



The world  
of electrical safety

Equipment for electric  
and hybrid vehicle operations





## CATU: Almost a century in electrical safety services

Founded in 1919, the company CATU, since its inception has developed its activities of hardware and equipment manufacturing for the electrical energy transmission and distribution system. Since 1936 CATU activities have been clearly oriented on the design and manufacture of safety equipment against electrical hazard. Shortly after the end of the Second World War, a central department for the Safety and Accident Prevention was set up with EDF of France. And this is through the experience already gained by CATU in this field that very close cooperation has been established between the national operator and the company. This collaboration allowed CATU to develop and enhance electricians' safety equipment for their work on transmission and distribution. The international recognition acquired by EDF in this field has helped to give CATU an image of specialist and seriousness at the global level. Since 1996, CATU is a subsidiary of the SICAME Group, one of the world's leading manufacturers of accessories for energy transmission and distribution structures and installations.

## A world-renowned specialist

Today, CATU safety equipment, including all signalling ranges, lock-out devices, earthing and short-circuiting systems, voltage detectors and controllers, live line working equipment and personal protective equipment (PPE) are used by the major transmission and distribution companies, home & building installers, major industries, the railway sector and the electric vehicle industry in more than 100 countries on five continents.

## Its subsidiaries and brands

### CATU, MORE THAN A COMPANY

CATU is not limited to the ranges of products associated with its brand, but presents, through its brands FORSOND and CEGERS SECURITE, a complementary offering essential for the safety of LV home & building installations as well as the railway sector. FORSOND presents reliable and proven solutions for ground circuits of structures and installations ([www.forsond.com](http://www.forsond.com)). CEGERS SECURITE is specialised in electrical safety equipment for railways. CATU is based in South America with its brand LIAT in Argentina. The company also contributed to the creation of its new subsidiary SUPERSAFE founded in Barcelona in 2008, which designs, produces and markets complete ranges of latex insulating gloves.

## Go with regulations for better innovation

Each year, CATU devotes a significant part of its financial resources to its research and development department. As a permanent member of the major national and international technical committees (such as UTE, CENELEC, IEC and ASTM), CATU contributes to the development and application of new technologies to always make operations in the electrical installations environment more secure.

## Innovation and quality, the driving force behind the company

This continuous search for innovation is reinforced by a commitment to its quality assurance system, which is ISO 9001 certified and in compliance with ISO 14001 environmental standards.

## Always closer to its customers,

Our constant efforts to improve our offer of safety and prevention equipment against electrical hazards are carried out in collaboration with our users and our network of distributors across the world. They guarantee our deep commitment and our duties to all our customers.



Accreditation No. 1-0897  
Scope available on  
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# Overview of electrical operations on vehicles and machines with on-board electrical energy source

## Vehicle life cycle

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### NOTE: Electrical hazard thresholds

- Direct current: nominal voltage difference greater than 60 V DC.
- Alternative current: potential difference greater than 25 V AC.
- Batteries: capacity greater than 180 Ah.

## 1 DESIGN, MANUFACTURE



## MAINTENANCE 2





### 3 INSPECTION, VEHICLE APPRAISAL



### VEHICLE RECOVERY AND EMERGENCY RESPONSE

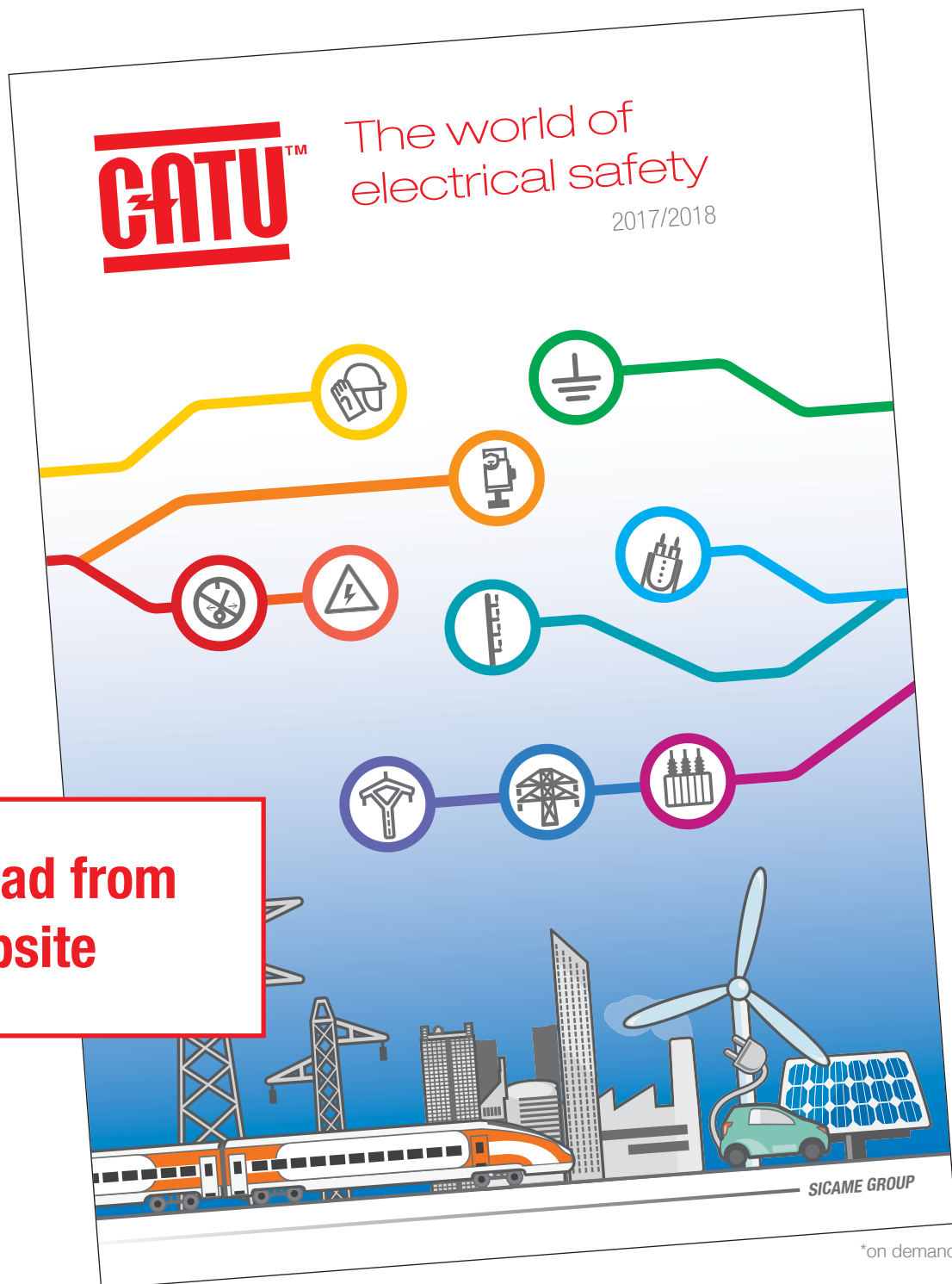
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### 5 END OF LIFE



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## Design

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## OPERATIONS

- Short duration.
- Conduct Studies, Design, Testing and Alteration operations, after lock-out/tag-out or power switch-off.
- To install and uninstall vehicle components.
- Measurement of physical data in the vehicle.
- Check the equipment is in good order and monitor it.
- Carry out connection/disconnection operation of battery with voltage  $U < 60 \text{ V DC}$  and with capacity  $C < 275 \text{ Ah}$ . For higher values, refer to Live-working operations (page 11).



**CAUTION:** It is forbidden to work without insulating glove and without face shield in the vicinity of live energy sources. It is forbidden to use a measuring device to carry out a voltage absence check.

Products	Pages	Products	Pages
Face shield	24	Signs / Signalling	40
Helmet	24	Lock-out / Tag-out	42
Insulating gloves	25	Voltage detectors	44
Safety footwear with insulating sole	26	Meters	46
Insulating boots, insulating over shoes	27	Luggage	47
Insulating protector, insulating blanket, sleeve, insulating mat.	28	Additional tools: Rescue Pole, Kits	50
Arc-flash protective clothing	29		
Insulated tools	32		



## OPERATIONS (AFTER CRASH TEST)

- Identify damage in the vehicle/electric vehicle.
- Analyse HAZARDS (electrical, chemical, fire, etc.).
- Set up insulating protections to eliminate a RISK of voltage presence (installation of an insulating device such as an insulating blanket or a sleeve).
- Carry out and record all TEST measurements.
- Store and secure the vehicle. Tag it out if it presents an ELECTRICAL RISK.
- Carry out the connection/disconnection operation of battery of voltage  $U \leq 60\text{ V DC}$  and with capacity  $C \leq 275\text{ Ah}$ . For higher values, refer to Live-working operations (page 11).



