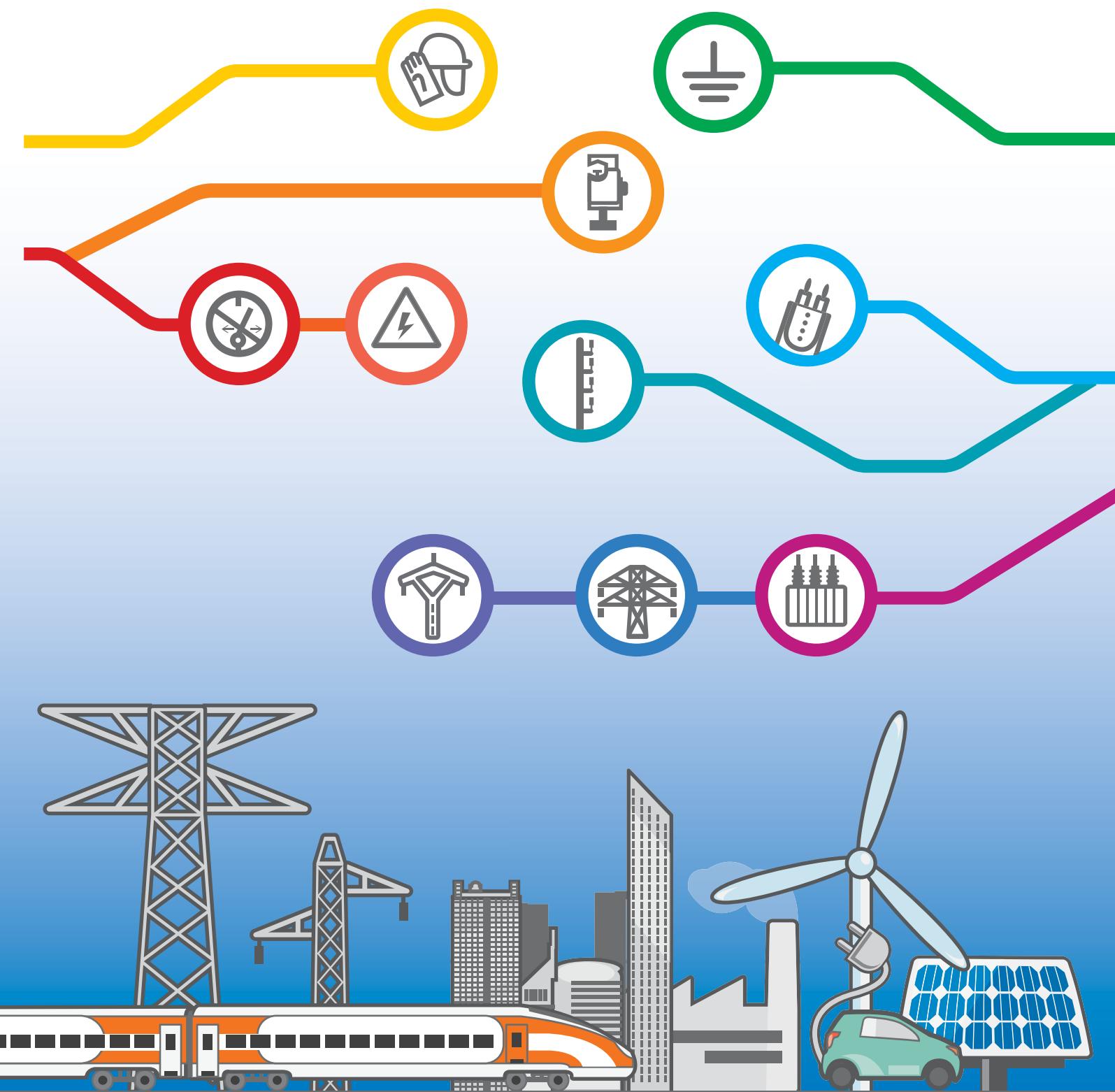




# The world of electrical safety

2017/2018



SICAME GROUP



Electrical safety,  
our business.

Now more than ever, working safely is essential for all professionals in the electrical industry.

In Europe and in the rest of the world, new clearances allow a larger population of people to perform electrical and non-electrical work on or around installations and structures, in compliance with prevention rules.

This major change, supports better risk analysis and strict adherence to the supervision chain, in order to further improve operator safety.

From this standpoint, CATU is fully committed to supporting you in these changes.

Firstly, with many new products designed and produced by our teams for you.

Next, with a completely redesigned catalogue that focuses on our products, their functions, and their use.

Finally, with new educational tools, including our convenient guides that provide simple and helpful information.

It's time to work with lasting safety, and we are here to help you, the Pros!

Thank you for your confidence in us!

Electrical safety,  
for pros like you!



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# IEC Standard



International Electrotechnical Commission is a worldwide organization for standardization comprising national electrotechnical committees (NC). The object of the IEC is to promote international cooperation on all questions concerning standardization in the electrical fields. These standards have been approved by more than 50 different countries including Australia, Canada, China, France, Germany, Japan, Russia, Malaysia, Singapore, Mexico, India, Indonesia, South Africa, New Zealand, USA...

A rapid need to perform electrical operations evolved with the time.

This resulted in regional or national working on specific standards without coordination.

IEC standards were developed according to a consensus procedure and approved by recognized body. They provide an adequate answer at worldwide level.

## The IEC standard presents benefits to all parties involved:

- for the end-users: it is the guarantee of a suitable and internationally recognized quality equipment,
- for the Testing Laboratories: it determines better standards of testing and control procedures for materials,
- for the manufacturers: it helps them to make a better technico-commercial offer.

**CATU** Designs, tests and manufactures under the IEC requirements.

**CATU** Is the first manufacturer to provide a full range of products complying with the IEC standards.

**CATU** Shows its innovation ability for the welfare of the electrical world.



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# Personal and collective protective equipment



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## SERVICES

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Technical assistance



### After Sales Services

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# Key advantages in risk prevention.

## PPE : Personal Protective Equipment.

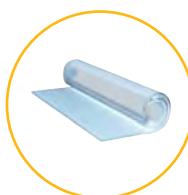
PPE are defined as any device or means intended to be worn or held by one person to protect itself against one or several risks liable to threaten its safety or its security.

## CPE : Collective protective equipment.

Collective protective equipment for preventing electrical hazards contains all the products that close off the hazard by:

- Distance (marking, signs),
- Obstacles (covers, screen, barrier),
- Insulation (insulating blankets, insulating caps, etc.).

CPE must comply with the standards in force.



## PPE within the framework of electrical safety recommendations.

"Personal Protective Equipment is used to protect individuals who work on or near an installation that presents an electrical hazard." Equipment complying with the standards in force and appropriate for the type of operation and voltage level of the installation must be used.

## PPE check

- Every PPE must be verified at least visually before and after every use.
- Regular tests must be made by qualified persons and at least annually.
- If the slightest doubt exists the equipment must be reformed and replaced at once.



## THE RESPONSIBILITY OF THE EMPLOYER

- To give free of charge and in a personal way equipment necessary and adapted to the risks,
- To watch over their actual use,
- To ensure the necessary replacement as well as the maintenance and the compliance,
- To inform the users of the risks against whom they are protected.

## REGULATIONS

The personal protective equipment have to be in compliance with the requirements of the European Directive :

**89/391/CEE**, on the introduction of measures to encourage improvements in the safety and health of workers at work.

**89/655/CEE** and **89/656/CEE**, on the minimum health and safety requirements for the use by workers of personal protective equipment at the workplace.

**89/686/CEE**, on the approximation of the laws of the Member States relating to personal protective equipment (CE marking).

In practice, they define:

- The protections adapted to the kind of risk,
- The highest level of protection possible,
- The comfort, the ergonomics and the quality of the equipment,
- The annual verification of PPE by a competent individual.

The obligations for using PPEs in companies are defined by the European Directive 89/656.





## Eyes 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.

### THE +

- 1 Grilamid frame.
- 2 Polycarbonate lense with a large field of vision.  
Anti-scratch, anti-impact and anti-chemical product treatments.



DELIVERED IN POUCH.



EN 166 / EN 170  
CE

### 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	



DELIVERED IN POUCH.

### THE +

- 1 One piece wraparound protection that can be worn over eyeglasses.
- 2 Polycarbonate lens and frame with a panoramic field of vision.

## ARC FLASH SHIELD WITH HEAD BAND

Protective screen that can be used without a helmet.  
Marking: 2C-1.2CATU 1B8-1-03CE1883

Polycarbonate face shield.

- Protection against electric arcs of short-circuits class1.
- Head fit adjustment by milled wheel.
- Anti-scratch and anti-mist treatment.

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

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

### THE +

- 1 Insulating up to 1000 V.
- 2 Arc Flash class1.



Face shield on helmet  
MO-182/1-B.

## FACE SHIELD

Protection against electric short-circuit arcs. Face shield adjustable on MO-182 helmet.

I2C-1.2CATU 1B8-1-03CE1883

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

Reference	Fitting
MO-284	Rubber headband
MO-284-C	Side clips

### THE +

- 1 with all type of helmet.
- 2 ARC Flash class1.
- 3 Isolating up to 1000 V.



## Head protection



### ABS HELMET

Safety industrial helmet. Standard sizes 53 to 63. Leather trim 21 cm along the inside for added comfort. Multiple adjustments for a perfect fit headband.

Reference	Color	g
MO-182/1-B	WHITE	300
MO-182/1-R	RED	300
MO-182/1-J	YELLOW	300

### THE +

- 1 Deformable shock-resistant ABS helmet with a "gutter" brim.
- 2 Size from 53 to 62 cm. Safety chin strap
- 3 Side slots for mounting hearing protection.
- 4 Built-in cushion for optimum ventilation.

### POLYCARBONATE HELMET

Protects against vertical and side impacts, very well ventilated. Improved comfort. Adjustable size from 53 to 63 cm.

Reference	Color	g
MO-183-BL	WHITE	455
MO-183-RL	RED	455

### THE +

- 1 Deformable shock-resistant helmet in polycarbonate.
- 2 Head fit adjustment by milled wheel.
- 3 Chinstrap with an easy adjustment buckle. Designed to tear if hooked. (< 25 daN).
- 4 6-point cloth lining.



# Head protection

## 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
MO-185-R	RED	2-1.2
MO-185-J	YELLOW	2-1.2
MO-185-B	BLUE	2-1.2
MO-185-BLM	WHITE + Chinstrap with a chin	2-1.2

### THE +

- 1 Head fit adjustment by milled wheel. Size from 52 to 66 cm.
- 2 Adjusting the height position.
- 3 Panoramic face shield in non-scratch and anti-mist polycarbonate.
- 4 Chinstrap (with Velcro fastening).



HELMET  
“ARC FLASH”  
PAGE 37



Class E20kV as per ANSI Z89-1  
Equivalent class 1-7.5kV as per IEC standard  
Protection tests against thermal hazards of an  
electric arc  
IEC 61482-1-2 GS-ET-29 Class 1  
EN 397  
EN 50365 ▲



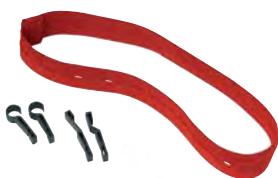
Dimensions



Weight



## Head protection



M-881837



M-87384



M-881837



MO-155

### ACCESSORIES FOR HELMET

Swivelling head.

Band : choice of standard fabric or rubber for greater stability of the lamp on the helmet.

Reference	Characteristics
<b>M-882677</b>	Spare shield MO-185
<b>M-881836</b>	Spare frontal padded band for MO-185
<b>M-882671</b>	Spare padded headband chinstrap MO-185
<b>M-881837</b>	RED headband
<b>M-881838</b>	White/red velcro for identification
<b>M-87384</b>	Bag for MO-182, MO-183, MO-284, MO-185 and MO-286 Black fabric cover for transporting and protecting helmets and shields
<b>MO-155</b>	Noise-cancelling shell with adapter for mounting on helmets MO-182/1.

### HEADLAMP FOR HELMET

Headlamp for helmets MO-185, MO-180-ARC and MO-182/1. Compatible with the majority of helmets on the market

#### THE +

- ① Autonomy at full power : 100 hrs.
- ② Maximum light output : 70 lumens/35 m.
- ③ Textile headband for use as a single headlamp. Supplied with universal adhesive support(1) for helmet (suitable for MO-185, MO-180-ARC, MO-182...). Light distance at full power : 35 m
- ④ 3 lighting modes : max, min and flashing.



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

Adhesive clip supplied to attach to a helmet.

### LED headlamp for Helmets

Can be worn either on the head or on different helmets models :

Approval ATEX

European Category 1 Certificate (Zone 0)

II 1 G Ex ia IIC T4 Ga.

- autonomy : 2 intensities : Strong: 19 h / Weak: 47 h,
- material : ABS – high resistance against Shocks and falls,
- range : 19 to 28 m,
- Strong Lumens : 30 / Weak : 14.

