

AT

AAROHAN TECHNOLOGIES

INSULA[®]

1000V Insulated Tools for Electrical Safety

Complete Protection from Electrocution

Insulated PPE Kit & Innovative
Personal Protection Solutions



INSULA[®]

1000V Insulated Tools for Electrical Safety

Need for Electrical Safety!

When working in electrical premises, safety is paramount. Bombay Tools, in collaboration with Insula, offers a range of insulated tools designed to protect workers from electrical hazards. These Electrical PPE tools provide peace of mind, ensuring a secure and shock-free environment for professionals in the field.



Electrical Rescue Stick with Hook

A Rescue Stick is basically designed to remove an injured person in the event of an arc flash incident at a switching substation.

This rescue hook needs to be available to high voltage electrical users in confined areas such as switching stations, substations or switching yards.



01

The Rescue Stick is very vital electrical safety product.

02

It is basically designed to rescue or retrieve the victim from electric shocks or electrocution.

03

This high strength, lightweight body rescue stick is electrically insulated.

Its compact design facilitates its usage in confined spaces in cabinets, switch gears or just near electrical vaults.

04

Top Hook (Pull) Material Epoxy Resin Highly Insulated

Section	1-Section
Length Section Rod	6 Feet
FRP Rod Diameter	38 mm OD
Wall Thickness	2.5 mm
Rubber Grip Rubber Grip	2.5 mm thickness
Approx Weight of Rod	2.0 Kgs

MOC : Epoxy Resin Highly Insulated

H.V Test 220KV Tested
Glass Content 50%
H.V Test 220KV Tested

Electrically Insulated Gloves

Importance of PPE cannot be over-emphasized in any industry. Most companies mandate their workers to employ correct PPE to meet highest safety standards. In spite of our safety culture electrical accidents in the workplace continue to be at an all-time high.



Current Scenario

If electrical workers were mandated to use insulated gloves both accidents as well as near misses can be reduced by over 73%. However,

- Insulated gloves that are tested as per the relevant standard and provide the electrical protection tend to be relatively thicker. This means that wearer of the gloves find it very difficult to perform the necessary function with the gloves on.
- On the extreme end of the spectrum certain workers may use thinner gloves so that it has enough dexterity for them to perform relevant tasks. Or gloves may be discarded completely to get the job done.
- Hence, users are forced to choose between Safety & Functionality at the expense of the other.

Solution

We have launched the world's thinnest gloves that meet the safety requirement of the EN standard. End users no longer have to choose between safety and functionality for the task at hand. Our insulated gloves are priced very economical to provide the highest RoI while ensure zero electrical

Our electrical insulated gloves protect people working on live voltages or working in the proximity of electrical installation from electrical shocks. We provide gloves in different classes for a wide range of voltages from 500 V to 36000 V. They have been designed to comply with EN60903:2003, IEC60903:2014 and CE category III standard. Our gloves are individually tested as per the requirement of the IEC 60903 standard & have the necessary approvals from various testing bodies.

Our gloves are designed to provide maximum comfort to the user who may wear them for long durations. Thinnest gloves in its class, our gloves provides the dexterity that the wearer needs while

Class Specifications:

Classification	Max Working Voltage	Proof Test Voltage	Withstand Voltage	Max use Voltage (DC)
Class 00	500 AC	2,500 AC	5,000 AC	750 DC
Class 0	1,000 AC	5,000 AC	10,000 AC	1500 DC
Class 1	7,500 AC	10,000 AC	20,000 AC	11250 DC
Class 2	17,000 AC	20,000 AC	30,000 AC	25500 DC
Class 3	26,500 AC	30,000 AC	40,000 AC	39750 DC
Class 4	36,000 AC	40,000 AC	50,000 AC	54000 DC



Features :

- Manufactured at Raychem RPG's state of the art manufacturing facility in Vasai, near Mumbai
- Insulating gloves are manufactured from natural rubber latex procured from RPG group's rubber tree farms. This ensures uniformity in the insulating properties of rubber.
- Gloves are powder-free
- Type tested in renowned international laboratories
- Low protein tested to avoid an allergic reaction to users
- Gloves revalidation service offered as per IEC 60903-2014 after every 6 months of usage

CLASS	LENGTH (CM) Y	PALM SIZE X	PACKAGING COLOUR	CUFF PATTERN Z
Class 00	28/36	8-9-10-11-12	Beige	O/S
Class 0	28/36/41	8-9-10-11-12	Red	O/S
Class 1	36/41	8-9-10-11-12	White	O/S
Class 2	36/41	8-9-10-11-12	Yellow	O/S
Class 3	36/41	8-9-10-11-12	Green	O/S
Class 4	41	8-9-10-11-12	Orange	O/S