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## Lock-out & Tag-out of vehicle

### OPERATIONS

- Initiate the lock-out procedure.
- Identify the vehicle.
- Isolate voltage sources.
- Lock-out all switches and elements in the "OFF" position.
- Check the absence of voltage.
- Delineate and tag-out the working area.

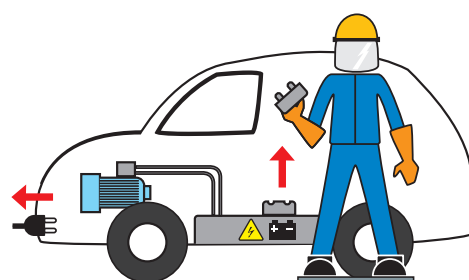
Prior to the lock-out operation, select the adequate equipment for the planned operations:



Face shield, insulating gloves, voltage detector, padlock, over shoes or insulation mats, safety boundary post



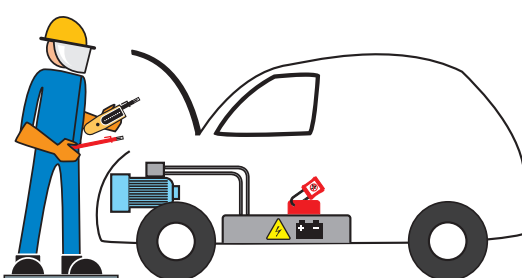
1) Identify the vehicle and the work area



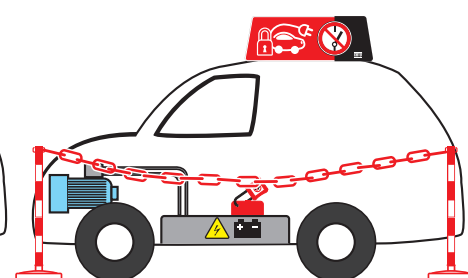
2) Isolate voltage sources



3) Lock-out in "OFF" position



4) Check the absence of voltage at the connection terminals



5) Delineate and tag-out the working area

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# Dead work on electric & hybrid vehicles after lock-out / tag-out operation

## OPERATIONS

- Work performed on the electrical equipment after voltage switch-off.
- Work carried out around the electrical equipment after voltage switch-off.
- Work carried out in vicinity of the electrical insulated pipes.



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## Live-working operations

### OPERATIONS

- Work in contact with live bare parts.
- Assemble elements to form a battery pack.
- Install/uninstall the battery pack(s) or batteries.
- Replace one or more battery cells.
- Maintain terminals, bare connections or battery housing.
- Disassemble a battery pack.
- Carry out operation on batteries with capacity  $C > 275 \text{ Ah}$  or voltage  $> 60 \text{ V DC}$ .



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# Operations on batteries (e. g. on power lift truck)

## OPERATIONS

### For BATTERIES:

- Make connection/disconnection operations.
- Clean terminals and connectors.
- Handle, check the batteries.
- Check the electrolyte.
- Clean the battery housing when the voltage is  $U > 60 \text{ V DC}$ .
- Carry out connection/disconnection operations of battery with voltage  $U < 60 \text{ V DC}$  and with capacity  $C < 275 \text{ Ah}$ . For higher values, refer to Live-working operations (page 11).

### For the SUPERCAPACITORS:

Connection/disconnection of SUPERCAPACITOR with bare parts.

### For fuel cells:

Measurement of the cell before connection/disconnection is allowed within the limit of VOLTAGE  $U < 60 \text{ V DC}$ . For higher values, refer to Live-working operations (page 11).



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## Technical inspections

### OPERATIONS

- Make sure the vehicle is switched-off state during the inspection.
- Check the condition of electrical equipment, connectors, batteries, or battery pack(s) and loading interface.
- Check the integrity of the insulating components.
- Carry out the connection/disconnection operation of the battery with voltage  $U < 60 \text{ V D.C.}$  and with capacity  $C < 275 \text{ Ah}$ . For higher values, refer to Live-working operations (page 11).



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OPERATIONS

- Analyse the risk before the appraisal.
- Vehicle appraisal.



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On a broken down vehicle:

- On an accident-damaged vehicle:

- Carry out connection/disconnection operation of the battery with voltage  $U < 60 \text{ V D.C.}$  and with capacity  $C < 275 \text{ Ah}$ . For higher values, refer to Live-working operations (page 11).
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## OPERATIONS

- Analyse the risks.
- Ensure the safety of third parties.
- Identify the damages to the charging device.
- Eliminate the risk of voltage presence in working area by placing the blanket and/or insulating protectors.
- Power down the charging device and the vehicle.
- Carry out the connection/disconnection operation of the battery with voltage  $U < 60 \text{ V D.C.}$  and with capacity  $C \geq 275 \text{ Ah}$ . For higher values, refer to Live-working operations (page 11).



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- Analyse the risk in case of presence of energy source.
- Park the vehicle in a protected area with warning signs.
- Check the absence of voltage after a permanent shutdown.
- Remove and store the batteries in a safe place.
- Carry out the connection/disconnection operation of the battery with voltage  $U < 60$  V D.C. and with capacity  $C \geq 275$  Ah. In the event of higher values, refer to the Live-working operations (page 11).



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# PPE - CPE



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PPE - CPE

## EYE AND FACE PROTECTION

## SAFETY GLASSES

Protection against UV radiation and ejections of solid particles.

**CAUTION: DO NOT USE FOR WELDING OPERATIONS.**

Reference	Characteristics	UV protection	Resistance
MO-11000	Clear lenses	99.5 % < 370 nm	Level F Impact: 6 mm steel ball launched at 45 m/s
MO-11001	Tinted lenses	99.5 % < 370 nm	
MO-11003*	Tinted lenses	99.5 % < 370 nm	

\* EN 169 - 80 °C - FT HTA N°127.



## OVERGLASSES

Polycarbonate overglasses. Protection against UV radiation and ejections of solid particles.

**CAUTION: DO NOT USE FOR WELDING OPERATIONS.**

Reference	Characteristics	UV protection	Resistance
MO-11010	Clear lenses	100 % 180 < 400 nm	Level F Impact: 6 mm steel ball launched at 45 m/s
MO-11011	Green tinted lenses	100 % 180 < 400 nm	



## ARC FLASH SHIELD WITH HEAD BAND

Protective screen used without helmet.

Marking: 2C-1.2CATU 1B8-1-03CE1883

Polycarbonate face shield.

- Protection against electric arcs (class1).
- Head fit adjustment by milled wheel.
- Anti-scratch and anti-mist treatment.

**CAUTION: DO NOT USE FOR WELDING OPERATIONS.**

Reference	Characteristics	mm	g
MO-286	Clear face shield	230 L x 290 H	400
MO-883209	Replacement face shield		
M-883298	Sweat band		

**NEW**

IEC 61482-1-2   
EN 166 / EN 170  
GS-ET-29  
CE



## HELMET WITH BUILT-IN FACE SHIELD

Industrial helmet with integrated face shield. Approved for protecting against the thermal energy of an electric arc.

Reference	Color	Anti UV
MO-185-BL	WHITE	2-1.2


Class E20kV as per ANSI Z89.1  
IEC 61482-1-2 GS-ET-29 Class 1 EN 397  
EN 50365 1 000 V

CE



## HEADLAMP FOR HELMET

Headlamp for helmets MO-185, MO-180-ARC series.  
Compatible with the majority of helmets on the market.

Reference	Waterproofness	
<b>MS-124/2</b>	IPX4	86

Adhesive clip supplied to attach to a helmet.

**NEW**




Delivered  
with stand  
for helmet



## ELECTRICAL INSULATING GLOVES

Insulating gloves. Recommended to use with silicon leather gloves.

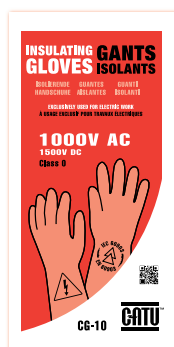
Reference	Class	Voltage	Category		Couleur
<b>CG-10-(*)</b>	0	≤ 1000V AC ≤ 1500 V DC	AZC	360	Natural

(\*) Reference to be completed by size codes A=8, B=9, C=10, D=11




IEC 60903  
EN 60903 

**CE**



## ELECTRIC INSULATING GLOVES WITH MECHANICAL RESISTANCE

Packaged in plastic bag. Gloves with mechanical protection.