#### THE +

- ① Adjustable head.
- ② Headband: choice of standard fabric or rubber for a firm fit of the lamp on helmets.
- ③ 3 white Leds.



Reference	6 LR-61 type	mm 76 x 68 x 44	g 90
<b>MS-126</b>	3 x 1,5 V included	76 x 68 x 44	90

Delivered with batteries and headbands

# Insulating rubber gloves

## An essential choice for safety!

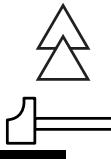
### COMPLIANCE

Insulating gloves offer personal protection against electrical shocks when working on or near live wires. They must comply with the IEC 60903 and EN 60903 standards. As a result, they undergo various voltage, ageing, and mechanical testing.

The gloves are individually tested and sold in a sealed UV protected plastic bag.



### CHARACTERISTICS OF SYMBOLS



- Label with a double triangle symbol IEC 60 417-5216, suitable for work on live wires.
- Label with a mechanical hammer symbol, indicating additional mechanical properties gloves.



All our gloves provide greater comfort and hygiene when used.



### GLOVE TYPES, CLASSES, AND CATEGORIES

There are 2 main types of insulating gloves:

- **Rubber gloves** provide high dielectric performance. They must be used with leather glove covers for mechanical protection.
- **Gloves with mechanical properties** offer superior mechanical protection against punctures and tears. They eliminate the need for overgloves.

### ERGONOMIC SHAPE

With an ergonomic shape our gloves are suitable for any type of hand and are soft and supple which allows good dexterity.

### A CHOICE OF FULL SIZE

Sizes from 7 to 12 can cover all requirements (Male / Female).

### BI-COLOR

Bi-color gloves on class 1/2/3/4 allows contrast to rapidly detect any excessive abrasion, cut, tear and other mechanical surface damage that could alter the dielectric properties of the glove.



### CLEAR-MARKING

color label by class.



### FLASHCODE

Traceability of the gloves which allows reading test reports.



### ROLLED CUFF

Rolled cuff for comfort & ease of handling.



Dimensions

Weight



# Insulating rubber gloves

Month and year of manufacture

Product code.

Class/category.

Glove size.

IEC live working symbol.

CE mark and notified body number.

01 - 14



Area for marking first date of use and subsequent test dates.

Manufacturer/distributor.

Manufacturer lot number.

Voltage level used

IEC standard reference.

Product reference on CE type examination certificate.



Symbol appears only on mechanical gloves.

## CONVERSION TABLE FOR INSULATING RUBBER GLOVES AND OVERTOPPINGS

Gloves	Reference	GLOVES sizes	OVERGLOVES sizes	Overtoppings sizes	OVERGLOVES reference
	CG-05-(*)	A = 8	8		CG-981-(***)
		B = 9	9		
	CG-10-(*)	C = 10	10		CG-991-(***)
		D = 11	11		
	CG-1-(**) -NR	7	8		CG-981-(***)
		8			
	CG-2-(***) -NR	9	9		CG-991-(***)
		10	10		
	CG-3-(***) -NR	11	11		CG-991-(***)
		12	12		

(\*) Complete by size codes A=8, B=9, C=10, D=11. (\*\*) Complete by size codes 07 to 12 (sizes 07 and 12 on request). (\*\*\*) Complete by size codes 08 to 12.

(\*\*\*\*) Complete by size codes 09 to 12.



## INSPECTION AND STORAGE OF INSULATING GLOVES

All insulating gloves must be visually inspected after inflation and before each use.

For Classes 0 and 00: The tests consist of an air inflation test and a visual inspection when the glove is inflated. The dielectric test is not required, but it may be performed at the owner's request.

For Classes 1, 2, 3, and 4: Even when in storage, a glove should be used without having been tested within the last six months. Normal testing periods are between 30 and 90 days.

An inspection of the inside of the gloves is also recommended. Gloves should be stored in their packaging, without being compressed or folded. They should not be stored near a heat source with a temperature of 10 to 21°C.

# Insulating rubber gloves

## ASTM INSULATING RUBBER GLOVES

Insulating rubber gloves offer personal protection against electrical shocks when working on or near live wires. Our gloves complies with the ASTM standard (ASTM D 120). The acceptance levels for mechanical tests are stricter. Our gloves are made of rubber especially treated to obtain high dielectric characteristics and they are individually tested and sold in an individual packaging.

Reference	Class	Voltage (AC)	Inch	Color
CGA-00-(*)-B	00	$\leq 500 \text{ V}$	14	Black
CGA-0-(*)-B	0	$\leq 1000 \text{ V}$	14	
CGA-1-(*)-NB	1	$\leq 7500 \text{ V}$	14	Bi-colour: Black outside. Natural inside.
CGA-2-(**)-NB	2	$\leq 17000 \text{ V}$	14	
CGA-3-(**)-NB	3	$\leq 26500 \text{ V}$	14	
CGA-4-(***)-NB	4	$\leq 36000 \text{ V}$	16	

(\*) Complete by size codes 07 to 12 (sizes 7 and 12 on request).  
 (\*\*) Complete by size codes 08 to 12. (\*\*\*) Complete by size codes 09 to 12.



ASTM  
D120  
Type I

## INSULATING RUBBER GLOVES

Gloves without mechanical protection for use with silicon leather glove covers.

Reference	Class	Voltage (AC)	Category	↔ mm	Color
CG-05-(*)	00	$\leq 500 \text{ V}$	AZC	360	Natural
CG-10-(*)	0	$\leq 1000 \text{ V}$	AZC	360	

(\*) Complete by size codes A=8, B=9, C=10, D=11.



IEC 60903  
EN 60903



Reference	Class	Voltage (AC)	Category	↔ mm	Color
CG-1-(*)-NR	1	$\leq 7500 \text{ V}$	AZC	360	Bi-colour: Red outside. Natural inside
CG-2-(**)-NR	2	$\leq 17000 \text{ V}$	RC	360	
CG-3-(**)-NR	3	$\leq 26500 \text{ V}$	RC	360	
CG-4-(***)-NR	4	$\leq 36000 \text{ V}$	RC	410	

(\*) Complete by size codes 07 to 12 (sizes 07 and 12 on request). (\*\*\*) Complete by size codes 08 to 12. (\*\*\*) Complete by size codes 09 to 12.



Dimensions

Weight

Total length

PPE - CPE / Insulating rubber gloves

CATU™



## Insulating gloves

### MECHANICAL GLOVES

Insulating gloves with higher mechanical properties for working in full safety without leather overgloves.

Reference	Class	Voltage (AC)	Category	↔ mm	Color
CGM-00-(*)	00	≤ 500 V	RC	360	Bi-colour: Orange outside. Natural inside.
CGM-0-(*)	0	≤ 1000 V	RC	360	
CGM-1-(*)	1	≤ 7500 V	RC	360	
CGM-2-(**)	2	≤ 17 000 V	RC	360	
CGM-3-(**)	3	≤ 26 500 V	RC	360	
CGM-4-(***)	4	≤ 36 000 V	RC	410	

(\*) References to be completed by size 07, 08, 09, 10, 11, 12 (07 and 12 on request).

(\*\*) References to be completed by size 08, 10, 11, 12

(\*\*\*) size 09, 10, 11, 12



EN 60903 / IEC 60903

IEC 61482-1-2 class 2  
(Box : 7kA/30cm)



### 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 fixed on wall.

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

\* Includes a bottle of talcum powder and precautions for use on tape positioned according to the language (English, French, Spanish, German, Italian, Portuguese, Arabic dutch, Chinese, Russian).

#### THE +

- 1 Velcro buckle for holding gloves upright.
- 2 The transparent cover enables to check gloves presence. UV resistant.
- 3 Recommended maintenance reminders.



# Insulating gloves



## INSULATING GLOVES

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

Reference	Class	mm	g
CG-36-1	00 to 1	420 x 180	185
CG-36-2	2 to 4	460 x 200	225

### THE +

- ① Dimensions suitable for various glove thicknesses.
- ② Transparent pocket at the back and loop for belt and hook.



## OVERGLOVES

Mechanical and electric arc protection.

Reference	Size	g
CG-981-(*) for insulating gloves class 0 and 00	8	160
	9	
	10	
	11	
	8	
	9	
CG-991-(*) for insulating gloves to class from 1 to 4	10	200
	11	
	12	

(\*) References to be completed by size A, B, C or D. See the conversion table page 24 for the correct size based on the insulated glove.

### THE +

- ① Silicon grain leather, very flexible. With velcro.
- ② Large protective cuff in chrome tanned hide. With velcro.
- ③ Silicon goat grain leather.

## UNDERGLOVES NOMEX III ® "ARC FLASH" PAGE 36

### UNDERGLOVES

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

Reference	Size	g
CG-80-(*)	H = Men F = Women	28

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

Dimensions    Weight



PPE - CPE / Insulating gloves

**CATU**™

#27



## Gloves and insulating boots



### MITTENS

Fingerless gloves shape allowing to keep the maximum of dexterity.

Reference	Size	
CG-81	One size	20

### THE +

- 1 Cotton mittens, limit the effects of perspiration and its fingerless gloves shape allowing to keep the maximum of dexterity.

### INSULATING BOOTS

Provide electrical insulation protecting "step voltages."  
No metallic element.

Reference	Size	Class	Voltage
MV-136J-*		0	1 000 V AC
MV-136B-*	39 to 49	0	1 000 V AC
MV-137		-	Tested 20kVAC

\* Add size to the reference. Ex: MV-137-43.

### THE +

- 1 Provides protection against step voltage.
- 2 For agribusiness application.
- 3 Design to prevent clogging.
- 4 Non-slip vulcanized rubber.



MV-136J / MV-137



EN 20345  
EN 50321

### INSULATING OVER SHOES

Overshoes which provide electrical insulation to protect 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
MV-138/*	M (39 to 42), L (43 to 45), XL (46 to 48)

\* Indicate the size.

### THE +

- 1 Classe 0: 1 kV AC - 1.5 kV DC.
- 2 Can be used on footwear.
- 3 Provide protection against « step voltage » ≤20kV.

# Safety shoes

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

Shoe with leather and breathable liner microphone. Anti-perforation textile sole. Protection cap 200J. Adhesion: SRC. Torsion resistant sole.

Reference	Type	Size	Class	Use
MV-222-*	Low	39 to 47	0: 1 000 V (AC)	Industry, construction, bold and smooth floors
MV-223-*	High	39 to 47	0: 1 000 V (AC)	

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

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

Reference	Type	Size	Class	Use
MV-226-*	Low	39 to 47	0: 1 000 V (AC)	Industry, logistics and transport, services and communities.
MV-227-*	High	39 to 47	0: 1 000 V (AC)	

\* Add size to the reference. Ex: MV-226-43.



## THE +

- 1 Insulating insoles tested at 5 kV and anti perforation.
- 2 To 5 kV according to EN 50321, to 14 kV according to ASTM F2412, to 18 kV according to ASTM F2413



## SAFETY SHOES WITH INSULATING SOLE FOR INDOOR CONTROLLED ENVIRONMENT

Low shoes with anti-bacterial and calendered nonwoven lining waterproof leather upper. Anti-perforation textile sole. Protection cap 200J. Adhesion: SRC. Torsion resistant sole.

Reference	Type	Size	Class	Use
MV-228-*	Low	39 to 47	0: 1 000 V AC	Condition of strict hygiene, agribusiness. Controlled environment.

Add size to the reference. Ex: MV-228-43.

Weight

PPE - CPE / Insulating boots and mats

**CATU**™

#29



## Insulating boots

### MV LIVE WORKING SAFETY SHOES AGAINST ELECTRICAL HAZARDS OF STEP VOLTAGE

Antiperforation textile (1430N). SBP HRO WRU EFO marking. 100% electrically tested. On network MV, the step voltage calculated by RTE SERECT-EDF is 6 kV.

**THESE SAFETY SHOES ARE ESPECIALLY DESIGNED  
FOR USE IN A DRY AREA. DO NOT USE THEM IF  
THERE IS A RISK OF MOISTURE ENETRATION.**

Reference	Size	Step voltage test
MV-232-*	38 to 48	6 kV

\* Add size to the reference. Ex: MV-232-43.

#### THE +

- ① Rear tendon indented soft leather.
- ② Protective toe cap 240 J (composite).
- ③ Rigid sole ideal for working on ladder and tower.



