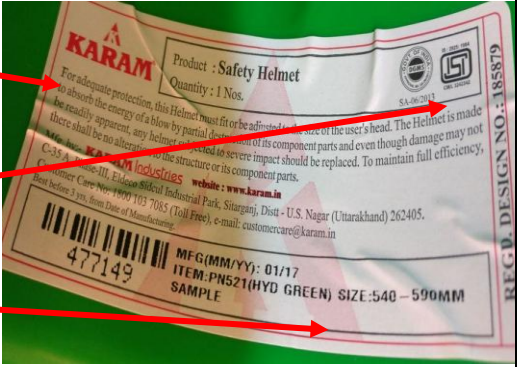
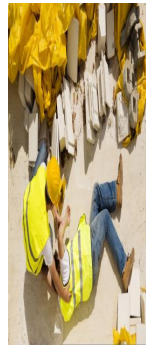
SN	Activity (Pictorial Display)	Required PPEs	Quality assurance	Protection Against hazard	Limitation of PPE	Hazard of Not wearing of PPE	When to be discard
	<p>Work at Height (height > 2 M) - Contd...</p> 	<p>(V) Rope Grab (in case of vertical lifeline being used)</p> <p>The rope grab immediately grabs on the line in the event of a fall, thereby arresting the fall</p>   <p>Pictogram</p>	<p>Rope grab shall conform to EN 353-2 : 2002 & Marking on the guided type fall arrester and the flexible anchor line shall conform to EN 365 . In addition shall include the following:</p> <ul style="list-style-type: none"> Means of identification, e.g. manufacturer's name, supplier's name, or trademark; Manufacturer's production batch or serial number or other means of traceability; Model and type/identification; Number and year of the document to which the equipment conforms; Pictogram or other method to indicate the necessity for users to read the instructions for use. <p>A Typical specimen of marking</p> 	<ul style="list-style-type: none"> Accidental fall The anchorage line in connection with the given rope grab provides necessary shock absorption. 	<p>Shall be of no use if life line & anchor points are not properly designed.</p>		<ul style="list-style-type: none"> Check metal fittings for sharp edges, excessive wear, correct operation and distortion. If in doubt "Throw it Out" Coloured tracer strand which loses its colour in due course of time to show that the rope is now unfit for future use As per Manufactures recommendations

Note : PPE mentioned at III, IV & V above may not be required simultaneously while working at height. These use shall depend upon type of activity


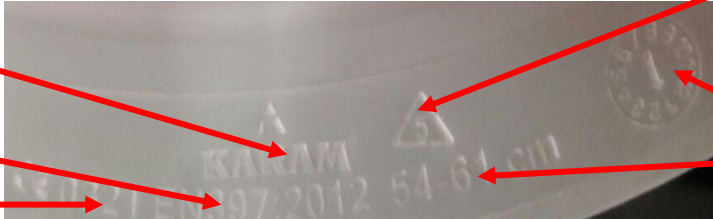


Guidelines on Personal Protective Equipment (PPE)

SN	Activity (Pictorial Display)	Required PPEs	Quality assurance	Protection Against hazard	Limitation of PPE	Hazard of Not wearing of PPE	When to be discard
1	Work at Height (height > 2 M) 	VI) Helmet (A) 	The helmet shall conform to EN 12492 and shall have following markings : a) the number of this European Standard; b) the name or trademark of the manufacturer and/or his authorized representative; c) the designation of the model; d) the year and quarter of manufacture; e) the size or size range (in cm).	<ul style="list-style-type: none"> Shock absorption Penetration Impact Within limits stipulated in EN 12492	<ul style="list-style-type: none"> The protection given by a helmet depends on the circumstances of the accident and wearing a helmet cannot always prevent death or long term disability. There may be a foreseeable risk that helmets could become trapped and thereby cause a risk of strangulation. Cannot provide protection against hazard like splash of hot liquid, work in hot area, cryogenic or corrosive liquid , flying hot particles like chipping, welding, direct fire hazard, contact with bare live electrical conductor . 	 	<ul style="list-style-type: none"> Sign of crack / damage . De-colouration failing in lab test to be done every 1-2 years depending on condition cradle to be changed after every one year On sustaining a severe blow even if damage is not apparent As per Manufactures recommendations. <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> For cleaning, maintenance or disinfection, use only substances (No Solvent) that have no adverse effect on the helmet and are not known to be likely to have any adverse effect upon the wearer, when applied in accordance with the manufacturer's instructions and information). </div>




Guidelines on Personal Protective Equipment (PPE)

SN	Activity (Pictorial Display)	Required PPEs	Quality assurance	Protection Against hazard	Limitation of PPE	Hazard of Not wearing of PPE	When to be discard
2	a) Excavation. b) Fire pump Operation. c) Testing of Pressure Gauge	1) Helmet (B) 	<p>The helmet shall conform to either IS 2925 or EN 397</p> <p>a) The helmet conforming to IS 2925 shall have following marking</p> <ul style="list-style-type: none"> Manufacturer's name or trade-mark, Size of helmet. The helmets may also be marked with the ISI Certification Mark. <p>A Typical specimen of marking</p> 	<ul style="list-style-type: none"> Shock Absorption Resistance Penetration Resistance Impact <p>Protection as per EN 397</p> <ul style="list-style-type: none"> Shock absorption Penetration resistance Impact <p>The above protection shall be within the limitations of various test as stipulated in IS 2925 /EN-397.</p> <p>Marking for Optional test as per EN 397 as per clause no 7.2.2.</p> <p>Each helmet shall carry moulded or impressed marking or shall carry a durable self-adhesive label stating the optional requirements complied with, as follows: Optional requirement Marking/Label</p> <ul style="list-style-type: none"> Very low temperature - 20 °C or - 30 °C as appropriate Very high temperature + 150 °C Electrical insulation 440 V a.c. Lateral deformation LD Molten metal splash MM 	Not suitable for hazards like splash of hot liquid, work in hot area, cryogenic or corrosive liquid, flying hot particles like chipping, welding, direct fire hazard, contact with bare live electrical conductor	 <ul style="list-style-type: none"> Sign of crack / damage . De-colouration cradle to be changed after every one year On sustaining a severe blow even if damage is not apparent As per Manufactures recommendati ons <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><i>For cleaning, maintenance or disinfection, use only substances (No Solvent) that have no adverse effect on the helmet and are not known to be likely to have any adverse effect upon the wearer, when applied in accordance with the manufacturer's instructions and information).</i></p> </div>	







Guidelines on Personal Protective Equipment (PPE)

SN	Activity (Pictorial Display)	Required PPEs	Quality assurance	Protection Against hazard	Limitation of PPE	Hazard of Not wearing of PPE	When to be discard
2	Contd a) Excavation. b) Fire pump Operation. c) Testing of Pressure Gauge		<p>b) In case helmet conforming to EN 397 to be used to facilitate various attachment for providing protection against hazards like splash of hot liquid, flying hot particles like chipping, welding, direct fire hazard the following moulded or impressed marking to be ensured.</p> <p>a) number of this European Standard ie 397 b) name or identification mark of the manufacturer; c) year and quarter of manufacture; d) type of helmet (manufacturer's designation). This shall be marked on both the shell and the harness; e) size or size range (in centimetres). This shall be marked on both the shell and the harness. f) abbreviation for the material of the shell shall be in accordance with EN ISO 472. (For example, ABS, PC, HDPE, etc.)</p> <p style="color: purple;">A Typical specimen of marking</p> 	Type of Helmet Year of Manufacture Size			
		<p>II) Safety shoe- (A)</p> 	<p>• Please refer (I) on page 4</p>				<p>Please refer (I) on page 4</p>





Guidelines on Personal Protective Equipment (PPE)

SN	Activity (Pictorial Display)	Required PPEs	Quality assurance	Protection Against hazard	Limitation of PPE	Hazard of Not wearing of PPE	When to be discard
3	Excavation work Involving dewatering works : Contd.. 	I) Helmet as per IS and EN (B) 	<ul style="list-style-type: none"> Please refer (I) on page 12 &13 				Please refer (I) on page 12 &13.