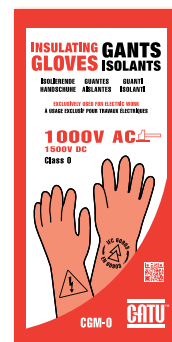
Reference	Class	Voltage	Category		Color
<b>CGM-0-(*)</b>	0	≤ 1 000 V AC and ≤ 1 500 V DC	RC	360	Two-coloured: Orange outer, natural inner.

(\*) Reference to be completed by size codes 07 to 12 (sizes 07 and 12 on demand).

EN 60903 / IEC 60903 


**CE**

IEC-61842-1-2 class 2  
(Box : 7kA/30cm)



## UNDERGLOVES

These washable cotton undergloves improve the use of the insulating gloves. They bring the best held hygiene and a greater comfort.

Reference	Size	
<b>CG-80-(*)</b>	H = Men	28
	F = Women	

(\*) References to be completed by size H or F.



**CE**



Dimensions



Mass



Total length






PPE - CPE

## HAND AND FOOT PROTECTION

## PNEUMATIC GLOVE TESTER

For compulsory control of gloves before use. Checking is done by inflating and immersing in water.

Reference	Characteristics	
CG-117 *	Pneumatic glove tester	600



\* Delivered in cardboard 140 x 150 x 160.



## GLOVES BOX

Specially designed for protecting insulating gloves.  
Can be mounted on wall.





Reference		
CG-35/2 *	101 x 224 x 476	900

\* Includes a bottle of talcum powder and stickers with precautions for use (English, French, Spanish, German, Italian, Portuguese, Arabic dutch, Chinese, Russian).

## BAG FOR INSULATING GLOVES

Made of reinforced waterproof fabric for transport of rubber gloves in vehicles and tool boxes.

Reference		
CG-36/1	420 x 180	185



## SAFETY SHOES WITH INSULATING SOLE FOR INDOOR AND DRY ENVIRONMENT

Shoe with leather and breathable liner.

Anti-perforation textile sole. Protection cap 200J. Adhesion: SRC. Torsion resistant sole.

Reference	Type	Size	Class
MV-222-*	Low	39 to 47	0: 1 000V AC 1 500V DC
MV-223-*	High	39 to 47	

\* Add size to the reference. Ex: MV-222-43.

EN 20345   
CE



MV-222



MV-223

Shoes with polyurethane rod and antibacterial lining, ventilated 3D mesh neighborhoods. Anti-perforation textile sole. Protection cap 200J. Adhesion: SRC.

Reference	Type	Size	Class
MV-226-*	Low	39 to 47	0: 1 000V AC 1 500V DC
MV-227-*	High	39 to 47	

\* Add size to the reference. Ex: MV-226-43.  
MV-222, MV-226 and MV-227 are manufactured on demand.

EN 20345   
CE



MV-226



MV-227

## INSULATING BOOTS

Provides an electrical insulation protecting operators against the risk of current flow from foot to the ground or of step voltage.

Reference	Size	Class	Voltage
<b>MV-1360-*</b>	From 37 to 49	0	1 000 V AC 1 500 V DC

\* Complete the reference by the size. Example: MV-1360-43.

**NEW**

EN 20345

EN 50321 

CE



MV-1360

## INSULATING OVER SHOES

Overshoes which provide electrical insulation protecting operators against the risk of a current flow from the feet to the ground or a step voltage. Adapted to a temporary and frequent use.

Reference	Size
<b>MV-138-*</b>	M (39 to 42), L (43 to 45), XL (46 to 48)

\* Complete the reference by the size. Example: MV-138-L.

EN 20345

EN 50321 






CE



## INSULATING REINFORCED FLEXIBLE BLANKET POLYVINYL

Individual model. IEC 61112 – class 0

Made of PVC.






Reference	Class	Voltage 	Voltage 	mm 	mm 	kg 
<b>MP-123</b>	0	< 1 000 V	< 1 500 V	360 x 660	0.5	0.15
<b>MP-123/1</b>	0	< 1 000 V	< 1 500 V	500 x 900	0.5	0.3
<b>MP-123/2</b>	0	< 1 000 V	< 1 500 V	800 x 1 200	0.5	0.6

IEC 61112 



## INSULATING FLEXIBLE BLANKET ORANGE RUBBER

IEC 61112 – class 0

Reference	Class	Voltage 	Voltage 	m 	mm 	kg 
<b>MP-220</b>	0	< 1 000 V	< 1 500 V	1 x 1	1	1.5
<b>MP-220/1</b>	0	< 1 000 V	< 1 500 V	1 x 10	1	15

Other dimensions on demand.

IEC 61112 



Dimensions



Mass



Total length








Thickness






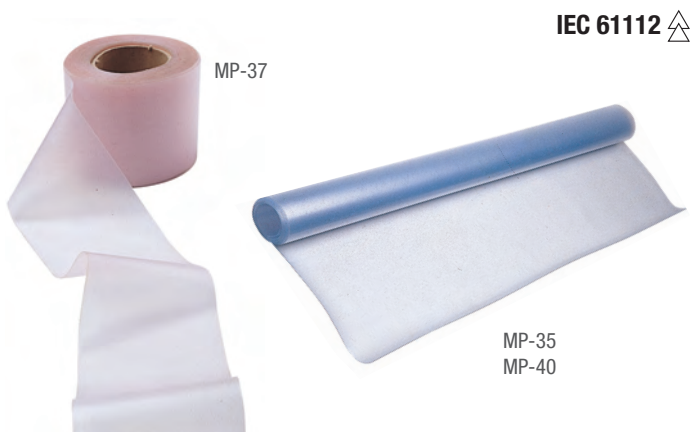
## INSULATING FLEXIBLE BLANKET

Polyvinyl in roll. IEC 61112 – class 0

Reference	Class	Voltage 	Voltage 	 m	 mm	 kg
MP-35	0	< 1000 V	< 1500 V	1.3 x 25	0.3	12
MP-35/12	0	< 1000 V	< 1500 V	1.3 x 12.5	0.3	6
MP-37	0	< 1000 V	< 1500 V	0.09 x 25	0.3	0.8




In accordance with ST HTA 50D EDF-SERECT specification.

Reference	 m	 mm	 kg
MP-40	1.3 x 25	0.8	24



## BLANKET CLAMP

DIN VDE 0680-1 – Class 0. 1000 V AC – 1500 V DC.




Reference	 mm		 g
MP-625-D	160	1	70
MP-627-D	80	3	30



## INSULATING END-CAPS

Insulating end-caps with slit aperture.

Maximum Operating Voltage: 1000 V AC – 1500 V DC.

Reference	Inner  mm	 mm	 g
MP-635/10-D	10	75	10
MP-635/15-D	15	100	15
MP-635/20-D	20	100	20
MP-635/25-D	25	110	30
MP-635/30-D	30	120	40
MP-635/40-D	40	135	55
MP-635/50-D	50	155	65
MP-635/60-D	60	140	105

NFC 18425








## INSULATING MATS

Individual models. IEC 61111 – Class 0






Conform RoHS2.

Conform REACH.

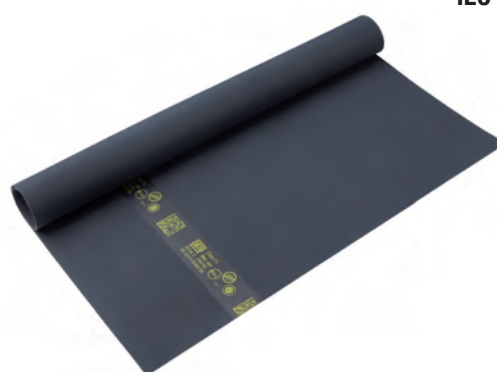
Zero halogen.

Reference	Class	Voltage 	Voltage 	 mm	 m	 kg
MP-11/11	0	1000 V	1500 V	2	1 x 1	2.9
MP-11/16	0	1000 V	1500 V	2	0,6 x 1	1.4
MP-11/66	0	1000 V	1500 V	2	0.6 x 0.6	1
MP-11/22	0	1000 V	1500 V	2	1.2 x 1.2	4

Roll models. IEC 61111 – classe 0

Reference	Class	Voltage 	Voltage 	 mm	 m	 kg
MP-100/02-10	0	1000 V	1500 V	2	1 x 10	29
MP-120/02-10	0	1000 V	1500 V	2	1.2 x 10	34

Bag available see page 50. Other dimensions on demand.