**CATU™** Test laboratory






*for all your mechanical and electrical tests*



COFRAC : French Accreditation of Certification



cofrac  
**ESSAIS**

Certificate no. 1-0897  
Available at  
[www.cofrac.fr](http://www.cofrac.fr)



**afao**  
QSE  
Qualité Sécurité Environnement  
AFNOR CERTIFICATION  
ISO 9001 - ILO-OHS 2001  
OHSAS 18001 - ISO 14001

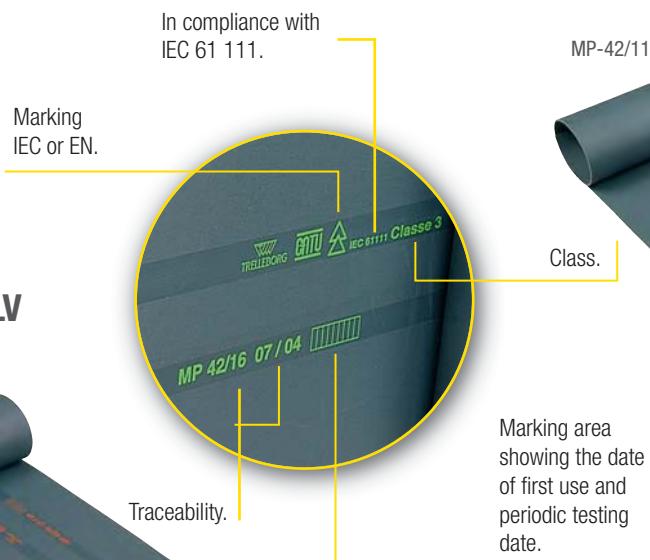
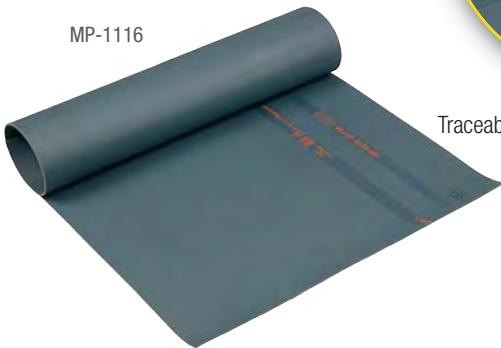
# Insulating mats, make the right choice

## IN ACCORDANCE WITH STANDARDS

The insulating mats provide individual and collective protection. In elastomer, they are used to cover the ground for the electrical protection of operators during work or interventions on electrical installations.

In accordance with IEC 61111   
(Live working tools – insulating mats category C:  
Resistant to very low temperature -40°C)

## INSULATING MATS LV CLASS 0



## CLASS AND MAXIMUM VOLTAGE

Class	Voltage 	Voltage 
0	1 000 V <sub>effective</sub>	1 500 V
1	7 500 V <sub>effective</sub>	11 250 V
2	17 000 V <sub>effective</sub>	25 500 V
3	26 500 V <sub>effective</sub>	39 750 V
4	36 000 V <sub>effective</sub>	54 000 V

## CHARACTERISTICS OF SYMBOLS



- Label with a double triangle symbol IEC 60 417-5216, suitable for live working.

## INSULATING MATS MV CLASS 3/4



## Recommendations for use

### Storage/Transport

Insulated blanket should be properly stored to avoid the risk of damage to the insulating material. Do not bend insulating mats. Do not store or use close to excessive heat. Do not expose to direct sunlight for long period. Storage temperature : 10°C to 21°C.

### Before use

Visually inspected by the user. If the insulating mats is dirty, wash it with soap and water. Dry it with respect of using temperatures.

### In use

Operating temperatures : -40°C to 55°C.

Avoid contact with chemical products.

Place the mat on a clean, smooth floor, devoid of aggressive elements for insulation.

Position the feet in the center of the insulating mat.

### Periodic inspection

Insulating mats should not be used without having been electrically tested within twelve month preceding with the exception of class 0. Only visual inspection is required for class 0.





## Insulating mats

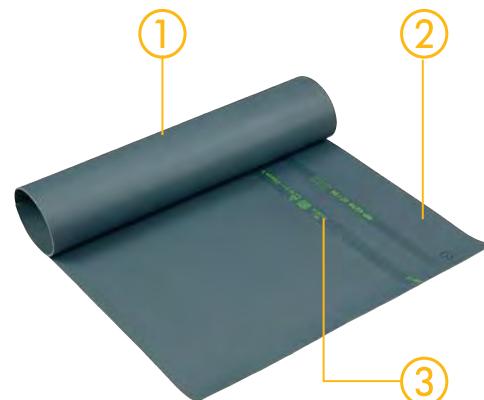
### INSULATING MATS LV & MV

Individual models

Reference	Class	Voltage ~	Voltage ■■■	Thickness mm		
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-42/11	3	≤ 26500 V	≤ 39750 V	3	1 x 1	4.5
MP-42/16	3	≤ 26500 V	≤ 39750 V	3	0.6 x 1	2.9
MP-42/66	3	≤ 26500 V	≤ 39750 V	3	0.6 x 0.6	1.8
MP-120/03-1	3	≤ 26500 V	≤ 39750 V	3	1.2 x 1	5.8
MP-60/05-1	4	≤ 36000 V	≤ 54000 V	5	0.6 x 1	4.4
MP-100/05-1	4	≤ 36000 V	≤ 54000 V	5	1 x 1	8.9

For placing in front of panels

Reference	Class	Voltage ~	Voltage ■■■	Thickness mm		
MP-100/02-10	0	≤ 1000 V	≤ 1500 V	2	1 x 10	29
MP-60/03-5	3	≤ 26500 V	≤ 39750 V	3	0.6 x 5	14
MP-60/03-10	3	≤ 26500 V	≤ 39750 V	3	0.6 x 10	28
MP-100/03-5	3	≤ 26500 V	≤ 39750 V	3	1 x 5	25
MP-100/03-10	3	≤ 26500 V	≤ 39750 V	3	1 x 10	53.5
MP-60/05-5	4	≤ 36000 V	≤ 54000 V	5	0.6 x 5	28
MP-60/05-10	4	≤ 36000 V	≤ 54000 V	5	0.6 x 10	44
MP-100/05-5	4	≤ 36000 V	≤ 54000 V	5	1 x 5	45
MP-100/05-10	4	≤ 36000 V	≤ 54000 V	5	1 x 10	89



### THE +

- ① High quality dielectrical rubber.
- ② Non-skid surface.
- ③ Regulatory mark clearly indicating the mat features.

### INSULATING MATS HV

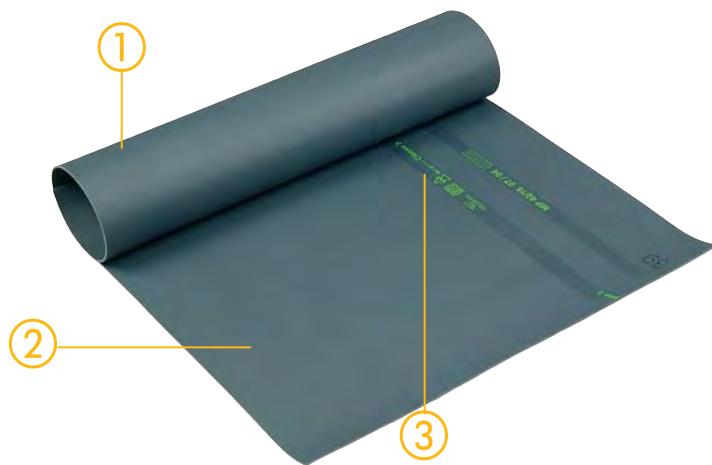
Those mats are out of scope of IEC 61111(maximum class 4/36 kV). Manufacturing process and material are strictly similar to mats compliant to IEC 61111

Reference	Umax. kV	Thickness mm		
MP-100/10-5	90	10	1 x 5 m	87
MP-100/10-10	90	10	1 x 10 m	154

Contact us for any particular application

### THE +

- ① High quality dielectrical rubber.
- ② Non-skid surface.
- ③ Regulatory mark clearly indicating the mat features.



## BAGS FOR INSULATING MATS

Specially designed for carrying and protecting insulating mats  
Equipped with a shoulder strap.

Reference	Characteristics	Length	Weight
MP-01	For MP-11/16, MP-42/16, MP-42/66 and MP-60/05-1	0.7 m	0.45
MP-02	For MP-11/11, MP-42/11 and MP-100/05-1	1.1 m	0.70

### THE +

- ① Plastic window for instructions and storage identification.
- ② Highly resistant bag with lateral zip-closed pockets and identification window.



## MULTI-POCKETS ELECTRICIAN BAGS

Specially designed for carrying and protecting insulating mats, face shield and controllers.

Reference	Dimensions mm	Weight
M-87386	650 x 150 x 250	850
M-87387	690 x 300 x 140	470

### THE +

- ① Highly resistant bag with lateral zip-closed pockets and identification window.
- ② 800 denier dust resistant nylon with PVC coating.
- ③ Lockable.



## INSULATING PLATFORMS (INDOOR MODELS)

Reference	Class	Rated insulation	Standards	Height mm	Weight kg
CT-7-25/1	4	≤ 36 kV	UNE 204 001	220	3.7
CT-7-40/1	5	≤ 45 kV	UNE 204 001	260	3.9

### THE +

- ① Moulded insulating material, one-piece.
- ② Top 50 x 50 cm.





## Insulating platforms

### INSULATING PLATFORMS (INDOOR MODEL)

Reference	Rated insulation	Height mm	kg
CT-7-63	≤ 63 kV	515	3.35

#### THE +

- ① Removable feet with rubber tips.
- ② Solid plate with moulded insulating material 52 x 52 cm, thickness 40 mm.



### INSULATING PLATFORM (OUTDOOR MODELS)

Reference	Rated insulation	Height mm	kg
CT-9-25	≤ 24 kV	350	6
CT-9-45	≤ 45 kV	435	6.5
CT-9-63	≤ 63 kV	515	7

#### THE +

- ① Solid plate with moulded insulating material 52 x 52 cm, thickness 40 mm.
- ② Insulating skirts.
- ③ Feet with rubber tips.



# Arc Flash Protection

## the solution for complete electric arc protection



### THE "ARC FLASH" PHENOMENON.

An electric arc follows a short circuit. It produces nearly instant effects with serious consequences without proper protection.

- The arc's main manifestation is its thermal effect. The heat energy released, which is proportional to the voltage, intensity, and fault length, can be considerable ( $19.000^{\circ}\text{C}$ ), melting the metal and charring the insulation.
- Blast effect, caused by the very rapid release of energy in a limited volume of air (similar to an explosion).
- Light effect with high ultraviolet and infrared radiation.
- Ionisation effect that can trigger an arc on nearby active sections.

**When electric arc danger exists, heat-resistant clothing must be worn. The arc's characteristics are given by:**

- **The resistance value of the free arc, expressed in cal/cm<sup>2</sup> according to NFPA 70 E, ASTM standards, and IEC 61482-1-1.**

or

- **The protection class (1 or 2) with a constrained arc according to IEC 61482-1-2**

### PROTECTION AGAINST ARC FLASH

The following are used to determine the proper equipment for protecting against an electric arc:

- The maximum fault current value.
- The phase/ground rated voltage at the site of the risk.
- The distance between the source of the arc and the reception surface.
- The AC cycle number and the mono or three-phase circuit type.
- The location where the arc is produced (confined space).

After recording these parameters, we can estimate the level of risk and determine the proper protective clothing and PPE to use: **12 to 100 cal/cm<sup>2</sup>** or class **1 or 2**. For more information, please contact our technical department.



Fire-retardant clothing in case of exposure to an electric arc, conforming to IEC 61482-2 and the regulation NFPA 70E.



Dimensions



Weight



## Arc Flash equipment

### INSULATING GLOVES FOR "ARC FLASH" PROTECTION PAGE 26

IEC 61482-1-1 /CLASS2 ASTM  
F2675/F2675 M  
ATPV : 12 CAL/CM<sup>2</sup>  
EN 60903 ▲



### NOMEX III® UNDERGLOVES

100% Nomex III® fire-resistant and heat-resistant undergloves.

Protects the hands against heat of up to 100°C. Ideal protection for "arc flash" equipment.

EN 407

EN 420



Fire protection

①

THE +

① High performance synthetic Nomex III® fibre.

# Arc Flash equipment

## "ARC FLASH" FACE SHIELD KIT (12 CAL/CM<sup>2</sup>-CLASS 2)

Reference	KIT-ARC-01	
Composition		1.5
MO-187	1 Face shield with chin cup 12 cal/cm <sup>2</sup> , absorbs > 99.9% of harmful UV radiation, 60% light transmission, tested to ASTM F 2178 specifications	
MO-182/1-B	1 ABS helmet electrically insulated EN397, EN 50365, ANSI Z89.1 20kV.	
M-87413	1 carrying bag for face shield and helmet	

### THE +

- ① Electrician ABS helmet.
- ② Large field of view.
- ③ Anti UV and polycarbonate 1.5 mm thickness.
- ④ Chin protection.



## "ARC FLASH" HELMETS

The only one all integrated helmet with "arc flash" faceshield on the market. Patented by CATU.