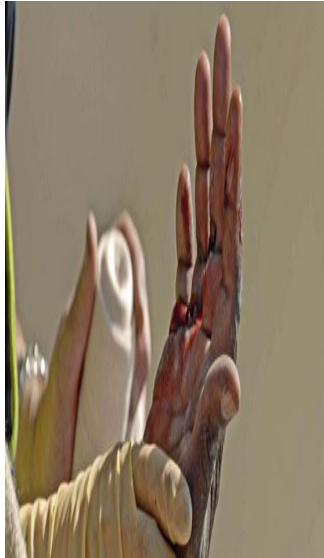
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3	Excavation work Involving dewatering works : Contd 	II) Gum Boot -Safety   A Typical specimen of marking   <p>Month and year of manufacture →</p> <p>ISI Mark →</p> <p>Size →</p> <p>Name of Manufactures →</p>	<p>The gum shall conform to IS 12254 and have following marking :</p> <ul style="list-style-type: none"> Name of the manufacturer or its recognised trade-mark, if any; Size No.; Batch No., and Month and year of manufacture. 	<ul style="list-style-type: none"> Striking against stationary object. Striking by moving object Stepping on sharp object Water, alcohols, acids and alkalis 	<ul style="list-style-type: none"> Not suitable for hazards like Chemical burns, electrical flash, welding spark and heat radiation Not suitable if it is necessary to minimise electrostatic charges in the shortest possible time. Not suitable for work in explosive work area. 		<ul style="list-style-type: none"> exceeding one year from the date of first use of the shoe. sign of crack / damage / cut Excessive wear As per Manufactures recommendations




Guidelines on Personal Protective Equipment (PPE)

SN	Activity (Pictorial Display)	Required PPEs	Quality assurance	Typical Industrial Operation	Limitation of PPE	Hazard of Not wearing of PPE	When to be discard
	Excavation work Involving dewatering works : Contd.. 	III) Goggle :  A Typical specimen of marking  Scratch Resistance Manufacture Name CE Marking Optical Class	The goggles shall conform to EN 166 and EN 170 & shall have following markings : <ul style="list-style-type: none"> Marking on the lens as Impact resistance (B) Optical Class (1) , anti fogging (N), Anti Scratch resistance (K), no 2-1.2 marked 2C shade as per EN 170, Manufacture's Name CE and any other point as per discretion of IOCL in line with EN 166 and 170 	<ul style="list-style-type: none"> surround the eye area, give more protection in situations where one encounters splashing liquids, fumes, vapors, powders, dusts, and mists 	Limitation : Uncomfortable to wear with other head gear like helmet, ear muffs or respirator		<ul style="list-style-type: none"> exceeding one year from the date of first use of the goggles . sign of crack / damage . Excessive wear As per Manufactures recommendations








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3	<p>Excavation work Involving dewatering works : Contd..</p>  <p>Name of Manufacture —→</p> <p>CE Marking —→</p> <p>Size —→</p> <p>EN Number and pictograms —→</p> <p>EN Pictogram —→</p>	<p>IV) Gloves</p> <p>Alternative - I : Gloves as per EN stand 374 and 388.</p>  <p>A Typical specimen of marking</p> 	<p>Gloves shall conform to EN 374 and 388 & gloves shall have the following markings as per as per EN 420</p> <p>a) Name, trade mark or other means of identification of manufacturer or his authorized representative;</p> <p>b) Glove designation (commercial name or code allowing the user to identify clearly the product within the manufacturer's/authorized representative's range);</p> <p>c) Size designation;</p> <p>d) Date of obsolescence a if applicable per clause 7.2.3</p> <p>e) Pictogram (s) appropriate to the standards accompanied by the reference of the applicable standards and performance levels which shall always be in the same fixed sequence as defined in the corresponding standard</p> <p>Cat -III Certificate to be ensured.</p>	<ul style="list-style-type: none"> • Tear • cut • Abrasion • Puncture 	<p>Not suitable for hazards like electrical flash, welding spark and heat radiation</p>		<ul style="list-style-type: none"> • sign of crack / damage / cut • Excessive wear • IMPORTANT All gloves must be thrown away (in the hazardous waste bin if required) no more than 8 hours after initial contact with the chemical. • Achieving date of obsolescence • As per Manufactures recommendations <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>WARNING If you work with moving machine parts, choosing a glove that is the right size and made from a less durable material is vital, since the glove easily tears apart if you get caught in the machinery.</p> </div>




Guidelines on Personal Protective Equipment (PPE)

SN	Activity (Pictorial Display)	Required PPEs	Quality assurance	Protection Against hazard	Limitation of PPE	Hazard of Not wearing of PPE	When to be discard
3	<p>Excavation work Involving dewatering works : Contd..</p> 	<p>Alternative - II</p> <p>Gloves as per IS 6994.</p> 	<p>Alternative -II</p> <p>Alternatively Gloves shall conform to IS : 6994 (Part I) - 1973 & shall have the following marking .</p> <p>a) The manufacturer's name or recognized trade-mark;</p> <p>b) The type and nominal size of the gloves;</p> <p>c) Year of manufacture; and</p> <p>d) Where applicable, the words 'light mass', 'medium mass', or 'heavy mass '</p> <p>The gloves may also be marked with the Standard Mark.</p> <p>Light Abrasion ix of table 2</p> <p>Recommended type of Gloves. is 1, 2, 8, 14. 15. 16</p>	<ul style="list-style-type: none"> • Light handling operation • Tear • Puncture • Cut 	<p>Not suitable for hazards like electrical flash, welding spark and heat radiation</p>		<ul style="list-style-type: none"> • sign of crack / damage / cut • Excessive wear • As per Manufactures recommendations <p>IMPORTANT All gloves must be thrown away (in the hazardous waste bin if required) no more than 8 hours after initial contact with the chemical.</p> <div style="border: 2px solid black; padding: 10px; margin-top: 10px;"> <p>WARNING If you work with moving machine parts, choosing a glove that is the right size and made from a less durable material is vital, since the glove easily tears apart if you get caught in the machinery.</p> </div>
<p style="color: red; text-align: center;">As of May 2017 there is no party having BIS license. Use of this product is permitted assuming that in future some party may get BIS license.</p>							







Guidelines on Personal Protective Equipment (PPE)