IEC 61111 

## STRAPS FOR MAT



Allow to keep the insulation mat in the rolled position during transport.

User instruction for insulating mat printed on the strap.

Instruction according to IEC 61111 standard.

**MO-160:** velcro fastening

**MO-161:** self-fastening strap with strain relief shoulder pad.  
Possibility to attach the glove bag CG-36/1.

Reference	 mm	 g
<b>MO-160</b>	530 x 38	100
<b>MO-161</b>	1700 x 38	200




MO-160



MO-161

## INSULATING APRON

Highly flexible, robust and shear-resistant apron made of insulating material class 0 according to EN 61112, suitable for live working up to 1 000 V-AC / 1 500 V-DC. Category ACH.

Reference	Voltage	 cm
<b>MV-99-INS</b>	1 000 V AC 1 500 V DC	50 x 60



## "ARC FLASH" COVERALL DOUBLE ZIPPER

Protects against the thermal hazards of an electric arc.  
12 cal/cm<sup>2</sup> – class 1. Easy to put on.

Reference	Characteristics	 kg
<b>MV-105-(*)</b>	Ultra Soft® Fabric	1.4

(\*) to complete by size S, M, L, XL, 2XL. Other sizes on request.

**NFPA 70E**  
**IEC 61842-2**



Dimensions



Mass



Packaging



Thickness



Total length

PPE - CPE / Collective and body protection



PPE - CPE

## COLLECTIVE AND BODY PROTECTION

### PARKA "ARC FLASH"

EN ISO 20471 Class 3, EN 343 Class 3/2,

EN ISO 11612 (A1,B1,C1,E1,F1), IEC 61482-2 Class 2 (7 kA, 500 ms)

EN ISO 11611 A1 Class 1, EN 1149-5, EN 13034 Type 6,

EN ISO 13688.

Multi-risk Parka guaranteeing in particular a protection against the Arc-flash according to the IEC 61482-1-2 standard.

NFPA 70E  
IEC 61482-2  
Class 2

Reference	SIZE
M-883374	S
M-883377	M
M-883378	L
M-883379	XL
M-883380	2XL
M-883381	3XL



EN ISO 11611



EN 1149-5



EN 13034-6



EN ISO 11612



IEC 61482-2



EN ISO 20471



EN 343

### RESCUE STICK

Made of polyester resin.

Stick according to STC n°43 of CATU.

Supplied as complete with non-removable hook and wall brackets

CI-06-D. Off rain use. Elastomer handguard.

Reference	Maximum operating voltage (kV)		
CS-45	45 kV	1.65 m	1.00



# Live working



<b>Tools</b>	<b>32</b>
<b>Accessories</b>	<b>37</b>







## SOCKET SYSTEMS

Reference	1/4"	3/8"	1/2"
Recommended torque (N.m)	up to 25	20 - 200	200 - 2500
Ratchet wrench with mechanical locking	125 mm : MO-69512	190 mm : MO-69513	255 mm : MO-69514
Extension piece	170 mm : MO-69512	130 mm : MO-69523 250 mm : MO-69533	125 mm : MO-69524 250 mm : MO-69534
"T" shaped wrench	-	130 mm : MO-69542 250 mm : MO-69543	300 mm : MO-69544
Shrink fitted extension	150 mm : MO-69540	-	-



MO-69523



MO-69513



MO-69543



MO-69540

## EXPANDER 1/4" FEMALE TO MALE 3/8"

Reference	mm	g
MO-69537	54	30

## EXPANDER 3/8" FEMALE TO MALE 1/2"

Reference	mm	g
MO-69536	75	40



## TORQUE WRENCH WITH 3/8" SQUARE DRIVE

**MO-69050:** non reversible with right hand thread.

**MO-69051:** with reversible pawl with right or left hand thread.

**MO-69054:** with reversible spindle feature.

Reference	mm	$\vec{F}_{Nm}$	kg
MO-69050	340	8 to 60	0,8
MO-69051	230	4 to 20	0,5
MO-69054	340	8 to 60	0,9



MO-69050 non reversible



MO-69051 reversible



MO-69054 reversible

## 3/8" SOCKET STANDARD KIT

Single hex socket.

Reference	mm	g
MO-69308/23	Set of 3/8" sockets with ratchet wrench and extension with polypropylene case 410 x 120 x 75 mm	1450

### Composition

MO-69308	8	30
MO-69310	10	35
MO-69312	12	35
MO-69313	13	45
MO-69314	14	45
MO-69317	17	60
MO-69319	19	70
MO-69321	21	85
MO-69322	22	90
MO-69323	23	100
MO-69513	Ratchet wrench	450
MO-69523	Extension 140 mm	124

IEC 60900 



MO-69314



## 3/8" SOCKET EXTENDED KIT

Reference	Description	g
MO-69308/HAT-D	Set of 3/8" sockets (6 sided female, 6 sided male, TORX®) with ratchet wrench and extension, with polypropylene case 410 x 120 x 75 mm	1900

### Composition





MO-69308/23		1450
MO-69393	6 sided male 3 mm	16
MO-69394	6 sided male 4 mm	18
MO-69395	6 sided male 5 mm	20
MO-69396	6 sided male 6 mm	22
MO-69398	6 sided male 8 mm	25
MO-69T15	TORX® TX 15	50
MO-69T20	TORX® TX 20	55
MO-69T30	TORX® TX 30	60
MO-69T40	TORX® TX 40	80
MO-69T50	TORX® TX 50	100

IEC 60900 






## 6-SIDED AND 12-SIDED SOCKETS

	1/4"	3/8"	1/2"
	6 sided 	6 sided 	12 sided 
4	MO-69804	-	-
5	MO-69805	-	-
5,5	MO-698055	-	-
6	MO-69806	MO-69306	-
7	MO-69807	MO-69307	-
8	MO-69808	MO-69308	MO-69408
9	MO-69809	MO-69309	MO-69409
10	MO-69810	MO-69310	MO-69410
11	MO-69811	MO-69311	MO-69411
12	MO-69812	MO-69312	MO-69412
13	MO-69813	MO-69313	MO-69413
14	MO-69814	MO-69314	MO-69414
15	-	MO-69315	MO-69415
16	-	MO-69316	MO-69416
17	-	MO-69317	MO-69417
18	-	MO-69318	MO-69418
19	-	MO-69319	MO-69419
21	-	MO-69321	MO-69421
22	-	MO-69322	MO-69422
23	-	MO-69323	MO-69423
24	-	MO-69324	MO-69424
25	-	-	MO-69425
26	-	-	MO-69426
27	-	-	MO-69427
28	-	-	MO-69428
29	-	-	MO-69429
30	-	-	MO-69430
32	-	-	MO-69432



IEC 60900 

## MALE 6-SIDED




	1/4"	3/8"	1/2"
3	MO-698M03	MO-69393	-
4	MO-698M04	MO-69394	MO-694M04
5	MO-698M05	MO-69395	MO-694M05
6	MO-698M06	MO-69396	MO-694M06
7	MO-698M07	MO-69397	-
8	MO-698M08	MO-69398	MO-694M08
10	-	MO-693100	MO-694M10
12	-	-	MO-694M12
14	-	-	MO-694M14
17	-	-	MO-694M17
19	-	-	MO-694M19

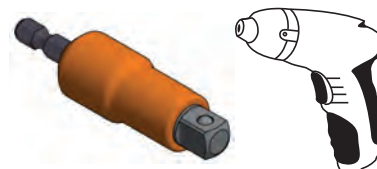


IEC 60900 

## INSULATING ADAPTER

Insulating adapter 1/4" hexagonal – 3/8" square drive for use with electric screw driver. Insulating tool for use at maximum voltage of 1000 V AC and 1500 V DC. Maximum torque resistance of the adapter: 20 N.m.