Reference	Characteristics	
MO-180-ARC-4	Screen 4 cal/cm <sup>2</sup> class 2 Transmission of light > 75%	0.790
MO-180-ARC-12	Screen 12 cal/cm <sup>2</sup> class 2 Transmission of light > 60%	0.790

### THE +

- ① Mechanical & Electrical Protection helmet EN 397 EN 50365 - 1 000 V / ANSI Z 89.1 - 20 kV.
- ② IEC 61482-1-1 / IEC 61482-1-2 arc protection. UV protection and EN166, EN170 protection.
- ③ Flexible and compact fabric protection "Arc flash".
- ④ Optimal colour recognition and visibility (MO-180-ARC-4). Retractable screen and neck protection.



Retractable screen and flaps



Dimensions



Weight



Total length



Packaging

IEC 61482-1-2 / GS-ET-29  
ASTM : F2178  
EN166, EN170 protection.





## Arc Flash equipment

### "ARC FLASH" COVERALL DOUBLE ZIPPER

Protects against the thermal hazards of an electric arc.  
Easy to put on.



NFPA 70E



IEC 61482-2  
Class 1-12 cal/cm<sup>2</sup>

THE +

- 1 Double zipper along the entire length.

### "ARC FLASH" EQUIPMENT

Reference	Characteristics
SJ-12-S	
SJ-12-M	
SJ-12-L	Ultra Soft® Fabric
SJ-12-XL	
SJ-12-2XL	



IEC 61482-2

Class 1-12 cal/cm<sup>2</sup>



THE +

- 1 Ideal for manoeuvring operations of short duration (opening/closing a breaking device)
- 2 Easy to put on and remove

### PARKA "ARC FLASH"

Reference	Size
M-883374	PARKA "ARC FLASH" CLASS 2 size S
M-883377	PARKA "ARC FLASH" CLASS 2 size M
M-883378	PARKA "ARC FLASH" CLASS 2 size L
M-883379	PARKA "ARC FLASH" CLASS 2 size XL
M-883380	PARKA "ARC FLASH" CLASS 2 size 2XL
M-883381	PARKA "ARC FLASH" CLASS 2 size 3XL



IEC 61482-2

Class 2



# Arc Flash equipment

## "ARC FLASH" JACKET AND PROTECTIVE COVERALL KITS (12 CAL/CM<sup>2</sup>)

Complete ready-to-use kits, compliant with the IEC 61482-1-2 Arc Flash class 1.

Reference	Characteristics	Capacity cal/cm <sup>2</sup>
KIT-ARC-12-C-(*)	Coverall	12 cal/cm <sup>2</sup>
KIT-ARC-12-J-(*)	Long hooded jacket	12 cal/cm <sup>2</sup>
KIT-ARC-12-JP-(*)	Short jacket without hood + pants	12 cal/cm <sup>2</sup>

(\*) Reference to be completed by the size M, L or XL. Size S to 3 XL on request.

NFPA 70E  
IEC 61482-2



KIT-ARC-12-C

Composition of KITS		
MO-187	1 Face shield with chin cup 12 cal/cm <sup>2</sup> , absorbs > 99.9% of harmful UV radiation, tested to ASTM F2178 specifications	1
MO-182/1-B	1 ABS helmet electrically insulated EN397, EN 50365, ANSI Z89.1, 20kV.	1
MO-11000	1 safety glasses EN 166/EN 170	2
MO-134	1 arc flash protective hood (12 cal/cm <sup>2</sup> ), only with coverall and blue short jacket.	3
-	1 protective coverall 12 cal/cm <sup>2</sup> , ASTM F1506 and NFPA 70E Standards or 1 arc flash protective jacket 12 cal/cm <sup>2</sup> , ASTM F1506 and NFPA 70E Standards.	4 5
M-87413	1 carrying bag for face shield and helmet.	
M-87295	1 all kit carrying bag.	6

### THE +

- 1 Protective capabilities, resistant to washing cycles.
- 2 All the Arc Flash 12 cal kits are compliant with the IEC 61482-1-2 standard class 1.
- 3 Complete ready-to-use kits.



KIT-ARC-12-J

Weight

EPI - EPC / Arc Flash equipment

**CATU**™

#39



# Arc Flash equipment

## "ARC FLASH" PROTECTIVE KITS (25, 40, 65 OR 100 CAL/CM<sup>2</sup>)

Complete ready-to-use kits, compliant with the IEC 61482-1-2 Arc Flash class 2 (KIT-ARC-25 & KIT-ARC-40).

Reference	Capacity cal/cm <sup>2</sup>	Color
KIT-ARC-25-B-(*)	25	KAKI
KIT-ARC-40-B-(*)	40	GREY
KIT-ARC-65-B-(*)	65	BROWN
KIT-ARC-100-B-(*)	100	BROWN

(\*) Reference to be completed by the size M, L or XL. Size S to 3 XL on request.



Composition of KITS		
-	1 set of Arc Flash overalls 25, 40, 65, or 100 cal/cm <sup>2</sup> , and tested according to the ASTM F 1506 and NFPA 70E specifications	1
MO-11000	1 safety glasses EN 166/EN 170	2
M-87295	1 all kit carrying bag	3
-	1 hood with integrated screen 25, 40, 65, or 100 cal/cm <sup>2</sup> , and tested according to the ASTM F2178, NFPA 70E and IEC 61482-2 specifications.	4
MO-182/1-B	1 ABS helmet electrically insulated EN397, EN 50365, ANSI Z89.1 20kV.	5
-	1 Arc Flash vest 25, 40, 65, or 100 cal/cm <sup>2</sup> , and tested according to the ASTM F 1506, NFPA 70E and IEC 61482-2 specifications.	6



### THE +

- 1 Protective capabilities, resistant to washing cycles.
- 2 25 and 40 cal class 2 kits according to IEC 61482-1-2.
- 3 4 Complete ready-to-use kits.

# Other protections

## WORK GLOVES

Reference	Size	g	
CG-96-(*)	A = 8	115	3122
	B = 9		
	C = 10		
	D = 11		
CG-97-C	One size C = 10	115	3122

(\*) Reference to be completed by the size of A, B, C or D.  
Mechanical protection class : Abrasion 3/5, Slicing : 1/5, Tearing : 2/5  
Perforation : 2/5

### THE +

- 1 American style gloves with very soft and flexible full bloom leather allowing full finger movement.
- 2 Tightening elastic on the back of the hand.
- 3 "Docker" style gloves with very soft full bloom leather allowing full finger movement.
- 4 Semirigid red fabric top with elastic on the back.



## CUT-RESISTANT GLOVES

Reference	Size (*)	
CG-951-(**)	7 to 10	4121
CG-952-(**)	7 to 10	4544

(\*) Reference to be completed by the size of 07, 08, 09 or 10.

### THE +

- 1 Knitted glove, 15 gauge, made of texturized polyamide, black colour, black nitrilfoam coating on palm and fingertips.
- 2 Knitted glove, 13 gauge, made of cut resistant fibers, elasticated knitwrist, grey, with a black nonslip nitrilfoam coating on palm and fingertips.



Weight



## Workwear and other protections

### ELECTRICIAN COVERALL

Coverall without metallic part, avoiding any flash hazards.  
100% cotton.

Reference	Size for Ref. (*)	Size	Chest size
MV-104/ (*)	01	40/42	85/92
	02	44/46	92/100
	03	48/50	101/108
	04	52/54	109/116
	05	56/59	117/124
	06	60/62	125/132
	07	64/66	133/140

(\*) Reference to be completed by the size, ex : MV-104/02.

### THE +

- ① Gusset back.
- ② Neck jumper.
- ③ 2 flattened breasts pockets closed by injected zips every plastic part hidden.
- ④ Front closed by injected zip every plastic part hidden.
- ⑤ Tape measure pocket on right back leg.
- ⑥ 2 flattened thigh pockets.
- ⑦ Tape measure pocket on right back leg.



### SAFETY SHOES

**MV-123** : Low, derby style shoe without metal parts.

**MV-124** : Heavy duty boots without metal parts.

Reference	Size	Marking	kg
MV-123-(*)	39 to 48	S3	1.2
MV-124-(*)	39 to 48	S3	1.26

(\*) Reference to be completed by the size: 39, 40, 41, 42, 43, 44, 45, 46, 47, 48. Example: MV-123-40.

### THE +

- ① Form-fitting, antistatic Hi-Cl and anti-bacterial.
- ② Bodkin strap closure.
- ③ Extreme 4 multidensity PU/TPU foam sole and puncture-resistant composite Flex System®.
- ④ Indestructible lightweight TPU end pieces, extra wide 200 joules. in Light-System® composite.

**EN 20345**



## COLD PROTECTION KIT AND CAP

Kit to protect against harsh weather conditions, including:

- 1 acrylic helmet cap. Protects against cold inside the helmet.
- 1 yellow high-visibility neck warmer.

Reference	Characteristics	
MO-158	Universal cap	55
	Neck warmer	86



### THE +

- ① Universal hood.
- ② Water-resistant neck warmer.



**CATU™** Test laboratory






*for all your mechanical and electrical tests*

COFRAC : French Accreditation of Certification



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QSE  
Qualité Sécurité Environnement  
AFNOR CERTIFICATION  
ISO 9001 - ILO-OHS 2801  
OHSAS 18001 - ISO 14001



# Work at height, a regulation in line with the European Directive.

## REGULATORY PERSPECTIVE.

The safety equipment for working at height and their methods of use are defined by the decrees:

No. 92-766 dated 29 July 1992: which applies the 1989 European Directive, No. 2004-924 dated 1st September 2004: "decree relating to the use of work equipment made available for temporary work at height".

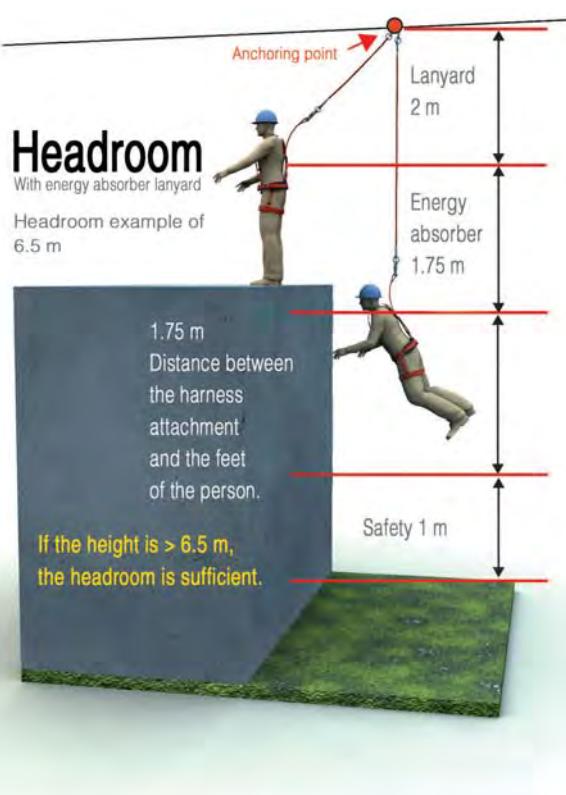
The following are defined in these decrees:

The priority is the installation of collective protective equipment. When this is not possible, the use of a device to an item of personal protective equipment against falls from a height is required, whether this is for the purposes of retaining, support, saving, or protecting against falls from a height.

### **Removal of the minimum height of 3 m: After a risk evaluation, protective equipment is required as soon as there is a risk of falling.**

- The use of access and positioning techniques by means of ropes must comply with the following: a working rope, a safety rope fitted with a fall arrestor system, with two separate anchoring points. Workers must be provided with suitable fall arrestor harnesses connected to both ropes. Safe descent/mounting systems with a self-locking system and a mobile fall prevention system must be provided.
- The work must be programmed and supervised so that assistance can be given immediately to the worker in the event of an emergency.

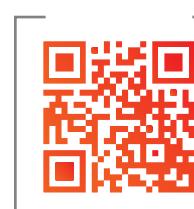
**The workers must receive suitable and specific training in the operations considered and in the rescue procedures.**



## KEY PRODUCT STANDARDS

- EN 353-1 ....Fall arrest grab for rigid support.
- EN 353-2 ....Fall arrest grab for flexible support.
- EN 354.....Restraint lanyard.
- EN 355.....Shock absorber lanyard.
- EN 358.....Work positioning systems
- EN 360.....Retractable type fall arrestors.
- EN 361.....Fall arrest harness.
- EN 362.....Connectors.
- EN 363.....Fall arrest systems.
- EN 813.....Sit harnesses.

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Safety Guide



To determine your harness size, see the table on 201.