COMPLIANCE TO EN388:2016			
PART CODES	SUITABLE FOR	APPROVALS	SIZE
9931000	Electrical Gloves Class 00 & 0	En388 : 2016 - 3123 ENISO 21420	7 TO 12
9931012	Electrical Gloves Class 1 & 2	En388 : 2016 - 3122 ENISO 21420	7 TO 12
9931034	Electrical Gloves Class 3 & 4	En388 : 2016 - 2121 ENISO 21420	7 TO 12

Glove Inflator Kit

INSULA IG99



Insula ® Glove Inflator kit is a portable device which assists users during visual inspection to search for any abrasion, cuts, tears or punctures. The glove inflator can be used anywhere.

Our glove inflator comes with a durable storage bag made out of canvas and a strap to hold the rubber insulating glove in place on the inflator.

Insula ® IG99 glove inflator kit is a simple to use portable inspection unit for high voltage gloves. Includes Glove Inflator & Strap, and a custom kit bag.

Inspection of Rubber Insulating Gloves:

Make sure that rubber insulating gloves do not have any holes or leaks prior to use. The small size allows for easy transportation and glove inspection in the field. The glove is secured to the inflator using a nylon strap and fastened with a hook and pile closure, then simply inflate the glove by pumping the bellows against any surface.

Electrical insulating gloves must be inspected before each use. Inspection is simplified by using a portable glove Inflator for Class 00 and 0 and smaller size gloves. The INUSLA ® IG99 provides a quality means of inspecting gloves in the field. The glove is secured to the inflator using a nylon strap and fastened with hook and pile. Inflation is accomplished by pumping the bellows of the inflator.

Glove Inflator



01

Draw glove over inflator. Install hook and pile strap.



02

Pump inflator bellows against any hard surface.



03

Inspect glove Visually.

CAUTION

INFLATION LIMIT

Do Not inflate the glove more than twice the normal size. Securely hold on to glove and inflation when releasing, to prevent sudden "fly off".

Electrical Insulation Rubber Mats

Electrical Insulation Rubber Mats are designed to prevent shocks & create a safe working environment in electrical hazard zones.

Manufactured as per IS 15652:2006

Colour: Black/Blue



Thickness	Voltage System
2.0 mm	Up to 3.3 kV
2.5 mm	Up to 11 kV
3.0 mm	Up to 33 kV



Electrical High Voltage Mats

NEW IS 15652 : 2006

1. High electrical insulation resistance 10,00,000 mcga ohm when measured with 500 V megger
2. 100% shock proof under leakage current 10 mA
3. Fire Retardant
4. Safe for use with Transformer oil , Acids, Aklaklis, Deisel
5. High dielectric strength of 45Kv for 1 minute for 2.5 mm thick mat
6. High breakdown voltage 45 Kv for 2.5 mm Mat
7. Past able type permanent fixed smooth trolley movement
8. Moisture proof
9. Easy to Clean
10. High tensile & elongation properties to withstand good mechanical properties



Electrical Insulation Rubber Mats



Thickness and Voltage Capacity of Electrical Insulation Mats

SI No.	Class of Mat	Thickness (mm)	Tolerance (%)	AC (rms) kV	DC (rms) V
1	A	2.00	± 10	3.3	240
2	B	2.50	± 10	11	240
3	C	3.00	± 10	33	240
4	D	3.50	± 10	66	240

SI No.	Class of Mat	Thickness (mm)	Di-electric Streight AC (rms)kV	DC (rms) V
1	A	2.00	30	240
2	B	2.50	45	240
3	C	3.00	65	240
4	D	3.50	110	240



Electrically Insulated Safety Shoes

**Composite Safety
Toe 200 J EN Certified**

**Tested as per
EN 50321-1991 / ISO 20344:2011**

**Products Specs :
ISO : 20345:2011 & IS 15298**

**Electrical Shockproof Test
@ 18 kVa for 1 Minute**

Recommended for :

- For working environment with high voltage hazards
- Power stations operations
- Substation (step-up/step-down/distribution) operations
- Electrical hazards with wet condition / water exposure
Current leakage hazards
- Electrical installations.
- Electrical & Instrumentation Maintenance Teams.

ARC Flash Suits

Arc Flash PPE designed to protect worker against the hazards of an electric arc.