Reference			
MO-69522-V	20.5	79	66



IEC 60900 

**NEW**










## MALE TORX® 3/8"

Reference		
MO-69T15	TX15 	60
MO-69T20	TX20 	60
MO-69T30	TR30 	105
MO-69T40	TR40 	105
MO-69T50	TR50 	105



IEC 60900 

## SPANNERS

	Open jaw spanner	12 sided cranked ring spanner 	Tubular socket wrench	
6	MO-68006	MO-68106	MO-68206	
7	MO-68007	MO-68107	MO-68207	
8	MO-68008	MO-68108	MO-68208	
9	MO-68009	MO-68109	MO-68209	
10	MO-68010	MO-68110	MO-68210	
11	MO-68011	MO-68111	MO-68211	
12	MO-68012	MO-68112	MO-68212	
13	MO-68013	MO-68113	MO-68213	
14	MO-68014	MO-68114	MO-68214	
15	MO-68015	MO-68115	MO-68215	
16	MO-68016	MO-68116	MO-68216	
17	MO-68017	MO-68117	MO-68217	
18	MO-68018	MO-68118	MO-68218	
19	MO-68019	MO-68119	MO-68219	
20	MO-68020	MO-68120	-	
21	MO-68021	MO-68121	MO-68221	
22	MO-68022	MO-68122	MO-68222	
23	MO-68023	MO-68123	MO-68223	
24	MO-68024	MO-68124	-	
25	MO-68025	MO-68125	-	
26	MO-68026	MO-68126	-	
27	MO-68027	MO-68127	-	
28	MO-68028	MO-68128	-	
29	MO-68029	MO-68129	-	
30	MO-68030	MO-68130	-	
32	MO-68032	MO-68132	-	



Open jaw spanner



Tubular socket wrench





Cranked ring spanner

IEC 60900 



## REVERSIBLE RATCHET RING SPANNER

Reversible by turning the spanner.



 mm	Reference	 kg
10	MO-69210	0.16
13	MO-69213	0.19
17	MO-69217	0.37
19	MO-69219	1.39



IEC 60900 

## COMBINATION WRENCH


Inserts in special steel insulated by single-piece injection.  
4 sockets - 6 sides..

 mm	Reference	 mm
6-8-10-12	MO-68701	150 x 150
7-9-11-13	MO-68703	150 x 150
8-10-12-14	MO-68702	150 x 150
8-10-13-17	MO-68704	150 x 150
14-17-18-21	MO-68705	150 x 150



IEC 60900 


## T- HANDLE HEX SPANNER

 mm	140 mm Length	300 mm Length	400 mm Length
10	MO-68610	MO-68310	-
11	-	MO-68311	-
12	-	MO-68312	-
13	MO-68613	MO-68313	MO-68713
14	MO-68614	MO-68314	MO-68714
16	-	MO-68316	-
17	-	MO-68317	MO-68717
19	-	MO-68319	-
20	MO-68620	-	-
21	MO-68621	MO-68321	-
22	-	MO-68322	-



IEC 60900 

## ADJUSTABLE SPANNER

Reference	Opening (mm)	 mm	 kg
MO-69003	28	250	0.45
MO-69005	43	385	1.35

IEC 60900 



## DUAL MATERIAL FLAT BLADE SCREWDRIVER

Chromium-vanadium steel blade. Dual material handle.  
Anti-slip material. Injection moulded insulation..

Reference	Description
MO-72002	Flat screwdriver 2,5 x 60 mm
MO-72003	Flat screwdriver 3 x 100 mm
MO-72004	Flat screwdriver 4 x 125 mm
MO-72005	Flat screwdriver 5 x 150 mm
MO-72006	Flat screwdriver 6 x 150 mm
MO-72008	Flat screwdriver 8 x 175 mm
MO-72010	Flat screwdriver 10 x 200 mm

IEC 60900 



## DUAL MATERIAL POZIDRIV SCREWDRIVER

Chromium-vanadium steel blade. Dual material handle.  
Anti-slip material. Injection moulded insulation.

Reference	Description
MO-72040	Pozidriv screwdriver PZ0, 60 mm
MO-72042	Pozidriv screwdriver PZ1, 100 mm
MO-72044	Pozidriv screwdriver PZ2, 125 mm
MO-72046	Pozidriv screwdriver PZ3, 150 mm
MO-72048	Pozidriv screwdriver PZ4, 200 mm

IEC 60900 



## DUAL MATERIAL PHILLIPS SCREWDRIVER

Chromium-vanadium steel blade. Dual material handle.  
Anti-slip material. Injection moulded insulation.

Reference	Description
MO-72030	Phillips screwdriver PH0, 60 mm
MO-72032	Phillips screwdriver PH1, 100 mm
MO-72034	Phillips screwdriver PH2, 125 mm
MO-72036	Phillips screwdriver PH3, 150 mm
MO-72038	Phillips screwdriver PH4, 200 mm

IEC 60900 



## DUAL MATERIAL TORX® SCREWDRIVER

Chromium-vanadium steel blade. Dual material handle.  
Anti-slip material. Injection moulded insulation.

Reference	Description
MO-72056	Torx screwdriver T6, 50 mm
MO-72057	Torx screwdriver T7, 50 mm
MO-72058	Torx screwdriver T8, 50 mm
MO-72059	Torx screwdriver T9, 75 mm
MO-720510	Torx screwdriver T10, 75 mm
MO-720515	Torx screwdriver T15, 75 mm
MO-720520	Torx screwdriver T20, 100 mm
MO-720525	Torx screwdriver T25, 100 mm
MO-720527	Torx screwdriver T27, 115 mm
MO-720530	Torx screwdriver T30, 125 mm
MO-720540	Torx screwdriver T40, 125 mm
MO-720545	Torx screwdriver T45, 150 mm
MO-720550	Torx screwdriver T50, 175 mm

IEC 60900 



## DUAL MATERIAL ALLEN HEX SCREWDRIVER

Chromium-vanadium steel blade. Dual material handle. Anti-slip material. Injection moulded insulation..

Reference	Description
MO-68402	Allen hex screwdriver 2.5 mm, 75 mm
MO-68403	Allen hex screwdriver 3mm, 75 mm
MO-68404	Allen hex screwdriver 4mm, 100 mm
MO-68405	Allen hex screwdriver 5mm, 100 mm
MO-68406	Allen hex screwdriver 6 mm, 125 mm
MO-68408	Allen hex screwdriver 8mm, 125 mm

IEC 60900 



On flat side



Mass



Total length

## FIXED TORQUE SCREWDRIVER

4.5 N.m torque limiting screwdriver with 2 hexagonal blades of 4 mm on flats. Short blade: 29 mm; long blade: 93 mm.

Reference	Description
MO-68404-DYN	4.5 N.m torque control tightening

IEC 60900 



## KIT

Reference	Description
KIT-25	4 x 125 mm MO-72004 Flat screwdriver
	6 x 150 mm MO-72006 Flat screwdriver
	8 x 175 mm MO-72008 Flat screwdriver
	100 mm MO-72042 Pozidriv Screwdriver PZ1
	125 mm MO-72044 Pozidriv Screwdriver PZ2
	180 mm MO-72102 Universal plier
	250 mm MO-72155 Water pump plier
	160 mm MO-72172 Stripping plier
	160 mm MO-72142 Bent nose plier
	160 mm MO-72200 Cable cutter plier





## INSULATING UNIVERSAL PLIERS

Composite insulation. Entirely insulating.  
Maximum operating voltage: 1000 V AC – 1500 V DC.



Reference		
MO-66000-C	200	170

IEC 60900 



## INSULATING FLAT NOSE PLIERS

Composite insulation. Entirely insulating.  
Maximum operating voltage: 1000 V AC – 1500 V DC.

Reference		
MO-66303-C	190	110

IEC 60900 



## HALF-ROUND INSULATING BENT NOSE PLIERS

Composite insulation. Entirely insulating.  
Maximum operating voltage: 1000 V AC – 1500 V DC.



Reference		
MO-66404-CC	210	110

IEC 60900 



## SOFT Mallet

Insulated dead blow mallet. Completely insulated replaceable heads. Maximum operating voltage: 1000 V AC – 1500 V DC.  
Head diameter: 35 mm

Reference		
MO-745-D	310x117x42	790 g

IEC 60900 



## INSULATING HANDLED WEDGE

Insulated wedge with flat tip of 10 mm.  
Maximum operating voltage: 1000 V AC – 1500 V DC.

Reference		
MO-600	250	150

IEC 60900 



## INSULATED MIRROR

Maximum operating voltage: 1000 V AC – 1500 V DC.



Reference		
MO-755-D	22	790

IEC 60900 



## INSULATED BRUSH

Maximum operating voltage: 1000 V AC – 1500 V DC.



Reference		
MO-710-D	420 x 38	75

IEC 60900 



## STRIPPING KNIFE

Curved blade.  
Maximum operating voltage: 1000 V AC – 1500 V DC..