# Equipment for working on pole : harness

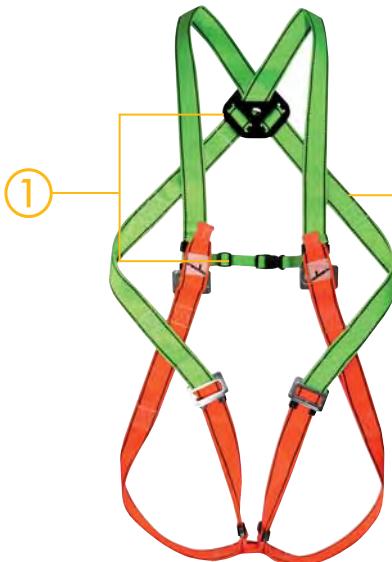
## BASIC BODY HARNESS

Universal size, adjustable by rectangular buckles.

Reference	Size	kg
MO-70	Universal	0.6

### THE +

- ① 2 fall arrest attachment point: dorsal and sternal,
- ② Braided polyester straps width 20 mm.



EN 361



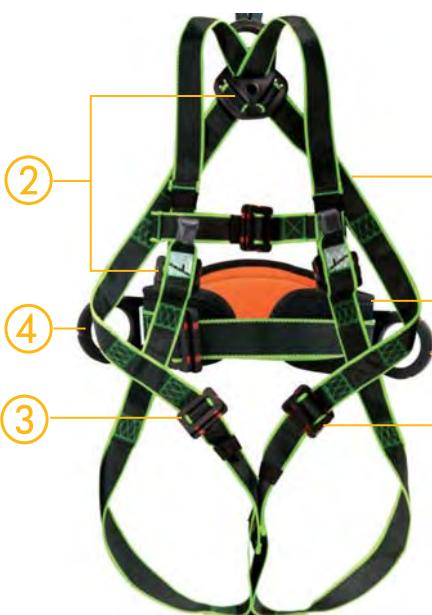
## INSULATING HARNESS

- Universal size. Adjustable by rectangular buckles.
- Includes support belt sewn in harness.

Reference	Size	kg
MO-74-ISO	Universal	1.9

### THE +

- ① Completely insulated.
- ② 2 fall arrest attachment point: dorsal and sternal.
- ③ Polyester straps 45 mm large.
- ④ 2 insulated and articulated rings on the belt for attachment of the maintaining at work lanyard.
- ⑤ Wide belt maintenance and semi-rigid.
- ⑥ Dielectric strength for all the insulated parts: 27.2 kV/mm.



EN 361



## ATEX HARNESS

- Universal size. Adjustable by rectangular buckles.

To work in ATEX atmosphere:

- Zones 1 and 2 for gas and vapours
- Zones 21 and 22 for dust

Reference	Size	kg
MO-72-ATEX	Universal	0.8

### THE +

- ① Mat reinforcement on the back, shoulders and thighs.
- ② 1 fall arrest dorsal anchor point
- ③ 1 fall arrest chest anchor point : composed of 2 D-rings to use together.
- ④ Polyester straps 47 mm large.
- ⑤ Thigh straps reinforced with automatic buckles.



EN 361





## Equipment for working on pole : harness

### PRO ELECTRIC FULL BODY FALL ARREST HARNESS

Fall arrester and securing harness. Optimal comfort.

Suitable for working in suspended positions.

Recommended for female staff members.

Reference	Size	kg
MO-565-(*)	S	3
	M	
	XL	

(\*) Reference to be completed by the size (example : MO-565-M). Delivered in cloth bag.

#### THE +

- 1 Dorsal and sternal anchor points through a metal ring.
- 2 Ventral snap-hook.
- 3 Adjustable shoulder straps elastic stry.
- 4 2 attachment points for maintaining at work arrest.
- 5 Loops "clip" automatic on short strap.
- 6 Wide and padded back-rest.
- 7 Work positioning belt.
- 8 Tools holders.
- 9 Reinforced and adjustable leg straps.



### PRO ELECTRIC FULL BODY FALL ARREST HARNESS

Particularly suitable for working with aerial networks.

Reference	Size	kg
MO-563-A(*)	S	2.7
	M	
	XL	

(\*) Reference to be completed by the size (example : MO-563-A-M). Delivered in cloth bag.

#### THE +

- 1 180° rotation of the positioning belt.
- 2 Dorsal anchor point on short strap.
- 3 Sternal anchor point on 2 butterfly harness straps, to be used together.
- 4 Adjustable shoulder straps elastic stry.
- 5 Automatic "clip" loops on the leg straps and belt.
- 6 2 attachment points for maintaining at work.
- 7 Reinforced and adjustable leg straps
- 8 Tools holders.
- 9 Back-rest with storage place for the periodic maintenance sheet.



EN 358

EN 361

EN 813

CE

# Equipment for working on pole : harness and kits

## FULL BODY FALL ARREST HARNESS

Reference	Size	kg
MO-71	One size	1.9

Delivered in a canvas bag.

### THE +

- 1 Attachment point: dorsal and sternal
- 2 2 buckles of work positioning.
- 3 Work positioning belt.
- 4 Adjustable straps.
- 5 Back-rest.



EN 358

EN 361



## KIT FOR RESTRAINT AT WORK

Equipment that prevents the operator from going to a place from where he or she may fall.

Composition	Reference: KIT-HAUT-10
MO-70	1 fall arrester harness with 2 anchoring points.
-	1 retaining lanyard, 1.5 m long
-	2 screw hooks

### THE +

- 1 A simple, light and practical fall arrester solution.
- 2 Suitable for working in flying scaffolds or on platforms.



Retaining rope lanyard from KIT-HAUT-10



Snap hooks from KIT-HAUT-10

## FALL ARREST BASIC KIT

Equipment suitable for working in flying scaffolds or on platforms.

Composition	Reference: KIT-HAUT-06
MO-71	Full body fall arrest harness
MO-52020	Adjustable lanyard equipped with 2 steel snap hooks with automatic locking, Length : 1.50 m.
M-87295	1 carrying bag

### THE +

- 1 Harness fitted with a positioning belt with anchor loops.
- 2 Single lanyard with shock absorption.



MO-52020



M-87295





## Equipment for working on pole : kits

### FALL PROTECTION KIT FOR WORKING AT HEIGHTS ABOVE 6 M

Fall protection kit for operators working at a height of more than 6 m.

Composition	Reference: KIT-HAUT-11
MO-70	1 fall protection harness with 2 anchor points
MO-52040	1 extensible lanyard with 2 m length with shock absorber and connector with automatic lock opening 54 mm

#### THE +

- 1 Suitable for many applications over 6 m height.
- 2 Simple, light, practical.



MO-70



MO-52040

### FALL PROTECTION KIT FOR WORKING AT LOW HEIGHT

Equipment for operator working at heights between 3 and 6 m.

Composition	Reference: KIT-HAUT-12
MO-70	1 fall protection harness with 2 anchor points
MO-591001	1 automatic fall protection device with a strap of 2.5 m length and shock absorber
MO-52031	1 anchor tie of length 1 m

#### THE +

- 1 The automatic brake system stops the fall within a few centimetres.
- 2 Simple, light, practical.



MO-70



MO-591001



MO-52031

# Equipment for working on pole : kits

## FALL PROTECTION KIT FOR WORKING ON ROOF

Equipment suitable for working on roofs or on sloped planes.

Composition	Reference: KIT-HAUT-13
MO-70	1 fall protection harness with 2 anchor points
MO-69/10	1 mobile fall protection on rope length of 10 m
-	2 snap hooks
MO-52031	1 anchor tie of length 1 m

### THE +

- 1 The mobile fall protection is adapted for sloped roof.



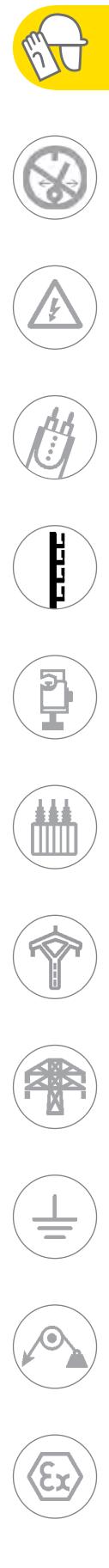
## FALL ARREST KIT WORKING ON PYLON

Equipment suitable for working on all types of pylons, metal structures, antenna supports or metal poles.

Composition	Reference: KIT-HAUT-05
MO-71	1 pro single fall protection harness with 2 anchor points
MO-54010	1 double fall protection lanyard with shock absorber, length 1.2 m
MO-56009	1 support lanyard with tensioner, length 2 m
M-87295	1 carrying bag

### THE +

- 1 Harness with support belt.





## Equipment for working on pole : kits

### KIT FOR WORKING ON LV INSULATING LADDER

Equipment suitable for work on pole or facade with standard insulating ladder.

Composition	Reference: KIT-HAUT-01-(*)
MO-563-A	1 pro electrician fall protection harness with 2 anchoring points and 180° rotating support belt for work
MO-68/15	1 mobile fall protection on rope length of 15 m
MO-52020	1 single fall protection with shock absorber, length 1.5 m
MO-56009	1 support lanyard with tensioner, length 2 m
MO-54	1 snap hook
MO-52034	1 anchor tie of 1.5 m length
M-87295	1 carrying bag

(\*) Reference to be completed by size M or XL

#### THE +

- 1 Kit offering the necessary functions and comfort of use.
- 2 Kit adapted with the constraints of electrical works at height.



### KIT FOR WORKING ON POLE WITH MOVABLE LADDER

Equipment suitable for working on movable ladders to be fixed on pole.

Composition	Reference: KIT-HAUT-02-(*)
MO-563-A	1 pro electrician fall protection harness with 2 anchoring points and support belt for work
MO-68/15	1 mobile fall protection on rope length of 15 m
MO-54010	1 double fall protection lanyard with shock absorber, length 1.2 m
MO-56009	1 support lanyard with tensioner, length 2 m
MO-54	1 snap hook
MO-52034	1 anchor tie of 1.5 m length
M-87295	1 carrying bag

(\*) Reference to be completed by size M or XL

#### THE +

- 1 Kit adapted with the live line working requirements on the aerial LV and MV networks.
- 2 The harness support belt can be rotated up to 180°.



# Equipment for working on pole : kits

## KIT FOR WORKING ON SUPPORTS OF CATERARIES

Equipment suitable for work on pylons or pole supporting catenaries.

Composition	Reference: KIT-HAUT-03-(*)
MO-563-A	1 pro electrician fall protection harness with 2 anchoring points and support belt for work
MO-68/15	1 mobile fall protection on rope length of 15 m
MO-54020	1 double insulated fall protection lanyard with shock absorber, length of 1.5 m
MO-56009	1 support lanyard with tensioner, length 2 m
M-87295	1 carrying bag

(\*) Reference to be completed by size M or XL

### THE +

- 1 Kit adapted for the requirements of railway overhead networks.
- 2 The harness support belt can be rotated up to 180°.



MO-563

MO-54020



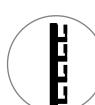
MO-68/15



MO-56009



M-87295



## KIT FOR WORKING ON PYLONS AND METALLIC STRUCTURES

Equipment suitable for working on all types of pylons, metal structures, antenna supports or metal poles.

Composition	Reference: KIT-HAUT-04-(*)
MO-565	1 pro electrician fall protection harness with 2 anchor points and 1 ventral attachment point and work support belt
MO-68/15	1 mobile fall protection on rope length of 15 m
MO-54010	1 double fall protection lanyard with shock absorber, length 1.2 m
MO-56009	1 support lanyard with tensioner, length 2 m
MO-52031	1 anchor tie of 0.8 m length
M-87295	1 carrying bag

(\*) Reference to be completed by size M or XL

### THE +

- 1 Kit adapted to the requirements of the aerial networks on all types of pylons.
- 2 Optimal comfort harness.



MO-565

MO-54010



MO-68/15



MO-56009



M-87295



MO-52031



## Equipment for working on pole : harness and anti-fall

### TOOL BAG FOR SAFETY HARNESS

2 pocket leather pouch.  
Seam and rivet assembly.

Reference	mm	kg
MO-32/3	270 x 230 x 100	0.835



### ANTI-FALL GRIP

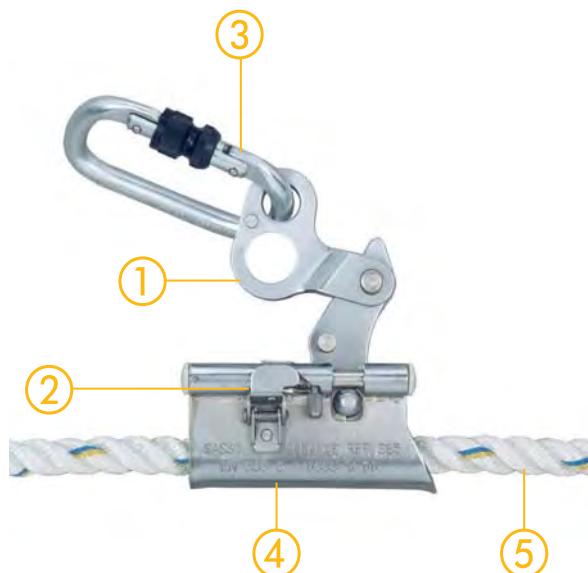
"ROP CHUCK" FALL ARREST. Uses special Ø 15 mm rope exclusively with a spliced upper end. To be used with a harness.