SN	Activity (Pictorial Display)	Required PPEs	Quality assurance	Typical Industrial Operation	Protection Against hazard	Limitation of PPE	Hazard of Not wearing of PPE	When to be discard
4	Blast cleaning - (confined space / external) 	I) Helmet (A) 	Please refer (VI) on page 11					Please refer (VI) on page 11
		II) Safety Shoe 	Please refer (I) on page 4					Please refer (I) on page 4
		III) Goggle 	Please refer (III) on page 16					Please refer (III) on page 16






Guidelines on Personal Protective Equipment (PPE)

	Activity (Pictorial Display)	Required PPEs	Quality assurance	Protection Against hazard	Limitation of PPE	Hazard of Not wearing of PPE	When to be discard																						
4	<div>Blast cleaning - (confined space / external) - Contd</div> <div><table><tr><th colspan="2">Permissible Noise exposure as per OSHA 29 CFR 1910.95</th></tr><tr><th>DB</th><th>Hours</th></tr><tr><td>90</td><td>8</td></tr><tr><td>92</td><td>6</td></tr><tr><td>95</td><td>4</td></tr><tr><td>97</td><td>3</td></tr><tr><td>100</td><td>2</td></tr><tr><td>102</td><td>1.5</td></tr><tr><td>105</td><td>1</td></tr><tr><td>110</td><td>0.30</td></tr><tr><td>115</td><td>0.15 or less</td></tr></table></div> <div><div>Name of manufacture</div><div>CE Marking</div><div>EN Number</div></div>	Permissible Noise exposure as per OSHA 29 CFR 1910.95		DB	Hours	90	8	92	6	95	4	97	3	100	2	102	1.5	105	1	110	0.30	115	0.15 or less	<div>IV) Ear Muff of suitable size</div> <div>"Medium size range "fit satisfactorily in majority of Industrial Application</div> <div></div> <div>A Typical specimen of marking</div>	<div>Ear muff shall conform to EN 352 shall have following marking :</div> <div>a) the name, trade mark or other identification of the manufacturer or his authorised representative; b) the model designation; c) the number of this EN Standard, i.e "EN 352" d) in the case of ear-muffs intended by the manufacturer to be worn in a particular orientation, an indication of the FRONT and/or TOP of the cups, and/or an indication of LEFT and RIGHT cup.</div> <div>Check the NRR (Noise Reduction Rating,) to ensure noise exposure within permissible limits</div> <div>Model No</div>	<div><ul style="list-style-type: none">Extreme noiseNoise induced hearing losses</div> <div>Note : In addition to hearing loss, excessive noise exposure may contribute to mental and physical stress, certain illnesses, and accidents</div>	<div><ul style="list-style-type: none">Over 8 hours may be uncomfortable in hot environmentsEyeglass wearers may not get a good seal Resonate (vibrate) at lower sound frequencies</div>	<div></div>	<div><ul style="list-style-type: none">Ear muff with cracked, cut, or missing gasketsExcessive wear & tearDamage if any.As per Manufactures recommendations</div>
Permissible Noise exposure as per OSHA 29 CFR 1910.95																													
DB	Hours																												
90	8																												
92	6																												
95	4																												
97	3																												
100	2																												
102	1.5																												
105	1																												
110	0.30																												
115	0.15 or less																												




Guidelines on Personal Protective Equipment (PPE)

SN	Activity (Pictorial Display)	Required PPEs	Quality assurance	Protection Against hazard	Limitation of PPE	Hazard of Not wearing of PPE	When to be discard
4	Blast cleaning - (confined space / external) Contd 	V) Gloves Alternative -I Hand gloves - involving high pressure as per EN 388 and 374. 	<ul style="list-style-type: none"> Please refer (IV) on page 17 				Please refer (IV) on page 17.
	Blast cleaning - (confined space / external) Contd 	Alternative -II - Gloves as per IS 6994 	<ul style="list-style-type: none"> Please refer (IV) on page 18 <p>Gross Abrasion sr no. VIII of table 2</p> <p>Recommended type of Gloves. is 2,8</p>				Please refer (IV) on page 18.




Guidelines on Personal Protective Equipment (PPE)

SN	Activity (Pictorial Display)	Required PPEs	Quality assurance	Protection Against hazard	Limitation of PPE	Hazard of Not wearing of PPE	When to be discard
4	Blast cleaning - (confined space / external) - Contd 	VI) Apron Alternative -I : Apron as per EN 13982 -1 	<p>The apron shall conform to EN 13892-1 and shall have following markings :</p> <ol style="list-style-type: none"> The marking shall be clearly visible and as durable as adequate for the life of the clothing. <ol style="list-style-type: none"> name, trademark or other means of identification of the manufacturer; manufacturer's type number, identification number or model number; type of this chemical protective clothing, i.e. type 5; reference number and date of publication of this part of ISO 13982 (i.e. ISO 13982-1:2004); year of manufacture and, if appropriate, the expected shelf-life of the clothing (this information may be marked on every commercial packaging unit instead of being marked on every item of clothing); size designation as defined in EN 340:2003, Clause 6; pictogram showing that the suit is for protection against chemicals [ISO 7000-2414; see Figure 1 a)] and pictogram to show that the manufacturer's instructions should be read [ISO 7000-1641; see Figure 1 b)]; <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>a)</p> </div> <div style="text-align: center;">  <p>b)</p> </div> </div>	Protection to the full body against airborne solid particulates.	<ul style="list-style-type: none"> Not suitable for flame and Hot material 	Damage / infection to skin etc 	<ul style="list-style-type: none"> exceeding six month from the date of first use of the apron . sign of crack / damage . Excessive wear As per Manufactureres recommendations <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <ul style="list-style-type: none"> Do not use compressed air to clean as this will create dust in the air. Clean and decontaminate tarps and other equipment on the worksite. </div>



Guidelines on Personal Protective Equipment (PPE)

SN	Activity (Pictorial Display)	Required PPEs	Quality assurance	Protection Against hazard	Limitati on of PPE	Hazard of Not wearing of PPE	When to be discard
4	Blast cleaning - (confined space / external) : Contd	<p>A Typical specimen of marking</p>  <p> Name of Manufacture Size CE marking Other information Pictograms as per EN Year of manufactures </p>	<p>2.</p>  <p>Type 5 – Protection against airborne solid particulate chemicals (Norm: EN ISO 13982-1)</p> <p>3. Apron / instructions shall have following pictogram indicating the intended purpose . (Table E-2 of EN 340)</p>  <p>Protective clothing (equipment) for abrasive blasting operation</p> <p>ISO 7000-2482</p>				





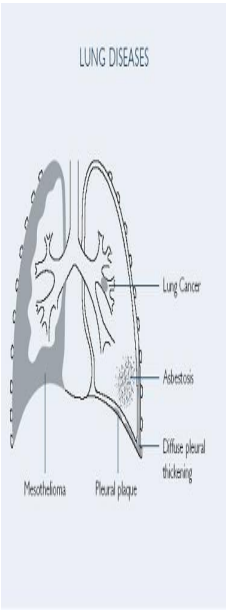
Guidelines on Personal Protective Equipment (PPE)