Référence			
MO-61001	180	62	0.11
MO-61002	180	50	0.11

IEC 60900 



MO-61001



MO-61002



## FLAT TOOL CASE

Made of high-resistance textile. Carry handle. Elastic straps for holding tools on the two inner sides. Reversible and removable tool-holder tray. Sold without tool.

Reference	mm	kg
<b>M-87303</b>	400 x 350 x 40	0.5



## TEXTILE TOOL BOX

Flexible and detachable protective flap for direct access to tools. Metal up-and-over handle, with foam padding. 8 outer pockets, including one adjustable pocket for a saw and 10 inner internal pockets. Adjustable shoulder strap. Support pads and reinforced bottom. Delivered without tool.

Reference	mm	kg
<b>M0-39</b>	480 x 320 x 230	0.9



## PLASTIC TOOL BOX

Hard plastic tool box. Hinged handle. 2 outer storage compartments on the lid.

Reference	mm	kg
<b>M-882452</b>	420 x 280 x 250	1.1

## RIGID BOTTOM TEXTILE BAGS

Durable black and red synthetic canvas. Easy opening due to wire frame around edges for immediate access to content. Several inner and outer pockets. Foam shoulder pad and adjustable transport strap. Lockable zipper. Abrasion resistant plastic rigid bottom.

Reference	mm	kg
<b>M0-42/1</b>	320 x 240 x 170	0.7
<b>M0-42/2</b>	400 x 270 x 220	0.8

**NEW**



M0-42/1



M0-42/2

## LEATHER TOOL BAG

Made of split grain leather, black. Carry handle. 1 hold-all pocket, 1 separation forming a tool-holder tray and 1 tool-holder flap. Closed using 2 straps with loops. Riveted assembly and reinforced bottom. Delivered without tool.

Reference	mm	kg
<b>M0-34</b>	410 x 280 x 150	3.2





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and more... on the Web!*



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Phone : +33 1 42 31 46 00 - Fax : +33 1 42 31 46 32 - [www.catuelec.com](http://www.catuelec.com)



# Signs / Lock-out / Tag-out



<b>Regulatory signs</b>	<b>40</b>
-------------------------	-----------

<b>Work area and boundary</b>	<b>41</b>
-------------------------------	-----------

<b>Lock-out / Tag-out</b>	<b>42</b>
---------------------------	-----------





## Signs / Lock-out / Tag-out REGULATORY SIGNS

### TETRAHEDRAL MAGNETIC WARNING SIGN

Pictogram "Electrical Hazard" according to EN ISO 7010 W12 on each face to ensure a 360° visualisation. Made of cardboard. Magnetic base. Assembly to be done by end user.

Reference	mm	g
ACA-10	150 (edge)	100

**NEW**



### WARNING SIGNS WITH STAND

- For safety boundary post (AP-72).
- Magnetic (AP-550-M2, AP-550-M3).

Reference	mm
AP-72	440 x 140
AP-550-M2	440 x 140
AP-550-M3	440 x 140



AP-72



AP-550-M1



AP-550-M2



AP-550-M3

### TEMPORARY LABEL FOR DAMAGED VEHICLE

To be placed on the windows of the damaged vehicle. Label easily detachable after towing and repair.

Reference	mm	kg
AT-80-GB	280 x 110	40



### FIRST AID POSTER

Aluminium poster for "First Aid for electric shock victims" and "Actions to be taken in case of Electric shock"

Reference	mm	Nbr holes	holes mm
AM-20-GB	270 x 300	4	4.5

(\*) These posters fulfill the specifications of Order No. 92141 of February 1992.

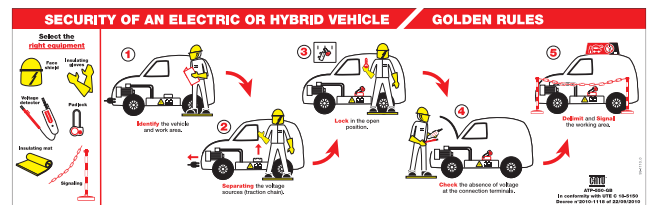


AM-20-GB

### OPERATING AND SAFETY INSTRUCTIONS

Plastic poster, adhesive strips on the back.

Reference	mm	g
ATP-550-GB	140 x 440	340



### FOLDING SAFETY BARRIER

Lightweight unit made of 3 polyester fabric panels, versatile and folds easily for storage. Quick installation by a single operator. AL-326 : additional panel.

Reference	mm	kg
AL-325	1710 x 1000	3.2
AL-326	570 x 1000	1.4



AL-325



AL-326

## SAFETY BOUNDARY POSTS

## Foldable models

PVC posts with foldable base for space saving up to 70% when storing. Indoor and outdoor use.

2 hooks for fixing the boundary chains.

Reference	 mm	Description	
AL-316	Height 900	Red and white	4
AL-318	Height 900	Yellow and black	4





AL-316



AL-318

## Ballast base models

PVC posts with ballast base. Indoor and outdoor use. 2 hooks for fixing the boundary chains.

Reference	 mm	Description	
AL-323	Height 900	Red and white	3
AL-324	Height 900	Yellow and black	3






AL-323



AL-324

## BOUNDARY CHAINS

PVC chains, high resistance to UV. For temporary boundary.

Reference		Chain link mm		Description	
AL-31/05	5 m long	8	70 x 27	Red and white	0.550
AL-31/25	25 m long	8	70 x 27	Red and white	3.750
AL-32/05	5 m long	8	70 x 27	Yellow and black	0.550
AL-32/25	25 m long	8	70 x 27	Yellow and black	3.750
AL-31	-	6.5	52 x 30	Set of 10 red and white opening chain links	0.055





AL-31/25



AL-32/05


## BOUNDARY POST WITH RETRACTABLE BELT

Yellow and black PVC post fitted with a belt head with a 3-way universal connectivity. Weighted base for high stability.

Reference		
AL-328	Total height 1 m Belt: 100 mm x 3.8 m	8



## SIGNALLING TAPES

Reference	Description		Reason
AT-5005	Adhesive	50 mm x 100 m	Yellow and black
AL-139	Temporary	50 mm x 100 m	Red and white
AL-140	Temporary	50 mm x 100 m	Yellow and black



AT-5005



AL-139



AL-140

**NEW**



## Signs

# LOCK-OUT / TAG OUT

## STEERING WHEEL LOCK-OUT COVER

Cover made of resistant red canvas, to lock-out steering wheels via padlock. Transparent plastic window on the front to display a warning sign (A5 size – 210 x 149 mm).

Lock-out solution for on-board electric energy vehicles.

Reference	Dimensions (steering wheel)	g
ALPV-L-D	up to Ø 43 cm / 16.9" Max	150
ALPV-XL-D	up to Ø 62 cm / 24.4" Max	200



## PADLOCKS

Durable and lightweight padlocks with Ø4 mm or Ø6 mm shackle. Key retaining feature to ensure padlocks are not left unlocked.

Version with non-conductive shackle (PP series). Supplied with 2 keys.

Reference	Shackle height (mm)	Ø (mm)	g
PM-4-38-R-Z	38 (Steel)	4	60
PM-6-38-R-Z	38 (Steel)	6	60
PP-4-38-R-Z	38 (Nylon)	4	55
PP-6-38-R-Z	38 (Nylon)	6	60

**NEW**



PP-6-38-R-Z

## STORAGE CABINET

Locked by key. Delivered with 4 adjustable level padlock supports, attachment pegs and screws. Padlocks sold separately.

Reference	g	mm	mm
SL-102	42	465 x 395 x 55	4.5



## LOCKOUT CABINET

Two adjustable shelves (12 positions). Locked by key. Optional accessories.

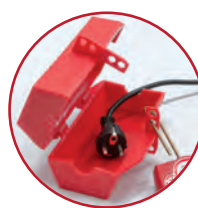
Reference	mm	kg
SL-101	405 x 355 x 156	5.6



## ELECTRICAL SOCKET LOCKERS

Polystyrene. Electrical or pneumatic socket locker device. Easy to install with the two articulated parts. Padlock locking.

Reference	Holes mm	g	For cable mm	mm	g
PL-100	9	2	12	88 x 50 x 50	56
PL-101	9	4	25	171 x 83 x 83	211



PL-100



PL-101

## MACHINE CONTROL LOCKER

Red fabric and black leather. Locking device for the control units of numerical machines, cranes, winches, overhead cranes. Padlock locking.