Reference	Semi-static rope		kg
		mm	
MO-68/10	10 m	15	4
MO-68/15	15 m	15	6

Delivered complete only.

#### THE +

- 1 Work from the bottom to top without the operator's manual intervention.
- 2 Fall Arrest Falls are instantly blocked with the lifeline. It remains locked until it is unlocked.
- 3 Anchor connector to harness.
- 4 Double lock bracket.
- 5 Rope.



EN 353-2



### FALL ARRESTER ON ROPE

To be used with harness and security rope Ø 11 mm.

Reference	Semi-static rope		Static resistance	kg
		mm		
MO-69/10	10 m	11	≥ 15 kN	4
MO-69/15	15 m	11	≥ 15 kN	6
MO-69/20	20 m	11	≥ 15 kN	8

#### THE +

- 1 Suitable for working on inclined planes.
- 2 Fall protection device for rope with automatic locking system.
- 3 Support the rise/ascent without manual intervention. Must be supported on descent.
- 4 Semi-static rope.



N 353-2



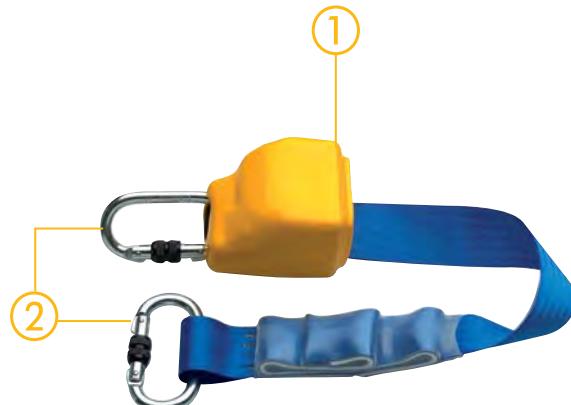
# Equipment for working on pole : anti-fall and tether

## ANTI-FALL DEVICE WITH AUTOMATIC RELEASE STRAP

Reference	Anti-fall	Static resistance	kg
MO-591000	2 m	≥ 15 kN	1.16

### THE +

- 1 Fall protection: automatic locking retractable strap, equipped with a shock absorber.
- 2 Snap hook anchor with harness.



EN 360



## FALL ARRESTER RETRACTABLE TYPE

Reference	Cable	Static resistance	kg
MO-591002	10 m	≥ 12 kN	5
MO-592002	20 m	≥ 12 kN	7

### THE +

- 1 Integrated braking mechanism and dissipating element. Self locking mechanism and automatic tensioning and return facility.
- 2 Snap hook.



EN 360



## ANTI-TRAUMA SECURITY STRAPS

The straps are equipped with loops for the feet allowing the operator to stand straight. This relieves the pressure on the arteries that surround the upper legs. The two straps can be bonded together by a quick coupling.

Product composed of a pair of straps. Each strap is folded in a fabric case.

Each strap, in its case, attaches directly to the harness. The compact and lightweight product has no discomfort while working with harness.

Quick and easy installation of the device after the fall operator.

Reference	↔	kg
SO-10	maxi: 1.3 m	0.2



Dimensions



Weight



Total length



Diameter



## Equipment for working on pole : anti-fall and tether

EN 358



### EQUIPPED ROPE STRAPS WITH LEVER STRETCHER

Anchorage with the support belt by quick link.

For maintenance work function.

Reference	Characteristics	
MO-52-L*	Length: 4 m	1
MO-61	Stretcher only	0.450

\* Equipped with adjuster



### Lanyard Protector

Reference	Characteristics	
MO-52-P	Chrome leather sleeve	95 cm

### TETHER ROPE EQUIPPED WITH A TENSION DEVICE

Ideal for all horizontal works, and maintaining at work.

Reference			
MO-56009	2 m	12	0.750
MO-56010	5 m	12	1

### THE +

- ① Tensioning device: A double-locking system instantly stops the rope.
- ② Polyamid rope.
- ③ Connector made of light alloy with double safety.

EN 358



### DOUBLE TETHER ROPE WITH ENERGY ABSORBER

Fall protection function.

Reference				
MO-52020	Length: 1.5 m	3 m	$\geq 22 \text{ kN}$	1.1
MO-52021	Length: 2 m	3.5 m	$\geq 22 \text{ kN}$	1.2

### THE +

- ① Equipped with 2 steel snap hooks with automatic locking.
- ② Strap adjuster.
- ③ 1 steel snap hook with screwing locking.
- ④ Tether rope with energy absorber. Ø 14 mm.

EN 355



# Equipment for working on pole : tether and safety line

## STRETCHABLE SHOCK-ABSORBING LANYARD

Fall protection function.

Reference	Strap		$\vec{F}$	kg
	Rest	Stretch		
MO-52040	1.25 m	1.75 m	$\geq 22 \text{ kN}$	0.7

### THE +

- ① Strap adjuster.
- ② Connector, with automatic locking system, opening: 19 mm. For harness connection.
- ③ Connector, with automatic locking system, opening: 54 mm.

## INSULATING ENERGY ABSORBING FORKED LANYARD WITH BUCKLES

Fall protection function. Two locking connectors  
Automatic, opening 54 mm.

Reference	$\leftrightarrow$	$\vec{F}$	kg
MO-54020	1.5 m of straps	$\geq 22 \text{ kN}$	1.5

### THE +

- ① Fully insulating.
- ② Isolated connectors with automatic locking.  
Opening 54 mm.
- ③ Double insulated lanyard with buckles for anchors.  
Multiple on each strap.

## FORKED LANYARD WITH ENERGY ABSORBER

Fall protection function.

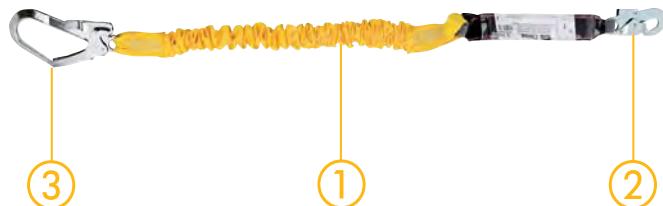
Reference	$\leftrightarrow$	$\leftrightarrow$ after rupture	$\vec{F}$	kg
MO-54010	1.2 m of straps	3 m	$\geq 22 \text{ kN}$	1.4

### THE +

- ① Equipped with 2 steel snap hooks with automatic locking.
- ② 1 steel snap hook with screwing locking.
- ③ Double tether rope with energy absorber.

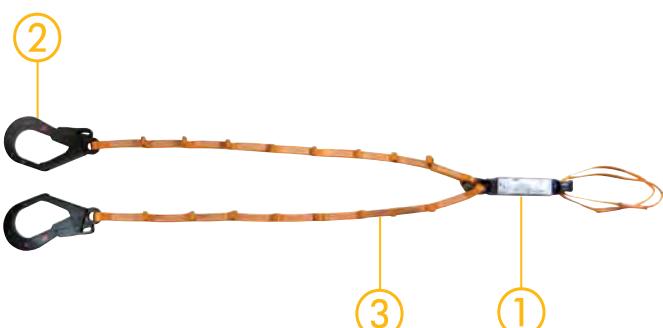
$\vec{F}$  Resistance

Dimensions    Weight     $\leftrightarrow$  Total length     $\odot$  Diameter



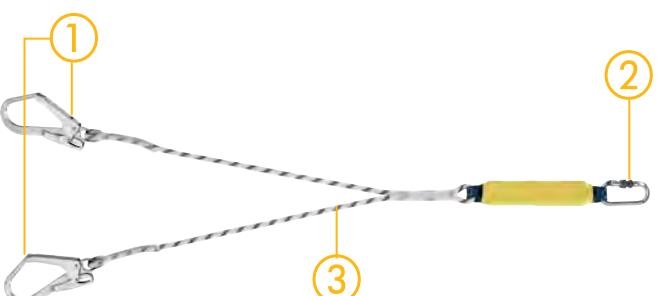
EN 355

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EN 355

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EN 355

CE





## Equipment for working on pole : tether and safety line

EN 355



### FORKED STRETCHABLE SHOCK-ABSORBING LANYARD

Fall protection function. For connection to structures.

Reference	Strap		$\vec{F}$	kg
	Rest	Stretch		
MO-54040	1.25 m	1.75 m	$\geq 22 \text{ kN}$	1.5

#### THE +

- ① Stretchy straps.
- ② Expandable connectors with automatic locking, Opening 54 mm.
- ③ One connector with automatic locking. Opening 19 mm. For connection on harness.



### DOUBLE LANYARD

Can be connected to the harness by locking steel screw karabiners.

Reference	$\leftrightarrow$	$\emptyset$ mm	kg
MO-53010	2 x 1 m	12	1.4

#### THE +

- ① Double-latch karabiner, 54mm opening.
- ② Two-strand nylon lanyard



### MOBILE SAFETY LINE

Easy and quick to set up, this line can be used by 2 people. It is equipped with a tension device. This safety line is designed for short operations. The users can then hook themselves to the safety line using a fall arrest device or a shock absorbing lanyard. When using a shock absorbing lanyard, allow for at least 7 meters clearance.

Reference	$\leftrightarrow$	$\vec{F}$	kg
MO-53002	5 to 20 m	10 kN at each anchor point	2.8

#### THE +

- ① Flexible implementation.
- ② Anchor ties with connectors.
- ③ Adjustable strap tensioner.



EN 795



# Equipment for working on pole : ropes and snap hooks

## SAFETY ROPE WITH WEAR TELL TALES

Two-colour safety rope, 100% polyester made of 3 white strands with black central thread.

Reference	↔	∅ mm	F →	kg
MO-052	4 m	15	≥ 22 kN.	0.8

### THE +

- ① Static rope with wear indicator.
- ② Buckle with plastic reinforcement.

EN 354



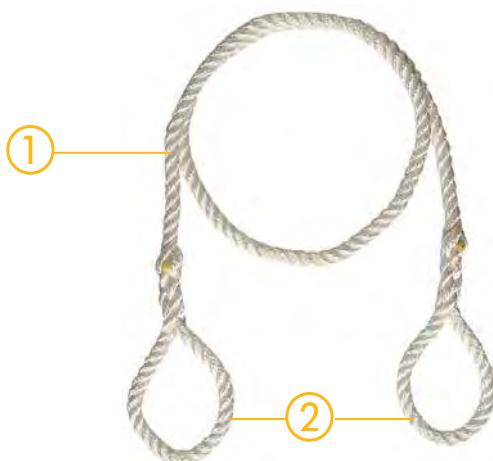
## LANYARD

Reference	↔	∅ mm	F →	kg
MO-53	1.5 m	10	≥ 22 kN	0.2

### THE +

- ① Synthetic fibre ropes.
- ② Loops spliced at both ends.

EN 354



## DOUBLE SAFETY DESCENT DEVICE

Double safety manual descent device. Works on a static 11mm lanyard. Its ergonomic shape improves the self-adjusting descent.

Reference	∅ Lanyard mm	kg
MD-02	11	0.4

### THE +

- ① Stainless steel piece.
- ② High-resistance handle. Anti-panic and anti-faint (auto-locking).

EN 341-A



F → Resistance



Dimensions



Weight



Total length



Diameter



## Equipment for working on pole : snap hooks

### ASCENSION BLOCKER

Blocking handle allows the operator to climb along a rope.

Reference	Characteristics	kg
MD-03	For ropes of Ø 8 to 13 mm.	0.2

#### THE +

- ① Light alloy.
- ② Blocking of the rope by retractable trigger.



EN 567



### SNAP HOOKS

Reference	mm	F	mm	g
MO-54	18	20 kN	100 x 58 mm	154
MO-55/1	28	20 kN	155 x 75 mm	140
MO-54000	19	20 kN	100 x 58 mm	78
MO-54004	23	20 kN	120 x 72 mm	87

#### THE +

- ① Locks with threaded ring.
- ② Additional catch is provided to prevent the rope from slipping in the carabiner.
- ③ D-shaped snap hook with automatic locking.



EN 362



# Equipment for working on pole : snap hooks and anchoring accessories

## SEMI-ROUND QUICK LINK

For long-term or permanent fixing point.

Reference	Large axis	minor axis*	g
MO-54-D	25 kN	10 kN	75

\*Clasp closed.

### THE +

- 1 Opening 10 mm.
- 2 Semi-round ring Ø 8 mm mini. Made of steel treated against corrosion.



EN 362 - Class Q



## SAFETY CONNECTORS WITH DOUBLE LATCH

To be fixed at the end of the lanyard.

Reference	mm	F	kg
MO-54002	50 mm	20 kN	0.4
MO-54002/1	60 mm	20 kN	0.25
MO-54002/2	100 mm	20 kN	0.53

### THE +

- 1 Made of aluminium alloy except MO-54002.
- 2 Automatic double latch lock.