SN	Activity (Pictorial Display)	Required PPEs	Quality assurance	Protection Against hazard	Limitation of PPE	Hazard of Not wearing of PPE	When to be discard
	Blast cleaning - (confined space / external) Contd 	Alternative -II : Apron as per IS 4501 	Alternative -II : Alternatively suit shall conform to IS : 4501 : 1981 shall have the following marking . The marking shall be clearly visible and as durable as adequate for the life of the clothing. <ul style="list-style-type: none"> marked inside with manufacturer's name or recognized trade mark, if any. The ink shall be non-irritating to skin and shall not impair the quality of aprons. The aprons may also be marked with the ISI Certification Mark. The finished material shall be white or of a suitable colour on two sides as agreed to between the purchaser and the supplier. <div style="border: 1px solid black; padding: 5px; color: red; margin-top: 10px;"> As of May 2017 there is no party having BIS license. Use of this product is permitted assuming that in future some party may get BIS license. </div>	Protection to the full body against airborne solid particulates.	<ul style="list-style-type: none"> Not suitable for flame and Hot material 	Damage / infection to skin etc 	<ul style="list-style-type: none"> exceeding six month from the date of first use of the apron . sign of crack / damage . Excessive wear As per Manufactureres recommendations <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <ul style="list-style-type: none"> Do not use compressed air to clean as this will create dust in the air. </div> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <ul style="list-style-type: none"> Clean and decontaminate tarps and other equipment on the worksite. </div>










Guidelines on Personal Protective Equipment (PPE)

SN	Activity (Pictorial Display)	Required PPEs	Quality assurance	Protection Against hazard	Limitation of PPE	Hazard of Not wearing of PPE	When to be discard
	Blast cleaning - (confined space / external) Contd	Alternative -III : Boiler suit / coverall 	Alternative -III : Cloth and stitching should be of good quality on visual inspection	Protection to the full body against airborne solid particulates.	<ul style="list-style-type: none"> Not suitable for flame and Hot material 	Damage / infection to skin etc 	<ul style="list-style-type: none"> exceeding six month from the date of first use of the apron . sign of crack / damage . Excessive wear As per Manufactures recommendations <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <ul style="list-style-type: none"> Do not use compressed air to clean as this will create dust in the air. </div> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <ul style="list-style-type: none"> Avoid blasting in windy conditions to prevent the spread of any hazardous materials. </div>







Guidelines on Personal Protective Equipment (PPE)

SN	Activity (Pictorial Display)	Required PPEs	Quality assurance	Protection Against hazard	Limitation of PPE	Hazard of Not wearing of PPE	When to be discard
	Blast cleaning - confined space - Contd  <p>Name of Manufactures</p> <p>EN Number</p> <p>CE Marking</p>	VII) Half face mask A Typical specimen of marking  	<p>1. The half air mask shall conform to EN 140 and shall have following :</p> <ol style="list-style-type: none"> The manufacturer shall be identified by name, trade mark or other means of identification. All units of the same model shall be provided with a type-identifying marking. Size (if more than one size is available). The number and the year of this European Standard. ie EN 140 Where the reliable performance of components may be affected by ageing, means of identifying the date (at least the year) of manufacture shall be given <p>Parts which are designed to be replaced by the authorized user and sub-assemblies with considerable bearing on safety shall be readily identifiable.</p> <p>For parts which cannot reasonably be marked e.g. straps of head harness, the relevant information shall be included in the information supplied by the manufacturer.</p> <p>The end of shelf life may be indicated on packing eg e.g. by the following pictogram.</p> <div style="text-align: center;">  <p><u>Code for dates</u></p> <p>xx/xx</p> <div style="display: flex; justify-content: space-around; width: 100%;"> Month Year </div> </div>	<p>Respiratory protection.</p> <p>Protection against inhaling dust, etc.</p>	<p>Not suitable for heavy gas concentration</p>	<p>Silicosis Occupational lung diseases.</p> <p>Deposition of particulate matter in Lung.</p> 	<ul style="list-style-type: none"> Sign of crack / damage Excessive wear Damage of strap After end of shelf life Change of filter / cartridges at least every six month Performance of the components may be affected by aging As per Manufactures recommendations <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Cleaning Always clean the half-mask after use. First remove the filter and remove dust with compressed air. Use a cloth to remove any stubborn deposits. If necessary, dismantle the parts and rinse in warm water with a small quantity of mild detergent. Never use solvents. The inhale and exhale valves should be removed and cleaned thoroughly .</p> </div>






Guidelines on Personal Protective Equipment (PPE)

SN	Activity (Pictorial Display)	Required PPEs	Quality assurance	Protection Against hazard	Limitation of PPE	Hazard of Not wearing of PPE	When to be discard
5	Painting - confined space / external 	I) Helmet (A) 	• Please refer (VI) on page 11				Please refer (VI) on page 11
		II) Safety Shoe 	• Please refer (I) on page 4				Please refer (I) on page 4
		III) Goggles 	• Please refer (III) on page 16				Please refer (III) on page 16



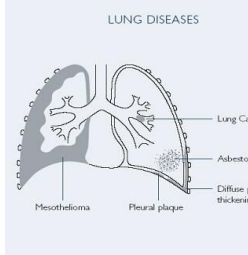
Guidelines on Personal Protective Equipment (PPE)

SN	Activity (Pictorial Display)	Required PPEs	Quality assurance	Protection Against hazard	Limitation of PPE	Hazard of Not wearing of PPE	When to be discard
5	Painting -(confined space / external) : Contd 	VI) Gloves Alternative -I Hand gloves - involving high pressure as per EN 388 and 374 					Please refer (IV) on page 17
		Alternative -II - Gloves as per IS 6994 			• Please refer (IV) on page 18 Spraying paints or cellulose lacquers sr no. XIV of table 2 : Recommended type of Gloves. is 1,8		Please refer (IV) on page 18


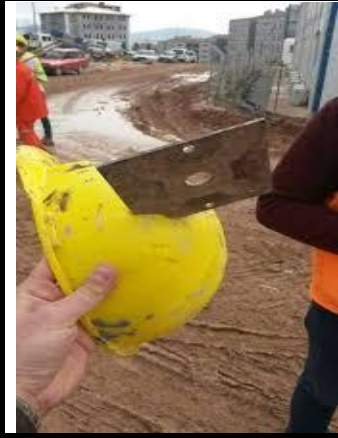


Guidelines on Personal Protective Equipment (PPE)

SN	Activity (Pictorial Display)	Required PPEs	Quality assurance	Protection Against hazard	Limitation of PPE	Hazard of Not wearing of PPE	When to be discard
	Painting -(confined space / external) : Contd 	V) Apron :Alternative -I Apron as per EN 13982 	• Please refer (VI) on page 22 and 23				Please refer (VI) on page 22 and 23
		Alternative -II Apron as per IS 4501 	• Please refer (VI) on page 24				Please refer (VI) on page 24





Guidelines on Personal Protective Equipment (PPE)

SN	Activity (Pictorial Display)	Required PPEs	Quality assurance	Protection Against hazard	Limitation of PPE	Hazard of Not wearing of PPE	When to be discard
	Painting -(confined space / external 	VI) Half face mask 	• Please refer (VII) on page 26				Please refer (VII) on page 26