Reference	mm	g	mm	g
PL-102	11	6	460 x 210	65



PL-102



# Test and measurement



<b>Voltage detectors</b>	<b>44</b>
--------------------------	-----------

<b>Accessories</b>	<b>45</b>
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<b>Measurements</b>	<b>46</b>
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## VOLTAGE DETECTOR DETEX™

The voltage detectors **DETEX™ MS-918-L** and **MS-920** have been designed according to the **EN 61243-3**, in response to the requirements of the revised **NF C 18-510** standard and the European standard **EN 50110-1**.

Audible and visual devices, suitable for indoor / outdoor uses, allowing to carry out voltage detection and additionally:

- AC and DC voltage level check,
- continuity sound control for a non-live circuit,
- unipolar identification of the phase,
- polarity identification of a DC circuit,
- rotary field (MS-920).

The MS-920 model features a two-colour digital screen.

The MS-918-L model features 8 voltage thresholds:

- in AC mode: 12, 24, 50, 127, 230, 400, 600, 900 V AC,
- in DC mode: 12, 24, 50, 127, 230, 400, 700, 1000 V DC.

EN 61243-3 : 2010  
NF C 18-510 / EN 50110-1



Reference						IV						
	Voltage	50/60 Hz	Continuity	IP65 Protection IK06	Class II	Category IV 600 V	Operations	Display 3 digits	2 AAA batteries 1.5 V	Rotary Field	Lighting unit.	210
MS-920-EX *	12-690 V AC 12-800 V DC	•	100	•	•	•	-15 to +55°C (class N)	•	•	•	•	•
MS-918-L **	12-900 V AC 12-1000 V DC	•	80	•	•	•	-15 to +45 °C (class N)	•	•	•	•	•

\* Unit comes with a hook table. \*\* Supplied without accessories.

## VOLTAGE DETECTOR

Direct Current Voltage Detector up to 3500 Volts DC, Voltage detecting: 50 to 4200 VDC – 50 to 3000 VAC. Threshold Voltage: 50 V +0, -10% (DC and AC). Permanent standby status mode (no on/off switch). Indication of voltage presence: high brightness red LED, discontinuous Sound information. DC (polarity) and AC Indication: high brightness red LED for positive DC voltage, high brightness blue LED for negative DC voltage, for AC voltage, the red LED and the Blue LED are flashing. Built in testing system (included the lead check). High brightness green LED to indicate the good status of your voltage detector and display the standby state (during 2 min.). Frequency range: 50-60 Hz ±10% and DC.

**UP TO 4 200 V DC.**

Reference		Description	
MS-415	550 x 160 x 50 mm	Voltage detector with carrying bag Supplied with instruction for use, 2 contact electrodes extension (250 and 500 mm)	0.78

EMC directive 2014/30/UE (EN 61326-1, EN 62311)  
IEC 61243-3 (part)





## CONTACT PROBES FOR L.V. TESTER

Light and rigid contact antennas for Detex™ : MS-918-L, and MS-920-EX.

**MS-8013** : Contact pieces with rounded ends.

**MS-8014** : Contact parts used as suspension hooks.

### For installations and sidewalk boxes

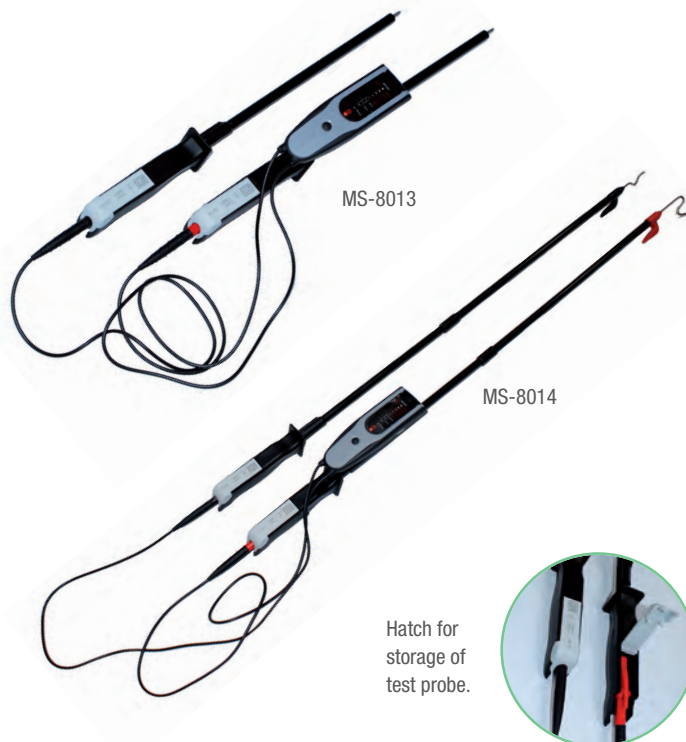
Reference		
MS-8013-2	50 cm	0.40

Delivered in storage bag 50 x 130 x 470 mm.

### For overhead lines

Reference		
MS-8014-2	125 cm	0.75

Delivered in storage bag 50 x 130 x 470 mm.

















## DIGITAL MULTIMETER

The **MX-701** is a multimeter with 3 + 1/2 digits LCD display with high reliability backlighting and automatic selection of the measuring range. Low battery indication on the display. 2 test lead points with curved connector IP2X. 2 alligator clips. 2 temperature sensors.

It allows to measure DC and AC voltages, DC and AC currents, resistance, inductance, temperature, and to test diodes and open circuit (audible signal).



### Table of characteristics:

Reference														
<b>MX-701 *</b>	Voltage 200 mV to 600 V AC / DC	40 - 400 Hz	Intensity 200 A to 10 A AC / DC	200 Ω to 20 MΩ Resistance	Capacity 20 nF to 1.000 μF	Class III	Category III 600 V	USE: 0 °C to +40 °C	Measure: -20 to 1000 °C 0 to +1.800 °F	Display screen 3 + 1/2 digits	3 batteries AAA 1.5 V	2 touch points in accessories	75 x 158 x 35 mm	0,20 kg

\* Multi-meter supplied with its connector (2 test lead points with cords, 2 probes, 2 alligator clips), with batteries and case.



## INFRARED THERMOMETER

The **MX-704** is a high-performance infrared thermometer and is particularly suitable for detecting abnormal hot spots in electrical installations.

It allows to automatically measure the temperature of the targeted spot in °C and / or °F without knowing and without checking the emissivity of the material or the properties of the surface.

Storing of temperature data.

Accuracy  $\pm 2$  °C with a resolution of 0.10 °C.

Response time 500 ms.

Auto power off: after  $\approx 6$  seconds.

LCD display screen 3 + 1/2 digits with backlight illumination and temperature sensitivity.

Low battery warning light.

Laser pointer On / Off Switch.

Electronic trigger lock.

### Table of characteristics:

Reference					
<b>MX-704 *</b>	Operation 0 to +50 °C	Measure: -32 to + 535 °C -25 to + 995 °F	1 battery 9 V 6 LR61	130 x 180 x 40 mm	0,19 kg

\* Controller comes with batteries and a flexible case with wrist strap.

IEC 61000-4-2 / IEC 61000-4-3 / IEC 61000-4-8

EN 61326



## IP2X SAFETY CORDS

Set of 2 double insulated cord, 1.20 m.

Reference	Description
<b>DX-02003</b>	Set of 2 BLACK and RED Cords IP2X Ø 4 mm straight / bent male / male
<b>DX-02004</b>	Set of 2 BLACK and RED Cords IP2X Ø 4 mm male / male for extension



DX-02004



DX-02003

IEC 61010-031

EN 61010-031



## IP2X SAFETY ALLIGATOR CLIPS

Set of 2 clips with hand guard.

Reference	Description	
<b>DX-02006</b>	Set of 2 BLACK and RED alligator clips	 

IEC 61010-031

EN 61010-031



## IP2X TEST LEAD POINTS

### POINTEST™ FOR MULTIMETER

Set of 2 test lead points. Female socket Ø 4 mm. Retractable and compatible lead point housing with female sockets Ø 4 mm. Flexible, double insulated cords 1.20 m long and 1 mm<sup>2</sup> of cross section on bent connectors Ø 4 mm IP2X.