EN 362 - Class A



## ANCHORAGE HOOK

Hook for frequent connections on tubular structures.

Reference	mm	F	kg
MO-54005	100 mm	20 kN	0.35

### THE +

- 1 Stainless steel wire Ø 6 mm.
- 2 Large opening by manual pressure.



EN 362 - Class A



Dimensions



Weight



Maximal opening



Resistance



# Equipment for working on pole : snap hooks and anchoring accessories

## SNAP HOOK WITH STICK ADAPTOR

To fix a life line from the ground. Snap hook to be operated with a stick and unlocking using a cord.

### Connector with stick adaptor

Reference	mm	Type	kg
MO-54005-C	110	C End fitting	0.47
MO-54005-K	110	K End fitting	0.47

### Telescopic stick

Reference	Deployed Length m	Folded length m	kg
CE-5-105-X	10.75	1.66	5.4
CE-5-90-X	9.25	1.61	4.2
CE-5-70-X	7.8	1.56	3.3
CE-5-60-X	6.4	1.51	2.5
CE-5-50-X	5	1.46	1.9

X: Tip type to be specified when ordering.  
(K: universal, C: hexagonal)

### THE +

- 1 Allows to lay a lifeline remotely.
- 2 Connector equipped with adapter for pole.
- 3 Telescopic pole up to length of 10.75 m.
- 4 Diam. 25 for fixing lifeline.

## CONSTRAINT TIE

EN 795



MO-5203...



### Mobile

Mobile anchor point designed to work on wood or concrete pole..

Reference	Total length	F <sub>Max</sub>	g
MO-52031	0.8 m	20 kN	100
MO-52033	1.20 m	20 kN	135
MO-52034	1.50 m	20 kN	150

### THE +

- 1 Used as fall protector during the 1st climb on Wood / concrete pole.
- 2 Anchor buckle with the harness.
- 3 90 mm wide polyester strap with reinforcement.



MO-52030-P

# Equipment for working on pole : climbers and accessories

## CLIMBERS

Mechanical climbers for round and hexagonal concrete poles

Reference	Pole mm	Pole kg
MO-16-A	140 > 300	6.5

Delivered by pair.

Forged steel climbers for round wooden poles

Reference	Pole mm	Pole kg
MO-24	200	2.6
MO-25	250	2.8
MO-26	300	3
MO-35	350	3.2

Delivered by pair.

Climbers for steel beams

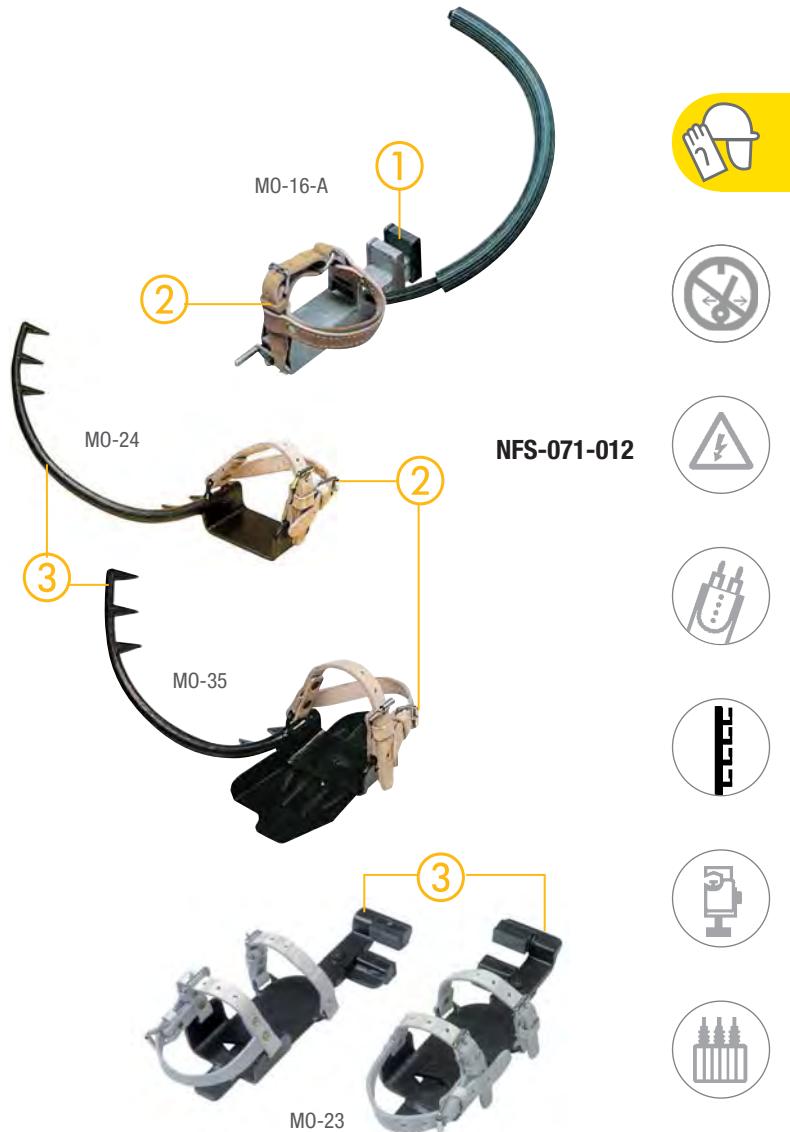
Shayed IPN, H ou L.

Reference	mm	kg
MO-23	5 to 20	5.1

Delivered by pair.

### THE +

- ① Adaptable to the pole diameter.
- ② Leather belts with cast buckles.
- ③ Hard forged steel.



## MECHANICAL CLIMBERS FOR RECTANGULAR SHAPED CONCRETE POLES

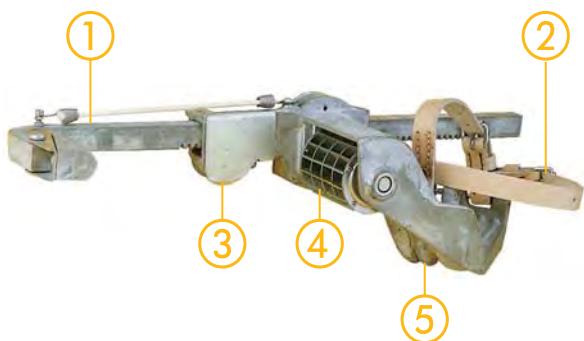
For rectangular shaped concrete poles.

Reference	Pole width	kg
MO-17-A	14 to 42 cm	9

Delivered by pair.

### THE +

- ① Automatic locking of jaws by elastic cord.
- ② Sole in aluminium alloy, high resistance, with leather belts and steel buckle.
- ③ High resistance aluminium alloy rack, used for clamping onto poles 14 to 42 cm wide.
- ④ Mobile drum on axis can be removed; processed steel rollers.
- ⑤ Wear plate placed on sole arm.



### Spare parts

Reference	Characteristics
MO-17-01	Pair of elastic cords
MO-17-02	Pair of wear plates
MO-17-03	Blade roller
MO-17-04	Pair of runners



# Equipment for working on pole : insulating ladders

## SECURITY INSULATING LADDERS

Work on or near electrical works and electrical installations maximum voltage of 1000 V AC or 1500 V DC.  
Minutes N° NF 930-03/01/29 L.N.E / AFNOR showing compliance with EN-131 and the mark "NF" (Quality Label).

### A complete range to high specifications:

- Nominal insulation between 2 bars after immersion in water: 10 000 V (EN 50528).
- High mechanical resistance to bending and torsion.
- Good strength / mass.
- Marking of information for use.
- High resistance to weather and corrosive elements and fire.
- The maximum working load 150 daN.



## INSULATING LADDERS

Comes with right horizontal stabilizer.

### Simple ladders

Reference		Numbers of rungs	
MP-602-D	2.41 m	8	6
MP-603-D	2.97 m	10	9
MP-604-D	4.09 m	14	10
MP-605-D	4.93 m	17	12



### 2 sections extention ladders

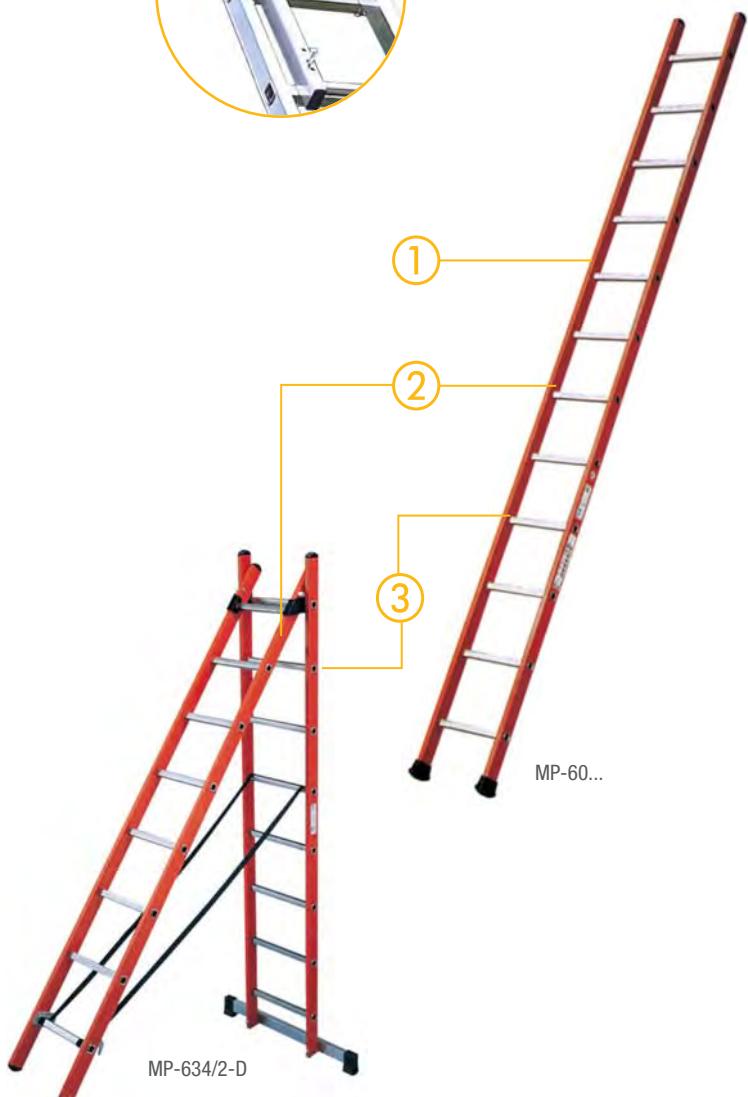
Reference			Numbers of rungs	
MP-620-D	-	1.02 m	2 x 4	5.6
MP-624/2-D	2.41 m	4.09 m	2 x 8	14.9
MP-634/2-D	2.70 m	4.65 m	2 x 9	17

### Optional accessories:

Cradle support post and front Wheel MP-46503.

## THE +

- 1 For working live LV.
- 2 Lateral risers in polyester/ glass fiber rectangular section 70 x 25 mm. Aluminium alloy rungs with square.
- 3 29 x 29 mm section and anti-slip coating.



# Equipment for working on pole : insulating ladders

## INSULATING SLIDE LADDERS

Agreement EDF/SPS N° B 216 - 0 - 635.

### 2 sections extension ladders, hand operated

Reference	Folded	Extended	Numbers of rungs	kg
MP-514/2	2.41 m	4.09 m	2 x 8	13.9
MP-515/2R	2.70 m	5.21 m	2 x 10	17

### 2 sections extension ladders, rope and pulley operated

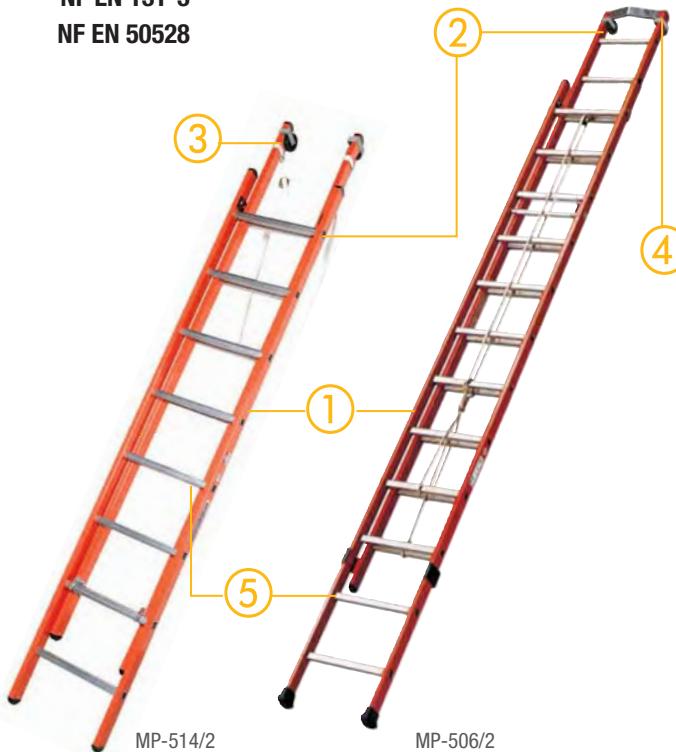
Reference	Folded	Extended	Numbers of rungs	kg
MP-506/2	3.53 m	6.05 m	2 x 12	22.9
MP-508/2	4.66 m	8.30 m	2 x 16	35.4
MP-509/2	5.22 m	9.14 m	2 x 18	39.3
MP-510/2	5.78 m	10.26 m	2 x 20	43
MP-510/2-IQ	6 m	10.4 m	2 x 19	41

Ladders come with cradle, strap and front wheels.