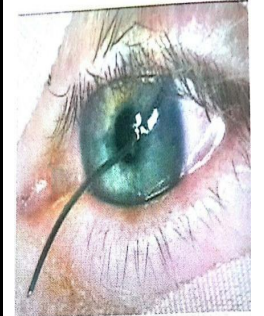
Guidelines on Personal Protective Equipment (PPE)

	Activity (Pictorial Display)	Required PPEs	Quality assurance	Protection Against hazard	Limitation of PPE	Hazard of Not wearing of PPE	When to be discard
6	a) Working in Confined space b) Testing of Gas sensor c) Tank Gauging d) De Gassing of LPG Cylinder e) Shuttering works	I) Safety Helmet (B) 		• Please refer (I) on page 12 &13			Please refer (I) on page 12 &13
	f) Brick masonry g) Handling of Battery	II) Safety Shoe (A) 		• Please refer (I) on page 4			Please refer (I) on page 4




Guidelines on Personal Protective Equipment (PPE)

	Activity (Pictorial Display)	Required PPEs	Quality assurance	Protection Against hazard	Limitation of PPE	Hazard of Not wearing of PPE	When to be discard
6	Contd.. a) Working in Confined space b) Testing of Gas sensor c) Tank Gauging d) De Gassing of LPG Cylinder e) Shuttering works f) Brick masonry g) Handling of Battery	III) Gloves Alternative -I : Hand gloves - involving high pressure as per EN 388 and 374 		Please refer (IV) on page 17			Please refer (IV) on page 17
		Alternative -II Gloves as per IS 6994 		Please refer (IV) on page 18 Light Abrasion ix of table 2 Recommended type of Gloves. is 1, 2, 8, 14. 15. 16			Please refer (IV) on page 18





Guidelines on Personal Protective Equipment (PPE)

SN	Activity (Pictorial Display)	Required PPEs	Quality assurance	Protection Against hazard	Limitation of PPE	Hazard of Not wearing of PPE	When to be discard	
7	a) Road work b) Reinforcement c) Concreting	I) Helmet (B) 		• Please refer (I) on page 12 &13			Please refer (I) on page 12 &13	
		II) Gum Boot 				• Please refer (II) on page 15		Please refer (II) on page 15
		III) Goggles 				• Please refer (III) on page 16		Please refer (III) on page 16




Guidelines on Personal Protective Equipment (PPE)

	Activity (Pictorial Display)	Required PPEs	Quality assurance	Protection Against hazard	Limitation of PPE	Hazard of Not wearing of PPE	When to be discard
7	Contd.. a) Road work b) Reinforcement c) Concreting	VI) Gloves Alternative -I : Hand gloves - involving high pressure as per EN 388 and 374 	Please refer (IV) on page 17				
		Alternative II as per IS 6994 	Please refer (IV) on page 18				
			Light Abrasion ix of table 2 Recommended type of Gloves. is 1, 2, 8, 14. 15. 16				



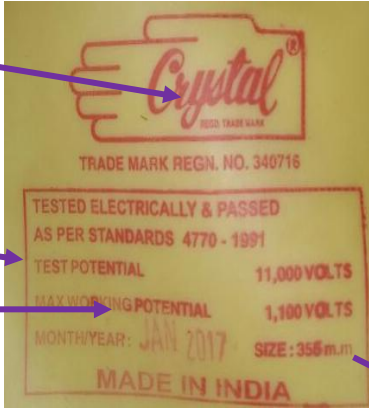

Guidelines on Personal Protective Equipment (PPE)

N	Activity (Pictorial Display)	Required PPEs	Quality assurance	Protection Against hazard	Limitation of PPE	Hazard of Not wearing of PPE	When to be discard
8	a) Grass Cutting	I) Gum Boot 	• Please refer (II) on page 15				Please refer (II) on page 15
	b) Blinding and de-blinding flange work	II) Helment (B) 	• Please refer (I) on page 12 & 13				Please refer (I) on page 12 & 13




Guidelines on Personal Protective Equipment (PPE)

SN	Activity (Pictorial Display)	Required PPEs	Quality assurance	Protection Against hazard	Limitation of PPE	Hazard of Not wearing of PPE	When to be discard
9	Electrical works Electrical sub-station current carrying equipment 	II) Safety Shoe (B)   	<p>The safety shoe shall have following marking as per IS 15298 (part -2) :</p> <ol style="list-style-type: none"> size; manufacturer's identification mark; Year of manufacture and at least quarter; License No (CM/L) IS Mark <p>Category of Safety shoe (,S3 etc) as required as per Table 16 of IS 15298 (part 2) : 2011</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><i>The sole shall be regulated to high voltage test upto 15 KV voltage applied across the sole for 1 min. Necessary test certificate for this test from FDI/NABL accredited party to be furnished .</i></p> </div>	<ul style="list-style-type: none"> Striking against stationary object. Striking by moving object Electrical resistance 	<ul style="list-style-type: none"> Not suitable for work in explosive work area. Or Work activities requiring antistatic work 		<ul style="list-style-type: none"> Exceeding one year from the date of first use of the shoe . Sign of crack / damage Excessive wear As per Manufactureres recommendations








Guidelines on Personal Protective Equipment (PPE)

SN	Activity (Pictorial Display)	Required PPEs	Quality assurance	Protection Against hazard	Limitation of PPE	Hazard of Not wearing of PPE	When to be discard
9	Electrical works : Electrical sub-station current carrying equipment Contd 	II) Electrical Hand gloves Insulating Rubber Electrical Gloves  <p>Manufacture Name</p> <p>Test Potential</p> <p>Maximum working potential</p>	<p>The gloves shall be marked indelibly at the back with the following information as per IS 4770</p> <ul style="list-style-type: none"> Size and type of glove; Maximum working potential in Volts, followed by the word 'working' in brackets; Identification of the source of manufacture; and Month and year of manufacture <p>moisture absorption certificate to be checked.</p> <p>A Typical specimen of marking</p>  <p>Type -1 Gloves not to used</p>	<p>Type 2—For use at voltage not exceeding 1 100 ac rms</p> <p>Type 3—For use at voltage not exceeding 7 500 ac rms</p> <p>Type 4—For use at voltage not exceeding 17 000 ac rms.</p>	<p>1) Type of the PPE restricts the maximum voltage at which it can be used</p> <p>2) Other precautions to be taken while working on electrical installation</p>		<ul style="list-style-type: none"> Frequently used Gloves to be re-tested at intervals of not more than 6 months. Gloves issued for occasional use shall be re-tested after use or in any case at intervals of not more than 12 months. Gloves Showing any defects As per Manufactures recommendations





Guidelines on Personal Protective Equipment (PPE)

SN	Activity (Pictorial Display)	Required PPEs	Quality assurance	Protection Against hazard	Limitation of PPE	Hazard of Not wearing of PPE	When to be discard
9	<p>Electrical works : Electrical sub- station current carrying equipment Contd</p> 	<p>Helmet as per EN 397</p> 	<ul style="list-style-type: none"> Please refer (I) on page 12 & 13 				<p>Please refer (I) on page 12 and 13</p>




Guidelines on Personal Protective Equipment (PPE)