Reference	Description				
<b>DX-02002</b>	Set of 2 test lead points, BLACK and RED on 1.20 m cord	Voltage 1 000 V AC 1 500 V DC	max. 20 A	Category III 600 V	IP2X test lead point


IEC 61010-031

EN 61010-031







## STORAGE CASES

Reference	 mm	Description
<b>M-87369</b>	180 x 70 x 45	Canvas case with belt loop
<b>M-87290</b>	225 x 130 x 65	Canvas case with strap and belt loop outer transparent pocket
<b>M-87292</b>	250 x 200 x 70	Protective bag with handle
<b>MO-43</b>	280 x 200 x 80	Canvas bag with inner and outer pockets. Adjustable carrying strap with foamed shoulder pad.



## PPE BAG

Large capacity for storing PPE (gloves, helmet, mat, boots and other accessories). Adjustable carrying straps. Double zipper closure. Transparent outer pocket.

Reference	 mm	 kg
<b>MO-50</b>	Ø 250 x L 620	0.5



## TROLLEY BACKPACK

Hybrid design for high comfort in 2 use modes: backpack or trolley mode. Flexible shock-absorbing structure. Front and side pockets for documents and PPE (helmet, gloves, mats, blanket and extension probes).

Height adjustable telescopic handle.

Ergonomic straps and foamed back.

Noiseless rubber wheels, replaceable for MO-102 and MO-102-0 models.

Reflective strips.

### MO-102: For measurement devices

Computer and documents pockets, horizontal 3 rigid trays with adjustable height. Removable rolling base (MO-101) with quick attachment to the bag. Black colour.

### MO-102-0: For insulated tools



Vertical shelves for tool storage. Central pocket for large tools. Fixed rolling base. Blue colour.

### MO-103: Pouch for MO-102 and MO-102-0

Pouch with transparent cover for a quick content identification. Sold empty.

### MO-44: For insulated tools

Numerous pockets and removable plate for tooling. Pockets for computers, documents and tools. Fixed rolling base. Black colour.

Reference	Description	 mm	 kg	Capacity
<b>MO-102</b>	Measurement device bag	500 x 350 x 230	4.6	40 L
<b>MO-102-0</b>	Tool bag	550 x 410 x 250	4.1	35 L
<b>MO-101</b>	Single rolling base	410 x 230	1.4	-
<b>MO-103</b>	Pocket	330 x 170	0.6	-
<b>MO-44</b>	Tool bag	460 x 330 x 240	3.2	30 L







## Test and measurement ACCESSORIES

### MULTI-POCKET BAGS

Specially designed to transport and protect insulating mats, face shield and test & measurement devices.



Reference	 mm	 kg
<b>M-87386</b>	650 x 150 x 250	0.850
<b>M-87387</b>	690 x 300 x 140	0.470



M-87386

### BAGS FOR INSULATING MAT

Specially designed for carrying and protecting insulating mats: capacity 1 insulating mat.

Reference	Use	 mm	 kg
<b>MP-01</b>	For MP-11/16 and MP-11/66	0.7 m	0.45
<b>MP-02</b>	For MP-11/11	1.1 m	0.70



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### SERVICES

**Testing laboratory**  
**Flexible workshop**  
**Training**  
**Maintenance & inspection**  
**Technical Support**

### After sales service

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germain.molis@catuelec.com  
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## Kits



<b><u>Roaming rescue kit</u></b>	<b>50</b>
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<b><u>Signalling kit</u></b>	<b>50</b>
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<b><u>Kit for operations on damaged vehicle</u></b>	<b>51</b>
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<b><u>PPE kit</u></b>	<b>51</b>
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<b><u>Insulated tool kit</u></b>	<b>52</b>
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<b><u>Workshop kit</u></b>	<b>52</b>
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## KITS

These kits enable operations, signalling and delineation of working area for vehicles with electric energy on board.

### ROAMING RECUE KIT

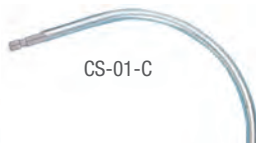
Kit for nomad and rescue operations on electric and hybrid vehicles.

Reference	Composition	Description
KIT-VEH-ROAMING	ACA-10	Safety pyramid with magnetic base
	CG-80-H	Under-gloves
	CG-10-C	Insulated gloves 1000 V AC and 1500 V DC size 10
	CG-36/1	Glove bag
	MT-830-P	Insulating telescopic stick
	CS-01-C	Hook
	MO-286	Face shield
	M-87384	Pouch for face shield
	MO-50	PPE bag

For any other composition, do not hesitate to contact us.



MT-830-P



CS-01-C



ACA-10



MO-50



CG-36/1



CG-10-C



CG-80-H



MO-286



M-87384

### SIGNALLING KIT

Reference	Composition	Quantity	Description
KIT-VEH	AL-323	6	Safety boundary post with weighted base
	AL-31/25	1	Boundary chain, red and white, length 25 m
	AP-72	2	Warning sign, fitting with AL-323 post



AL-31/25



AP-72



AL-323

## KIT FOR OPERATIONS ON DAMAGED VEHICLE

Reference	Composition	Quantity	Description
KIT-VE-BCL	CG-10-C	1	Class 0 insulating gloves
	CG-981-10	1	Leather over-gloves
	CG-80-H	1	Cotton under-gloves
	MO-286	1	Face shield with headband
	M-87384	1	Face shield pouch
	MV-138-L	1	Insulating over-shoes
	MP-123/2	1	Insulating blanket
	MP-4110	2	Clamps for insulating blanket
	MP-29/2-S	1	Insulating bag (small)
	MP-29/3-S	1	Insulating bag (large)
	MS-917-PG	1	Voltage detector
	PP-6-38-R-Z	1	Safety padlock
	MO-600	1	Insulating wedge
	AP-550-M2	1	ID sign
	M-882452	1	Tool box

For any other composition, do not hesitate to contact us.



CG-10-C



CG-981-10



CG-80-H



MP-123/2



MV-138-L



MP-4110



MS-918-L



M-87384



PP-6-38-R-Z



MO-286



MP-29/3-S



MP-29/2-S



MO-600



AP-550-M2



M-882452

## PPE KIT

Reference	Composition	Description
KIT-VEH-PPE	MO-286	Face shield
	CG-80-H	Cotton under-gloves
	CG-10-C	Class 0 Insulating gloves 0
	CG-981-10	Leather over-gloves
	MP-220	Insulating blanket
	MP-627-D	Clamps for insulating blanket (x2)
	MO-50	PPE bag
	M-87384	Face shield pouch

For any other composition, do not hesitate to contact us.



CG-10-C



CG-80-H



CG-981-10



M-87384



MO-50



MO-286



MP-627-D



MP-220



Diameter



Mass



Dimensions

Kits



## KITS

### INSULATED TOOL KIT

Complete set of insulated tools for electric and hybrid vehicle operations.

Reference	Composition	Description
KIT-MO69308-VEH	<b>KIT-25</b>	Set of 10 Insulated tools
	<b>MO-69308/HAT-D</b>	Tool kit of insulated sockets
	<b>MO-69210</b>	Reversible ratchet wrench 10 mm
	<b>MO-69213</b>	Reversible ratchet wrench 13 mm
	<b>MO-66000-C</b>	Insulating cutting pliers
	<b>MO-600</b>	Insulated handled wedge
	<b>MO-710-D</b>	Insulated brush
	<b>MO-755-D</b>	Insulated mirror
	<b>MO-39</b>	Tool bag



### WORKSHOP KIT

Kit with essential equipment for workshop: lock-out operations, voltage detection and rescue equipment in electric and hybrid vehicles environment.

Reference	Composition	Description
KIT-VEH-LOTO-GB	<b>AM-49/2</b>	Warning sign – Edge: 200 mm
	<b>ACA-10</b>	Safety pyramid with magnetic base
	<b>CG-35/2</b>	Glove box (wall mounting)
	<b>CG-10-C</b>	Insulated gloves - Class 0
	<b>MS-917-PG</b>	Voltage detector
	<b>M-87369</b>	Pouch for voltage detector
	<b>PL-102</b>	Machine control locker
	<b>PL-100</b>	Electric terminal locker (small)
	<b>PL-101</b>	Electric terminal locker (large)
	<b>CS-45</b>	Rescue stick with wall bracket
	<b>AM-20-GB</b>	First aid poster
	<b>ATP-550-GB</b>	Operating and safety instructions
	<b>SL-101</b>	Lock-out cabinet
	<b>PP-6-38-R-Z</b>	Padlock Ø 6 mm, plastic shackle
	<b>MP-11/16</b>	Insulating mat 1 x 0.6 m
	<b>MO-160</b>	Strap for insulating mat

For any other composition of kit, do not hesitate to contact us.



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