# METRO TOOLS

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GETS FE

## **OUR TOOLS ARE TESTED UNDER**



#### **IMPACT TEST**

There are two tests carried out: The first test is performed at an ambient of  $-25 \pm 3^{\circ}$ C (the tools lay in a cold chamber for 2 hours), if with C marked test need to be done by -40  $\pm$  3°C and is carried out 120 seconds after the tools have been removed from the chamber. The second test is carried out at ambient temperature of 23  $\pm$  5°C. The hammer is allowed to fall freely on three different places of the insulated material. The test piece is acceptable if the handle is not cracked, broken or does not show signs of faking. This test can be compared to a fall of the tool from a height of 0.6m at a temperature of -25°C and a fall from a height of 2m at room temperature.

#### **ELECTRICAL TEST**

Before testing, the tools are immersed in a bath of water at room temperature of 24 hours (±0.5hours)

The test pieces are acceptable if there is no electrical discharge, spark over or flashover, during the 3 minutes of testing at a voltage of 10 KV.







## **STAMP TEST**

The indenter, loaded with a weight of 20N and a voltage of 5 KV, is applied to the centre of the handle. The test is successful if the test piece subsequently passes the electrical test.

#### **INSULATION TEST**

Before testing the test piece is heated to  $70^{\circ}\text{C} \pm 3^{\circ}\text{C}$  for 168 hours. The hanger is loaded with weights (500N), wrenches and sockets sets with weights (100N). The duration of test is 3 minutes after the test piece has been removed from heat. The test piece is acceptable if the handle remains firmly attached to the conducting part after 3 minutes of testing.









#### **FLAME RETARDANCY TEST**

The flame is applied to the test piece for 10 seconds. The test piece is acceptable if the height of the flame on the burning handle does not exceed 120mm in an observation period of 20 seconds after the burner has been removed.

## **CERTIFICATIONS**



#### VDE

The VDE Testing and Certification Institute is a nationally and internationally accredited institution in the field of testing and certification of electrical engineering devices, components and systems. These electrical products are tested for safety, electromagnetic compatibility and other product properties.



#### **VDE - GS MARK**

Technical working equipment and consumable materials subject to the applicable device and product safety laws bear the VDE-GS mark, which stands for the safety of the product with regard to electrical, mechanical, thermal, toxicological, radiological and other dangers. In addition, tools with the VDE-GS mark conform to the VDE regulations or European or internationally harmonised standards, i.e. they confirm the compliance with the safety requirements of the respective guidelines.



#### **DOUBLE TRIANGLE AND VOLTAGE RANGE**

If insulated tools or aids are marked with the symbol of the double triangle and the assigned voltage or voltage range specification or the class, they are suitable for working on energised parts at the stated voltage.



#### **IEC 60900**

An international standard which, among other things, describes the design of insulated tools in detail. For example, the thickness of the protective insulation is specified. In addition, the standard defines individual tests (piece tests) as well as series and random sample tests for checking the electrical safety of the protective insulation.

# **INS**ULA

## INSULATED HAND TOOLS FOR ELECTRICAL SAFETY

#### 1000 Volts insulated tools

Electrical Cars, Automation, IoT, & AI in the Industrial space are already here. To support new as well as existing technologies requires the industry to maintain labyrinth network of electrical cables, circuitries & panels. In our quest to be more intelligent 'safety' cannot be neglected at any point. For regular operations & maintenance of electrical equipment & circuitry requires the correct set of tools. Our full range of Insulated Hand Tools have been providing to the industry the tools needed for the above.

#### Why 1000 Volts insulated tools?

The working end (business end) of hand tools are made from regular steel or chrome vanadium. This poses a major risk of shock for operators performing electrical operation or maintenance. Insulated tools are basically made from regular steel alloy with a PVC insulation that is applied using either of the 2 processes – dipping or injection moulding. Both these processes are carefully applied to each tool to ensure correct amount of insulation.

## WHY CHOOSE INSULA



When working in live wires/ systems these tools provide insulation from electric shock



During electrical ops & maint systems remain energized even after shutdown. These tools provide safety to operator from fatal shock