Except the electric shock, Arc Flash is the most dangerous risk every electrician must face daily. Even Dropping an un-insulated tool or a metal part can make a connection and then lead to an Arc-Flash.

Damage caused by Arc-Flash is scary. The temperature of the heat source from Arc-Flash can reach 20,000 °C. Also, the ultraviolet light, explosion waves, and loud sounds from the Arc-Flash can permanently damage human vision and hearing.

An arc flash occurs when the electrical current flows outside its intended path, through an air gap, to another conductor. With this in mind, you can see that an arc flash can occur anywhere that the electrical current has a chance to escape. An Arc Flash Suit is a specialized piece of personal protective equipment (PPE) designed to protect electrical workers and technicians from the hazards of an arc flash incident. An arc flash is a sudden release of electrical energy that occurs when there is a fault in an electrical system, resulting in an electric arc. This arc produces intense heat and light, as well as a blast of pressure and sound waves.

Technical Specification For Arc Flash Suit

Multi-layer Inherent arc flash Resistance Fabric 500 GSM.

Design :

- 1) Garment made of Inherent arc flash resistance fabric along with the zip & velcro closure and covered with flap.
- 2) Trouser have provision of zipper closure.
- 3) Elasticized side waistband for a better fit & Comfort.
- 4) Sleeve cuffs have adjustable straps with Velcro closure
- 5) Class E Helmet along with the 40-cal rated visor ASTM F 2178 -12
- 6) For high visibility, FR reflective tape applied across the
- 7) shoulder, sleeves, and bottom.
- 8) Throughout the garment's manufacturing, FR thread is employed.
- 9) Various designs and patterns are available to meet your needs.

Arc Flash safety Kit Content:

- Jacket & Trouser.
- Class E Helmet with Paulson Face Shield.
- Fabric Gloves and Storage Bag.



ARC Flash Suits

Features :

- Provides protection against an ARC Flash's Hazard.
- Full Body Protection
- Comfortable to the user
- The FR Properties will remain constant till the last washing cycle.
- Sewn with FR thread

Application Of Arc Flash Suit

- Transmission Line Maintenance
- LT & HT Panel Maintenance
- Electricians for workwear
- Power Generation units
- Utilities, and maintenance.

Tested & Certificate EN IEC - 61482 -1



EN 1149



ENISO
11612



Complete Solution for Electric & Hybrid Vehicles



Electrically Insulating Blanket

Application:

- Operating voltage: 1 000 V AC - 1 500 V DC
- Used as protection for workers operating on live parts or in the vicinity of live parts, in EV's

Features:

- In accordance with IEC 61112:2009
- Translucent flexible plastic material.

Size : 1000x500mm
(Available in Larger sizes and rolls)





MP-625-D

Clamps for Insulating Blanket

Application:



- Insulating clamp for LV blankets fixation.

Features:

- Compliant with DIN VDE 0680-1 standard.
- Maximum operating voltage: 1000 V AC - 1500 V DC.
- Entirely insulating.
- Non-slip nose.



MP-627-D

Reference	mm		
MP-625-D	165	1	70
MP-627-D	80	3	30

Lockout Station



SL-101






SL-102

Application:

- Allows the storage of the lockouts.

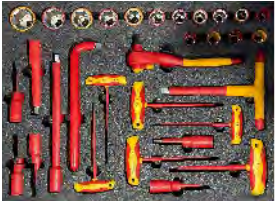
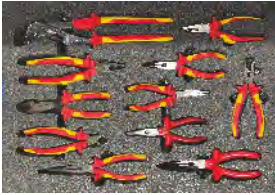
Features:

- Transparent door.
- Locked by key.
- Delivered without padlock or lockout.

Reference	Colour		 mm	
SL-101	Yellow	-	405X355X156	70
SL-102	Red	42	465X395X55	30

169 Insulated Trolley Toolkit

- Dimensions: H W L
- 7 Trays/ Drawers with cushion
- Lock and Key for security
- Quantity - 1 Each tool



Screwdriver

PN	Size
IC0204	0.4*2.5*75mm
IC0205	0.5*3.0*100mm
IC0206	0.6*3.5*100mm
IC0208	0.8*4.0*100mm
IC0210	1.0*5.5*125mm
IC0212	1.2*6.5*150mm

Phillips Screwdriver

PN	Size
IC0400	PH0*60mm
IC0401	PH1*80mm
IC0402	PH2*100mm
IC0403	PH3*150mm

Pozi Screwdriver

PN	Size
IC0600	PZ0*60mm
IC0601	PZ1*80mm
IC0602	PZ2*100mm
IC0603	PZ3*150mm

TX Screwdriver

PN	Size
IC0810	T10*70mm
IC0815	T15*80mm
IC0820	IT20*100mm
IC0825	T25*125mm
IC0830	T30*130mm