SN	Activity (Pictorial Display)	Required PPEs	Quality assurance	Protection Against hazard	Limitation of PPE	Hazard of Not wearing of PPE	When to be discard
10	<p>Working with possibility of splashes of hot, cryogenic or corrosive liquids</p> 	<p>I) Helmet (B) as per EN 397</p> 	<ul style="list-style-type: none"> Please refer (I) on page 12 and 13 				<p>Please refer (I) on page 12 and 13</p>
		<p>II) Safety Shoe</p> 	<ul style="list-style-type: none"> Please refer (I) on page 4 				<p>Please refer (I) on page 4</p>
		<p>III) Goggles</p> 	<ul style="list-style-type: none"> Please refer (III) on page 16 				<p>Please refer (III) on page 16</p>






Guidelines on Personal Protective Equipment (PPE)

	Activity (Pictorial Display)	Required PPEs	Quality assurance	Protection Against hazard	Limitation of PPE	Hazard of Not wearing of PPE	When to be discard
10	Working with possibility of splashes of hot, cryogenic or corrosive liquids. Contd 	IV) Gloves Alternative -I : Hand gloves - involving high pressure as per EN 388 and 374 	• Please refer (IV) on page 17				Please refer (IV) on page 17
		Alternative - II Gloves as per IS 6994. 					• Please refer (IV) on page 18 Light Abrasion ix of table 2 Recommended type of Gloves. is 1, 2, 8, 14. 15. 16






Guidelines on Personal Protective Equipment (PPE)

SN	Activity (Pictorial Display)	Required PPEs	Quality assurance	Protection Against hazard	Limitation of PPE	Hazard of Not wearing of PPE	When to be discard
	Working with possibility of splashes of hot, cryogenic or corrosive liquids Contd	V) Apron Alternative -I Apron as per EN 13982 	Please refer (VI) on page 22 &23				Please refer (VI) on page 22 &23
		Alternative -II Apron as per IS 4501 	Please refer (VI) on page 24				Please refer (VI) on page 24






Guidelines on Personal Protective Equipment (PPE)

SN	Activity (Pictorial Display)	Required PPEs	Quality assurance	Protection Against hazard	Limitation of PPE	Hazard of Not wearing of PPE	When to be discard
11	<p>Welding and cutting work</p> 	<p>I) Helmet attachable welding shield (A)</p>  <p>II) Welding Helmet with welding Shield (B)</p>  <p>Name of Manufacture</p> <p>CE Mark and EN Mark</p> <p>Name of Manufacture EN166 FT</p>	<p>a) Helmet mountable welding shield.</p> <ul style="list-style-type: none"> Conforms to EN 175 Protective lens made of clear high impact resistant. polycarbonate conforming to EN 166 and ANSI Z 87.1 polypropylene Impact Resistance Shell conform to EN 175 F The welding shield shall be CE marked Marking on protective shall be fully visible Ocular marking shall be as per clause 9.2 of EN 166 <p>b) Welding Helmet with welding Shield</p> <ul style="list-style-type: none"> Protective lens made of clear high impact resistant. polycarbonate conforming to EN 166 and ANSI Z 87.1 polypropylene Impact Resistance Shell conform to EN 175 F Marking on protective shall be fully visible Ocular marking shall be as per clause 9.2 of EN 166 	<p>Protection during welding.</p> <p>Liftable welding lens allows clear view while restricting harmful dust particles.</p>	<p>To be used only in conjunction with safety helmet & should not be used independently.</p> <p>However welding helmets can be used independently.</p>		<ul style="list-style-type: none"> Exceeding one year from the date of first use of the goggles . sign of crack / damage on lenses Excessive wear As per Manufact ures recomme ndations






Guidelines on Personal Protective Equipment (PPE)

	Activity (Pictorial Display)	Required PPEs	Quality assurance	Protection Against hazard	Limitation of PPE	Hazard of Not wearing of PPE	When to be discard
11	Welding and cutting work : Contd 	II) Safety Shoe 	Please refer (I) on page 4				Please refer (I) on page 4
		Helmet as per EN 397 (in case Helmet attachable welding shield being used) 	• Please refer (I) on page 12 & 13				Please refer (I) on page 12 and 13




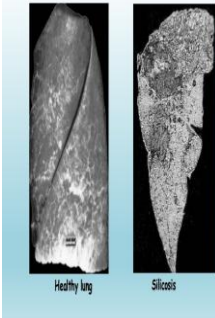
Guidelines on Personal Protective Equipment (PPE)

SN	Activity (Pictorial Display)	Required PPEs	Quality assurance	Protection Against hazard	Limitation of PPE	Hazard of Not wearing of PPE	When to be discard
11	Welding and cutting work Contd. 	III) Apron  <p>A Typical specimen of marking</p> <p>15 EN ISO 11611:2015</p>  <p>F1 class 1 A1 + A2</p> 	<ul style="list-style-type: none"> Apron shall conform to EN ISO 11611 & shall have the following markings : classification: : Class 1: the number and year of this International Standard (ISO 11611) followed by the graphical symbol shown in below and the indication "Class 1" and the indication "A1" or "A1 + A2" as appropriate for Limited Flame Spread; Class 2: the number and year of this International Standard (ISO 11611) followed by the graphical symbol shown in Figure 1 and the indication "Class 2" and the indication "A1" or "A1 + A2" as appropriate; garments conforming to Class 2 shall meet Class 2 for all performance requirements; instructions for cleaning shall be marked (e.g. on a label). 	<ul style="list-style-type: none"> minimize skin burns caused by sparks, spatter, or radiation 	<ul style="list-style-type: none"> Additional electrical insulation layers will be required where there is an increased risk of electric shock; garments meeting the requirements of clause 6.10 of EN ISO 11611 (6.10) are designed to provide protection against short term, accidental contact with live electric conductors at voltages up to approximately 100 V d.c. any identified hazards against which the clothing is intended to protect (e.g. flames, molten metal spatter, radiant heat, and short term accidental electrical contact); for protective clothing, a warning that additional partial body protection may be required, e.g. for welding overhead; 		<ul style="list-style-type: none"> On contaminated with flammable material. Manufacturers shall include the information that welder's protective clothing be cleaned regularly in accordance with the manufacturer's recommendations. After cleaning, the clothing shall be visually inspected for any sign of damage. Similarly, users should be advised that if they experience sunburn-like symptoms, UVB is penetrating. In either case, the garment should be repaired (if practicable) or replaced and consideration given to the use of additional, more resistant, protective layers in future. As per Manufactures recommendations





Guidelines on Personal Protective Equipment (PPE)

SN	Activity (Pictorial Display)	Required PPEs	Quality assurance	Protection Against hazard	Limitation of PPE	Hazard of Not wearing of PPE	When to be discard
12	Tank cleaning 	I) Helmet (B) 	Please refer (I) on page 12 & 13				Please refer (I) on page 12 & 13
		II) Gum Boot 	Please refer (II) on page 15				Please refer (II) on page 15







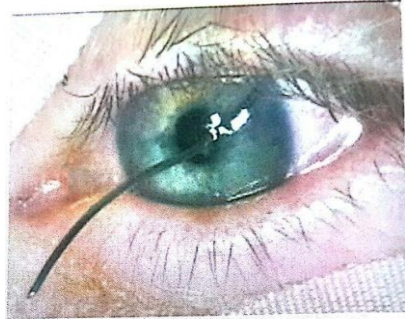
Guidelines on Personal Protective Equipment (PPE)