## SPECIALLY FOR INDUSTRIES



Control Panels



Live Wires



**Batteries** 



**Electrical Cars** 



#### **BRANDS THAT TRUST INSULA**



Reliance



**HBL** 



**Grasim Industries** 



Hindalco



Birla Copper



JSW Steel



**ABB India** 



Siemens



IOCL



**GAIL** 



Hatsun Agra Product Ltd



**NTPC** 







Mylan laboratories



Honda R&D (India) Pvt Ltd







Zydus Hospira Oncology Ltd Shapoorji pallonji Bumi Armada

**United Breweries** 

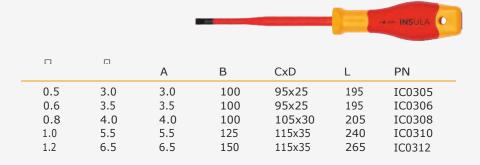


## **SCREWDRIVER**

## INSULATED SLOTTED SCREWDRIVER ( - )

		Α	В	CxD	L	PN
0.4	2.5	2.5	75	95x25	170	IC0204
0.5	3.0	3.0	100	95x25	195	IC0205
0.6	3.5	3.5	100	95x25	195	IC0206
0.8	4.0	4.0	100	105x30	205	IC0208
1.0	5.5	5.5	125	115x35	240	IC0210
1.2	6.5	6.5	150	115x35	265	IC0212

## INSULATED SLIM TYPE SLOTTED SCREWDRIVER ( - )



## INSULATED PHILLIPS SCREWDRIVER

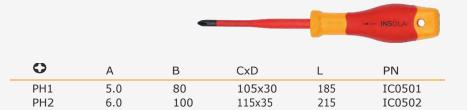


#### INSULATED SLIM TYPE PHILLIPS SCREWDRIVER

150

PH3

8.0



118x41

268

IC0503

## INSULATED POZI SCREWDRIVER



$\circ$	Α	В	CxD	L	PN
PZ0	3.0	60	95x25	155	IC0600
PZ1	5.0	80	105x30	185	IC0601
PZ2	6.0	100	115x35	215	IC0602
P73	8.0	150	118x41	268	IC0603

## **INSULATED TX SCREWDRIVER**



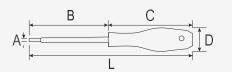
0	А	В	CxD	L	PN
T10	3.0	70	95x25	165	IC0810
T15	4.0	80	105x30	185	IC0815
T20	4.0	100	105x30	205	IC0820
T25	5.0	125	115x35	230	IC0825
T30	6.0	130	115x35	245	IC0830

## INSULATED NUT SCREWDRIVER



	Α	В	Е	CxD	L	PN
6.0	7.2	125	31	105x30	230	IC1206
7.0	7.2	125	31	105x30	230	IC1207
8.0	7.2	125	31	105x30	230	IC1208
9.0	7.2	125	31	105x30	230	IC1209
10.0	7.2	125	31	105x30	230	IC1210
11.0	8.1	125	31	118x41	243	IC1211
12.0	8.1	125	31	118x41	243	IC1212
13.0	8.1	125	31	118x41	243	IC1213
14.0	8.1	125	31	118x41	243	IC1214





## 12PC INSULATED CHANGEABLE SCREWDRIVER SET



	Content			PN
•	0.4x2.0x100 0.5x3.0x100 1.0x5.5x100	0.4x2.5x100 0.6x3.5x100 1.2x6.5x100	0.8x4.0x100	IC3212
0	PH0x100	PH1x100	PH2x100	
	Voltage Tester:	3.0x70		

Handle: 31x105



## 50PC INSULATED CHANGEABLE SCREWDRIVER SET



	Content			PN
•	0.4x2.0x100 0.6x3.5x100	0.4x2.5x100 0.8x4.0x100	0.5x3.0x100 1.0x5.5x100 1.2x6.5x100	
0	PH0x100	PH1x100	PH2x100	
0	PZ0x100	PZ1x100	PZ2x100	
0		(100 T9x100 T 7x100 T30x100	T10x100 T15x100 T20x100	
0	H2.5x100 H	I3.0x100 H4.0	x100 H5.0x100 H6.0x100	
0	R1x100	R2x100		IC3450
4	TRI 1x100	TRI 2x100	TRI 3x100 TRI 4x100	
<b>•</b>	TORO 4x100	TORO 6x100	TORO 8x100 TORO 10x100	
	M4x4.0x100	M5x5.0x100	M6x5.0x100	
•	4x100	6x100	8x100 10x100	
	M4x4.0x100	M5x5.0x100	M6x5.0x100	
	6.3x89	8.1x89		
(	89			
	89			
	Voltage Teste	r: 3.0x70		
	Handle: 31x10	5		