Snipe Nose Side Cutting Plier

PN	Size
DA0316	160mm
DA0320	200mm

Heavy Duty Diagonal Plier

PN	Size
DA0718	180mm

Precision Screwdriver

PN	Size
IC1415	1.5*0.23*50mm
IC1418	1.8*0.30*50mm
IC1420	2.0*0.40*50mm
IC1425	2.5*0.40*50mm
IC1430	3.0*0.50*50mm

Precision Philips Screwdriver

PN	Size
IC1600	PH00*50mm
IC1601	PH0*50mm

Nut Screwdriver

PN	Size
IC1206	6.0*125mm
IC1207	7.0*125mm
IC1208	8.0*125mm
IC1209	9.0*125mm
IC1210	10*125mm
IC1211	11*125mm
IC1212	12*125mm
IC1213	13*125mm
IC1214	14*125mm

Combination Plier

PN	Size
DA0116	160mm
DA0120	200mm

Curved Nose Cutting Plier

PN	Size
DA0516	160mm
DA0520	200mm

Diagonal Plier

PN	Size
DA0716	160mm

52 PC Insulated Tool Set



Content	PN
A Tray	
B Tray	
C Tray	IH1852
D Tray	



1000V



Insulated A Tray

Content	PN
6 pcs Pliers	
7" Combination Pliers	
8" Long Nose Pliers	
6" Diagonal Cutter	
6" Stripping Pliers	
10" Water Pump Pliers	IH1946
6" Cable Cutter	



1000V



Insulated B Tray

Content	PN
11 pcs Screwdrivers, Knife & Tester	
PH0X60, PH1X80, PH2X100, PH3X150	
2.5x75mm, 3x100mm, 4x100mm, 5.5x125mm, 6.5x150mm	IH1947
Straight Knife	
Voltage Tester	



1000V



Insulated C Tray

Content	PN
21 pcs 1/2" Sockets and Accessory	
Sockets Bits: 4, 5, 6, 8mm	
Sockets: 10/ 11/ 12/ 13/ 14/ 16/ 17/ 18/ 19/ 21/ 22/ 24/ 27	
Extension Bar 5" & 10"	IH1948
T Handle	
Ratchet Handle	



1000V



Insulated D Tray

Content	PN
14 pcs Open Wrenches and Adjustable Wrenches	
Open Wrench: 8/ 10/ 11/ 12/ 13/ 14/ 15/ 16/ 17/ 18/ 19/ 22/ 24	
8" Adjustable Wrench	IH1949



1000V



31 PCS Insulated Toolkit

Content	mm	PN
Insulated Combination Plier	200	IH0831
Insulated Diagonal Plier	160	
6Pcs Insulated Screwdriver	PH: PH0x60, PH1x80, PH2x100 SL: 0.6X3.5X100, 0.8X4.0X100, 1.0X5.5X125	
Insulated Cable Knife(Straight)	50x180	
Insulated Cable Knife(Semicircle)	28x155	
7Pcs 1/2" Insulated Sockets	10, 11, 12, 13, 14, 17, 19	
7Pcs 1/2" Insulated Open End Wrench	10, 11, 12, 13, 14, 17, 19	
1/2" Insulated T-Handle	--	
Insulated Allen Key	3, 4, 5, 6, 8, 10	



Dielectric Safety Boots

Dielectric Safety boots are a new product which eliminates the need to wear a dielectric shoe along with an overshoe by combining both products into one shoe. Our Dielectric Safety Boot is tested up to 20kV and is also a certified Safety Shoe.

- EN 20345 – Standards For Safety Footwear For Professional Use
- EN 50321 – Live Working – Footwear for Electrical Protection – Insulating footwear and overboots
- CSA Z195 – Protective Footwear
- ASTM F-1117 – Standard Specification for Dielectric Footwear
- ASTM F-2413- Standard Specification for Performance Requirements for Protective (Safety) Toe Cap Footwear

Recommendation:

- For working environment with high voltage hazards
- Power stations operations
- Substation (step-up/step-down/distribution) operations
- Electrical hazards with wet condition / water exposure
- High current leakage hazards
- Electrical installations.



Electrical Test & Measuring Instruments (Fluke, Hioki, Megger etc..)

• Digital Insulation Tester

• Digital Multimeter

• Digital Clamp Meter



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