SN	Activity (Pictorial Display)	Required PPEs	Quality assurance	Protection Against hazard	Limitation of PPE	Hazard of Not wearing of PPE	When to be discard
12	Tank cleaning Contd. 	III) Apron Alternative -I Apron as per EN 13982  Alternative -II Apron as per IS 4501 		<ul style="list-style-type: none"> Please refer (VI) on page 22-23 & 24 			Please refer (VI) on page 22-23 & 24





Guidelines on Personal Protective Equipment (PPE)

SN	Activity (Pictorial Display)	Required PPEs	Quality assurance	Protection Against hazard	Limitation of PPE	Hazard of Not wearing of PPE	When to be discard
12	Tank cleaning : Contd 	IV) Gloves Alternative -I : Hand gloves - involving high pressure as per EN 388 and 374 	<ul style="list-style-type: none"> Please refer (IV) on page 17 				Please refer (IV) on page 17
		Alternative - II Gloves as per IS 6994. 					Please refer (IV) on page 18










Guidelines on Personal Protective Equipment (PPE)

SN	Activity (Pictorial Display)	Required PPEs	Quality assurance	Protection Against hazard	Limitation of PPE	Hazard of Not wearing of PPE	When to be discard
13		I) Helmet (B) 	• Please refer (I) on page 12 & 13				Please refer (I) on page 12 & 13
		II) Safety Shoe 	• Please refer (I) on page 4				Please refer (I) on page 4
		III) Goggles 	• Please refer (III) on page 16				Please refer (III) on page 16

Guidelines on Personal Protective Equipment (PPE)

SN	Activity (Pictorial Display)	Required PPEs	Quality assurance	Protection Against hazard	Limitation of PPE	Hazard of Not wearing of PPE	When to be discard
13	Product pump house operation Contd 	IV) Gloves :Alternative -I : Hand gloves - involving high pressure as per EN 388 and 374 	• Please refer (IV) on page 17				Please refer (IV) on page 17 & 18
		Alternative - II Gloves as per IS 6994. 					


Guidelines on Personal Protective Equipment (PPE)

SN	Activity (Pictorial Display)	Required PPEs	Quality assurance	Protection Against hazard	Limitation of PPE	Hazard of Not wearing of PPE	When to be discard
14		I) Helmet (B) 	<ul style="list-style-type: none"> Please refer (I) on page 12 &13 				Please refer (I) on page 12 &13
		II) Safety Shoe (B) 	<ul style="list-style-type: none"> Please refer (II) on page 36 				Please refer (II) on page 36
		III) Ear Muff 	<ul style="list-style-type: none"> Please refer (IV) on page 20 				Please refer (IV) on page 20
		IV) Electrical Gloves 	<ul style="list-style-type: none"> Please refer (II) on page 37 				Please refer (IV) on page 37

The specifications of single layer Inherent Fire Retardant Coverall (IFR Coverall) and T/C are as under:

SN	Parameters	Specifications															
1.		<ul style="list-style-type: none">• BS EN ISO 11612:2015 or ISO 11612:2015(E) (Latest Edition) standards certified Inherent Fire Retardant Suit (IFR).• Inherent Fire Retardant Suit (IFR) Overall (Dangri) for day to day operations purpose.• Single piece, dangri style made from inherently flame resistance fabric of 150 GSM ± 5 %.• All components of IFR garments (e.g., sewing threads and zipper tapes) shall be made from IFR materials. All metal components must be backed with IFR material to prevent the components from conducting heat to the wearer’s skin. All elastic bands and FR nylon Velcro shall be fully covered and backed with IFR material to prevent ignition or melting of these components.															
2.		<ul style="list-style-type: none">• The protective IFR coverall (Dangri) shall be made from inherently flame retardant fabric having following features :<ul style="list-style-type: none">✓ The Fabric (150 GSM± 5 %) used for fabrication of the protective coverall to be inherently flame retardant having permanent heat and flame protection which cannot be removed or washed out throughout the life of the garment.✓ Where garments are constructed with pockets, the pockets shall be made of material(s) conforming to clause no 6.2 and 6.3.of BS EN ISO 11612:2015 or ISO 11612:2015(E)✓ All openings in garments shall be designed in such a way to prevent entry of heat, flame, or hot material.✓ Front openings should be capable of being closed over the entire length by appropriate overlapping.✓ The physical requirement of different components of coverall shall be as per clause no 6.5 of BS EN ISO 11612:2015 or ISO 11612:2015(E). The minimum value of the each parameters is tabulated below :<table><tr><th>S N</th><th>Parameters</th><th>Test method</th><th>Unit</th><th>Requirement</th></tr><tr><td>1</td><td>Tensile Strength as per clause 6.5.1</td><td>ISO 13934-1</td><td>Newto n</td><td>Minimum 300 N both directions.</td></tr><tr><td>2</td><td>Tear Strength as per clause no 6.5.2</td><td>ISO 13937-2</td><td>Newto n</td><td>Minimum 10 N both direction</td></tr></table><ul style="list-style-type: none">✓ Pocket : IFR shall be fabricated to provide following pockets and Indian Oil Logo:<ul style="list-style-type: none">➤ 1st Pocket – Radio Pocket on left chest with FR Velcro on flap closure.	S N	Parameters	Test method	Unit	Requirement	1	Tensile Strength as per clause 6.5.1	ISO 13934-1	Newto n	Minimum 300 N both directions.	2	Tear Strength as per clause no 6.5.2	ISO 13937-2	Newto n	Minimum 10 N both direction
S N	Parameters	Test method	Unit	Requirement													
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2	Tear Strength as per clause no 6.5.2	ISO 13937-2	Newto n	Minimum 10 N both direction													

SN	Parameters	Specifications
		<ul style="list-style-type: none"> ➤ 2nd Right Chest, flap style with FR Velcro closure. ➤ 3rd Pocket – Open pen pocket on left shoulder ➤ 4th and 5th trouser cargo pocket at outer side of knee level (each side) with flap secured with Velcro closure. ➤ Embroidery of company logo and name, as per Instructions ✓ Front Closure: The coverall should have a heavy-duty moulded zip beneath a full length catch flap, closing with fire retardant Velcro meeting requirement stipulated in clause no 6.2.1 of BS EN ISO 11612:2015 or ISO 11612:2015(E) ✓ Reflective Tape : The Coverall shall have a high quality Fire Retardant reflective flame retardant tape provided at the following places: <ul style="list-style-type: none"> ➤ Single row minimum 50 mm width, on shoulder and forearms. ➤ The tape should be premium quality and the quality should comply with the length and test parameters stipulated in clause no 6.2.1 of BS EN ISO 11612:2015 or ISO 11612:2015(E) ✓ Sizing: Size designation shall be in accordance as per clause no 6 of BS EN ISO 13688:2013. Size chart should be provided along with the offer. Order will be placed for the total no of IFR coverall, however actual sizes shall be intimated after the placement of purchase order by providing the sample pieces of all sizes to the supply locations by the vendor.
3.		The colour of the Protective IFR coverall (Dangri) should be Silver.
4.		Stitching of the IFR overall (Dangri) shall be stitched with IFR aramid thread to ensure that the seams have strength, elasticity, durability, stability, finish and colour fastness.
5.		<p>Marking and information : The protective clothing shall be marked as per Clause no 10 BS EN ISO 11612:2015 , ISO 11612:2015(E) and Clause no 6 of EN ISO 13688 : 2013 (latest edition).</p> <ul style="list-style-type: none"> ➤ Name, trademark or other means of identification of the manufacturer or his authorized representative; ➤ Designation of the product type, commercial name or code; ➤ The size range. ➤ The number and date of the European i.e BS EN ISO 11612:2015 or ISO 11612:2015(E) ➤ The pictogram showing the suit is for protection against heat and flame as per Annex E Table E.1 as per BS EN ISO 13688:2013