△ 1000V

## **PLIER**

## INSULATED COMBINATION PLIER

mm		•	PN
160	2.0	1.6	DA0116
200	2.5	2.2	DA0120





## INSULATED SNIPE NOSE SIDE CUTTING PLIER

mm			PN
160	2.0	1.6	DA0316
200	2.4	2.0	DA0320





## INSULATED CURVED NOSE CUTTING PLIER

mm			PN
160	2.0	1.6	DA0516
200	2.4	2.0	DA0520





## INSULATED DIAGONAL CUTTING PLIER

mm			PN	
160	2.0	1.6	DA0716	





## INSULATED HEAVY DUTY DIAGONAL CUTTING PLIER

mm			PN
180	2.0	1.6	DA0718





## **INSULATED WIRE STRIPPER**

mm	mm	mm²	PN
160	5.0	10.0	DA1316





## INSULATED WATER PUMP PLIER

mm	mm (Max)	PN
300	35	DA1530



## **INSULATED CABLE SHEAR**

mm	<b>⊕</b> mm	mm²	PN
250	250	80	DA1825

## INSULATED RATCHETING CABLE CUTTER

	mm (Max)	mm² (Max)	PN
32		240	IA2024
52		380	IA2038



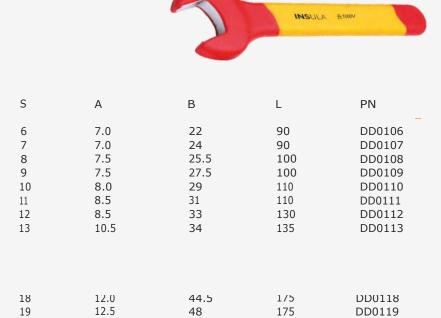
## INSULATED PLASTIC CLAMP

mm	PN
200	IF1020



## **WRENCH**

## **INSULATED OPEN WRENCH**



51

54

56

61

66

70

195

195

225

250

290

310

DD0121

DD0122

DD0124

DD0127

DD0130

DD0132



6mm, 7mm, 8mm, 9mm, 10mm, 11mm, 12mm, 13mm, 14mm, 15mm, 16mm, 17mm, 18mm 19mm, 21mm, 24mm, 27mm, 30mm, 32mm

12.5

13.0

13.5

14.8

14.8

15.8

21

22

24

27

30

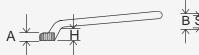
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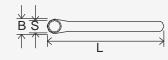
## INSULATED RING WRENCH



S	Α	В	L	PN
6	7.0	22	90	DD0306
7	7.0	24	90	DD0307
8	7.5	25.5	100	DD0308
9	7.5	27.5	100	DD0309
10	8.0	29	110	DD0310
11	8.5	31	110	DD0311
12	8.5	33	130	DD0312
13	10.5	34	135	DD0313
14	10.5	37	145	DD0314
15	11.5	40	150	DD0315
16	11.5	42	160	DD0316
17	12.0	44	160	DD0317
18	12.0	44.5	175	DD0318
19	12.5	48	175	DD0319
21	12.5	51	195	DD0321
22	13.0	54	195	DD0322
24	13.5	56	225	DD0324
27	14.8	61	250	DD0327
30	14.8	66	290	DD0330
32	15.8	70	310	DD0332







# 20 PCS INSULATED RING WRENCH TOOL SET

6mm, 7mm, 8mm, 9mm, 10mm, 11mm, 12mm, 13mm, 14mm, 15mm, 16mm, 17mm, 18mm 19mm, 21mm, 24mm, 27mm, 30mm, 32mm



## INSULATED ADJUSTABLE WRENCH





mm	S (Max)mm	PN	
200	24	DD0520	
250	28	DD0525	
300	32	DD0530	



## INSULATED ALLEN KEY



mm		PN	
130	3	DD2503	
140	4	DD2504	
160	5	DD2505	
180	6	DD2506	
200	8	DD2508	
235	10	DD2510	
260	12	DD2512	

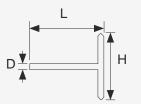


## INSULATED HEX KEY T-TYPE WITH BALL END



$\bigcirc$ I	D	L	Н	PN
3	15	150	95	ID0703
4	15	150	95	ID0704
5	15	150	95	ID0705
6	15	150	95	ID0706
8	15	150	95	ID0708



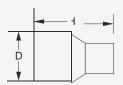


# **SOCKETS & ACCESSORIES**

## **INSULATED SOCKET**

	mm	D	Н	PN
3/8"	08	10	54	DD1508
	10	18.7	54	DD1510
	11	20.0	54	DD1511
	12	21.2	54	DD1512
	13	22.3	54	DD1513
	14	23.7	54	DD1514
	16	26.4	54	DD1516
	17	26.7	54	DD1517
	18	28.7	54	DD1518
	19	29.0	54	DD1519
	21	31.0	54	DD1521
	22	33.0	54	DD1522
1/2"	10	18.7	54	DD1310
	11	20.0	54	DD1311
	12	21.2	54	DD1312
	13	22.3	54	DD1313
	14	23.7	54	DD1314
	16	26.4	54	DD1316
	17	26.7	54	DD1317
	18	28.7	54	DD1318
	19	29.0	54	DD1319
	21	31.0	54	DD1321
	22	33.0	54	DD1322
	24	35.3	54	DD1324
	27	40.0	54	DD1327
	30	43.1	54	DD1330
	32	45.1	54	DD1332

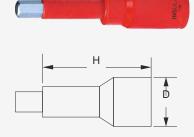






## **INSULATED ALLEN SOCKET**

	mm	D	PN
3/8"	120	4	DD1904
	120	5	DD1905
	120	6	DD1906
	120	8	DD1908
1/2"	120	4	DD1704
	120	5	DD1705
	120	6	DD1706
	120	8	DD1708
	120	10	DD1710





## INSULATED RATCHET WRENCH

	mm	PN
3/8"	200	DD2138
1/2"	250	DD2112





## **INSULATED EXTENSION BAR**

	mm	PN
3/8″	125 250	DD2303 DD2304
1/2"	125 250	DD2301 DD2302



## INSULATED L- HANDLE

	mm	PN
1/2"	270	DD2812



# INSULA \*\*

## **INSULATED T- HANDLE**

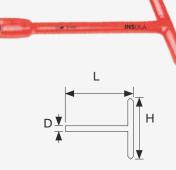
	mm	Н	PN
3/8"	200	155	DD1138
1/2"	200	155	DD1112





## **INSULATED SOCKET WRENCH**

	D	L	Н	PN
8	15.0	200	145	DD0908
10	19.5	300	145	DD0920
12	22.0	300	145	DD0922
13	23.5	300	145	DD0923
14	24.5	300	145	DD0924
16	27.0	300	145	DD0926
17	28.5	300	145	DD0927
18	29.5	300	145	DD0928
19	31.0	300	145	DD0929





## INSULATED TORQUE WRENCH

	N.m	PN
3/8"	5-25 10-50 20-100	ID2008 ID2012 ID2016
1/2"	10-50 20-100 40-200	ID3012 ID3016 ID3020





## **KNIFE**

## INSULATED CABLE KNIFE (STRAIGHT)

mm	D	PN	Mon. de
180	50	IE0418	

## INSULATED DISMANTLING KNIFE (SEMICICLE)

mm	D	PN	INC. V. O.S.
155	28	IE0616	

## INSULATED DISMANTLING KNIFE (LONG HOOK)

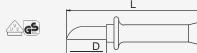
mm	D	PN	
180	50	IE1018	The same of the sa

## INSULATED CABLE KNIFE (GUARD)

mm	Ь	PN	
180	50	IE1218	HSRA did

## INSULATED DISMANTLING KNIFE

mm	D	PN	MS.IA ON
155	38	IE1416	



# **ACCESSORIES**

## INSULATED HACKSAW FRAME

D	L	PN	
150	300	IE0230	



## **INSULATED MALLET**

mm	Φ mm	Wt/ kg	PN
315	30	0.6	IG1030



## **INSULATED TWEEZER**

mm	PN
130	IF0213



## **INSULATED GLOVES**



## TOOL SETS



## 25PC INSULATED TOOLKIT

Content	mm	PN
Insulated Combination Plier	200	
Insulated Diagonal Plier	160	
6Pcs Insulated Screwdriver	PH: PH0x60,	
	PH1x80, PH2x100	
	SL: 0.6X3.5X100,	
	0.8X4.0X100, 1.0X5.5X125	IH0825
Insulated Cable Knife(Straight)	50×180	
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		





## 31PC INSULATED TOOLKIT

Content	mm	PN
Insulated Combination Plier	200	
Insulated Diagonal Plier	160	
6Pcs Insulated Screwdriver	PH: PH0x60,	
	PH1x80, PH2x100	
	SL: 0.6X3.5X100,	
	0.8X4.0X100, 1.0X5.5X125	TU0024
Insulated Cable Knife(Straight)	50x180	IH0831
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	



## **52PC INSULATED TOOL SET**

Content	PN	
A Tray		
B Tray	IH1852	
C Tray		
D Tray		





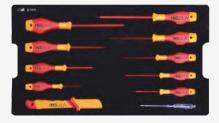
## **INSULATED A TRAY**

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





## **INSULATED B TRAY**



PΝ Content

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



## **INSULATED C TRAY**



IH1948

PΝ Content

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" T Handle



Rachet Handle

△ 1000V

## **INSULATED D TRAY**



PΝ Content 14 pcs Open Wrenches and Adjustable Wrenches

Open Wrench: 8/ 9/ 10/ 11/ 12/ 13/ 14/ 15/ 16/ 17/ 18/ 19/ 22/ 24

IH1949

8" Adjustable Wrench



# OUR PRODUCT VERTICALS





MEASURING EQUIPMENT FOR INDUSTRIAL NEEDS



TOOLS FOR ASSEMBLY, OPERATION & MAINTENANCE

# METRO TOOLS

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