SN	Parameters	Specifications																																													
		<div></div> <p>➤ The level of performance achieved, when tested in accordance with clause no 6 BS EN ISO 11612:2015 or ISO 11612:2015(E) A1 or A1 and A2 for Limited flame spread Convective Heat – B1</p> <p>Radiant Heat – C1 Contact Heat – F1</p>																																													
6.		<p>Vendor to provide either CE certificate as per directive of 89/686/EEC or EU type examination certificate as per PPE regulations (EU) 2016/425.</p> <p>Note: Only product compliant with PPE regulation (EU) 2016/425 shall be acceptable. EU Type examination certificate issued under Directive 89/686/EEC shall remain valid till 21st April 2023 unless they expire before that date for products in the supply chain.</p>																																													
7.		Information to be supplied by manufacture as per clause no 11 of BS EN ISO 11612:2015 or ISO 11612:2015(E) and as per clause no 8 of BS EN ISO 13688:2013.																																													
8.	Information/d ocuments required from vendor at time of bid :	<ul style="list-style-type: none">EU / EC Type examination certification.Test report of offered coverall covering following parameters <table><tr><th>S N</th><th>Parameters</th><th>Test method</th><th>Unit</th><th>Requirement</th></tr><tr><td>1</td><td>Heat resistance as per clause no 6.2</td><td>ISO 17493</td><td>%</td><td>Not exceeding ±5%</td></tr><tr><td>2</td><td>Flame Spread as per clause 6.3</td><td>ISO 15024</td><td></td><td>A1 or A1 and A2</td></tr><tr><td>3</td><td>Shrinkage as per clause 6.4</td><td>ISO 5077</td><td></td><td>Not exceeding ±3%</td></tr><tr><td>4</td><td>Tensile Strength as per clause 6.5.1</td><td>ISO 13934-1</td><td>Newto n</td><td>Minimum 300 N both directions.</td></tr><tr><td>5</td><td>Tear Strength as per clause no 6.5.2</td><td>ISO 13937-2</td><td>Newto n</td><td>Minimum 10 N both direction</td></tr><tr><td>6</td><td>Convective Heat as per clause 7.2</td><td>ISO 9151</td><td>sec</td><td>> 4</td></tr><tr><td>7</td><td>Radiant Heat as per clause 7.3</td><td>ISO 6942, Method B</td><td>sec</td><td>> 7</td></tr><tr><td>8</td><td>Contact Heat as per clause 7.6</td><td>ISO 12127-1 at a temperatur e of 250 °C</td><td>sec</td><td>> 5</td></tr></table>	S N	Parameters	Test method	Unit	Requirement	1	Heat resistance as per clause no 6.2	ISO 17493	%	Not exceeding ±5%	2	Flame Spread as per clause 6.3	ISO 15024		A1 or A1 and A2	3	Shrinkage as per clause 6.4	ISO 5077		Not exceeding ±3%	4	Tensile Strength as per clause 6.5.1	ISO 13934-1	Newto n	Minimum 300 N both directions.	5	Tear Strength as per clause no 6.5.2	ISO 13937-2	Newto n	Minimum 10 N both direction	6	Convective Heat as per clause 7.2	ISO 9151	sec	> 4	7	Radiant Heat as per clause 7.3	ISO 6942, Method B	sec	> 7	8	Contact Heat as per clause 7.6	ISO 12127-1 at a temperatur e of 250 °C	sec	> 5
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		<ul style="list-style-type: none">Colour fastness : <table><tr><th>SN</th><th>Parameters</th><th>Test method</th><th colspan="2">Requirement</th></tr><tr><td>1</td><td>Colour Fastness to Light</td><td>AATCC 16:2004</td><td colspan="2">4 or higher</td></tr><tr><td rowspan="3">2</td><td><ul style="list-style-type: none">Colour Fastness to washing (test 3) after 4 wash.</td><td rowspan="3">AATCC 61:2009</td><td colspan="2" rowspan="3">4 or higher</td></tr><tr><td><ul style="list-style-type: none">Change in colour</td></tr><tr><td><ul style="list-style-type: none">Staining on multi fibre fabric</td></tr><tr><td>3</td><td>Fastness to solvent</td><td>ISO 105 D01</td><td colspan="2">4 or higher</td></tr></table>				SN	Parameters	Test method	Requirement		1	Colour Fastness to Light	AATCC 16:2004	4 or higher		2	<ul style="list-style-type: none">Colour Fastness to washing (test 3) after 4 wash.	AATCC 61:2009	4 or higher		<ul style="list-style-type: none">Change in colour	<ul style="list-style-type: none">Staining on multi fibre fabric	3	Fastness to solvent	ISO 105 D01	4 or higher	
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9.	Information/documents required from vendor at time of supply :	<ul style="list-style-type: none">EU / EC Type examination certification along with the IFR coverall.Supplied Garment shall be tested as per clause no 9 of BS EN ISO 11612:2015 or ISO 11612:2015(E) <table><tr><th>S N</th><th>Parameters</th><th>Test method</th><th>Unit</th><th>Requirement</th></tr><tr><td>1</td><td>Manikin Testing as per clause 9</td><td>ISO 13506 for 4 sec exposure</td><td>%</td><td>Since ISO 13506 does not define allowable body burn injury, the requirement of < 50% is to be adhere as per NFPA 2112.</td></tr></table>				S N	Parameters	Test method	Unit	Requirement	1	Manikin Testing as per clause 9	ISO 13506 for 4 sec exposure	%	Since ISO 13506 does not define allowable body burn injury, the requirement of < 50% is to be adhere as per NFPA 2112.												
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SN	Parameters	Specifications
10.	Inspection , testing and performance parameters :	<p>a. Inspection Requirement to ensure quality :</p> <ul style="list-style-type: none"> ➤ Vendor shall submit QAP for approval. Pre-dispatch inspection shall be done as per approved QAP and vendor shall extend necessary co-operation to facilitate inspection at vendor's premises. ➤ Buyer at its discretion may subject the item to inspection for the satisfaction of buyer. ➤ Prior to dispatch of the material from vendor's place the following inspection and tests shall be carried out by the vendor to complete satisfaction of buyer without any extra cost to buyer for : <ul style="list-style-type: none"> • Visual inspection of suit to ensure no apparent damage or deficiency. • Examination of documents / certificates / test reports/ instructions/guidelines etc. <p>b. Details of field demonstration :</p> <p>IOCL at its discretion may ask the contractor for field demonstration including explaining condition for proper storage, usage, washing and cleaning. Field demonstration shall be done at contractor's yard inside Refinery premises.</p>