## THE +

- ① For working live LV.
- ② Lateral risers in polyester/ glass fiber rectangular section 70 x 25 mm. Aluminium alloy rungs with square.
- ③ Wheels.
- ④ Wheels + cradle.
- ⑤ 29 x 29 mm section and anti-slip coating.

NF EN 131-1  
NF EN 131-2  
NF EN 131-3  
NF EN 50528



## STANDARD EXTENSION LADDERS

Ladders for electrical work at height. Maximum load: 150 daN. Anti-slip aluminum rungs.

### 2 sections extension ladders, rope and pulley operated

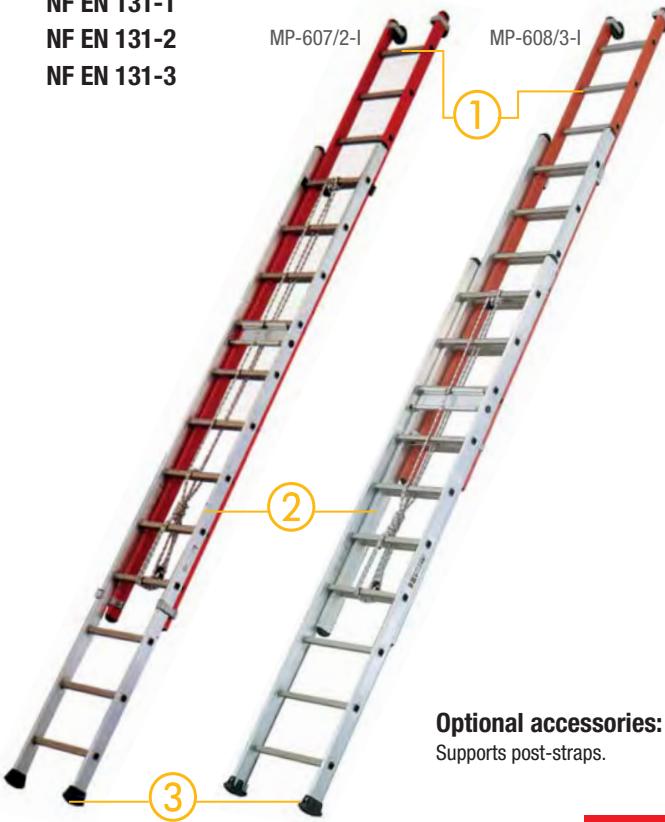
Reference	Folded	Extended	Numbers of rungs	kg
MP-607/2-I	4.66 m	8.02 m	2 x 16	30.2
MP-608/2-I	5.22 m	9.14 m	2 x 18	34.4
MP-609/2-I	5.78 m	9.98 m	2 x 20	37.8

### 3 sections extension ladders, rope and pulley operated

Reference	Folded	Extended	Numbers of rungs	kg
MP-607/3-I	2.98 m	6.89 m	3 x 10	24.6
MP-608/3-I	3.82 m	8.86 m	3 x 13	34.6

Ladders delivered with cradle, strap and front wheels

NF EN 131-1  
NF EN 131-2  
NF EN 131-3



Optional accessories:  
Supports post-straps.

## THE +

- ① Superior element lateral risers in polyester/ glass fiber.
- ② Lower element in aluminium alloy.
- ③ Insulation polyamide hooves



# Equipment for working on pole : insulating ladders and stepladders

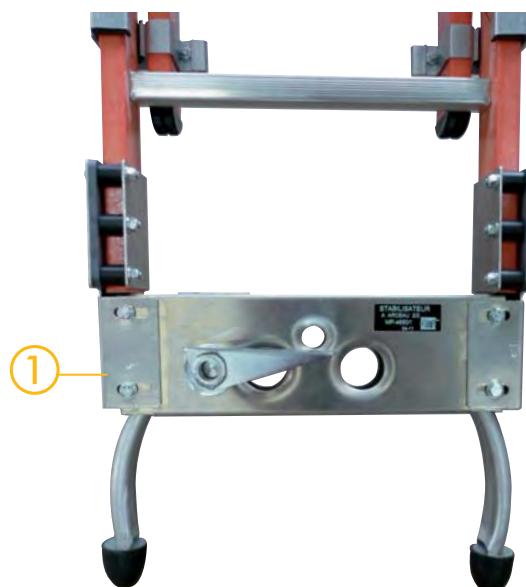
## STABILIZING COMPENSATOR LADDER

Stabilizer set to low level. Compensates for differences in height between the two uprights.

Reference	Spacing	Length	Spacing	For ladders	<b>kg</b>
MP-46500	30	50 to 70	390 to 440	MP-602-D • MP-603-D MP-604-D • MP-605-D MP-506/2 • MP-514/2 MP-515/2	4.4
MP-46501	35	75 to 95	420 to 470	MP-508/2 • MP-509/2 MP-510/2	4.7

### THE +

- 1 Setting lever lock / unlock.



## INSULATING STEPLADDERS

Compact stepladders with insulating uprights reinforced polyester fiberglass with light alloy steps to work at height. Insulation between two steps: 30 000 V. Maximum load: 150 daN. Anti-pinch finger joints.

Reference	Nbr steps	Height Access (m)	Height folded (m)	Height based feet (m)	<b>kg</b>
MP-700-4	3	2.58 m	1.39 m	0.68 m	5.9
MP-700-1	4	2.81 m	1.64 m	0.91 m	6.9
MP-700-2	5	3.04 m	1.89 m	1.14 m	8
MP-700-3	6	3.27 m	2.14 m	1.37 m	9.4
MP-700-5	7	3.50 m	2.39 m	1.60 m	11

### Optional accessories:

Replacement kit clogs slip MP 700-100.  
Replacement Kit toolholders MP 700-200.

### THE +

- 1 Railing equipped with a toolholder (height 600 mm).
- 2 Slimline 8.8 cm.
- 3 Large uprights

NF EN 131  
NF EN 50528



# Equipment for working on pole : insulating ladders and stepladders

## HOOVES AND DOOR INSULATION KITS TOOLS FOR INSULATING STEPLADDERS

Reference	Dimensions	Weight
MP-700-100	150 x 150 x 60 mm	0.1
MP-700-200	280 x 150 x 100 mm	0.2

\* Blister. \*\* Maximum load: 10 kg.



MP-700-100



MP-700-200

## FOLDING STEPLADDER WITH RAILING

Secure non-insulating platform. Maximum working load 150 daN. Rung footrest tested 260 daN.

Reference	Nbr steps	Height Access	Height folded	Height based feet	Weight
MP-700-6	4	2.93 m	1.48 m	0.93 m	19.5

### THE +

- ① Seat belt.
- ② Skirting on three sides.
- ③ Casters.



Decrees 2004-924  
6548 PIRL  
NFP 93 353



Dimensions  
mm

Weight

Diameter



# Work at height : ladders and accessories

## STACKABLE LADDERS ELEMENTS

Metallic elements: NF C 18-430. Upright duralinox.  
Insulation elements: IEC-61478 Class I. Glass-epoxy – non-slip bars, Orange color T.S.T. - B.T / H.T.A.

Reference	Elements type	↔	Nbr steps	kg
MP-402-MB	Metallic basic *	2.10 m	7	5.4
MP-403-MB		3 m	10	7.6
MP-402-MI	Metallic intermedia.	2.10 m	7	4.8
MP-403-MI		3 m	10	7
MP-501-D	Insulating BT / HTA	1.20 m	4	3.3
MP-502-D		2.10 m	7	5.8
MP-503-D		3 m	10	8.3

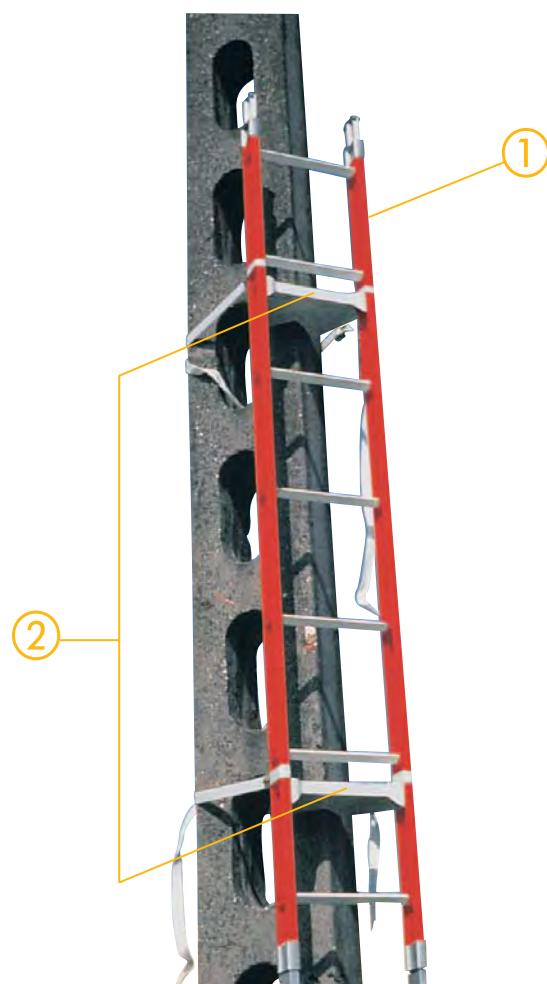
\* Telescopic Feet.

### Accessories or spare parts

Reference	Characteristics
MP-400	Set of 2 straps without screws
MP-400-2	Cradle replacement

### THE +

- ① Metallic or insulating elements assembly with ferrules providing truncated pyramid accurate editing, secure and safe blocking.
- ② Cradles with straps for attachment to each element.



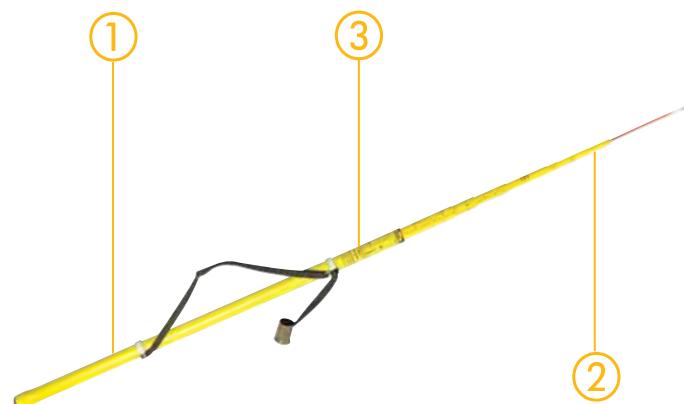
## TELESCOPIC MEASURING STICKS

Measuring sticks for the height of conductors networks. Measurements can be made under tension (under the prescription **UTE 18-510**).

Reference	Characteristics
MO-831	Model LV-MV - EDF SPS Approval 18-132 A Max. 11 m - Length folded 1.5 m Usable on a 50 kV max. - 3.3 kg
MO-832	Transportation model HV - Max. 12 m Used on <b>LV</b> , <b>MV</b> and <b>HV</b> systems up to 220 kV Identical to other MO-831 features 2 live line elements
M-95-236	Measuring gauge diameters (3-20 mm)

### THE +

- ① 8 telescopic sections of insulated polyester glass, graduated and operated by a push-button mechanism
- ② Upper portion made of IEC 60855 orange reinforced synthetic material.
- ③ Direct Reading at the top of the 1st section of the stick, from 2.65 to 11 or 12 m. Graduation in m, dm and cm.



## INSULATOR COVER

ST TST BT N°435 specification. For LV insulator. Synthetic orange colour rubber.

Reference	Characteristics			
MP-22	Line insulator	H 150 mm	110	0.47
MP-23	Dead end insulator	H 210 mm	180	1.1



## BAG FOR INSULATOR COVER

Steel suspension hook. Reinforced button and rope handle.

Reference		
MP-50	Ø 300 x H 400	0.65

### THE +

- ① Strong waterproof.



## END CAP FOR CONDUCTOR CABLE

ST TST BT N°430 specification. Insulation of bare ends of LV cables

Reference		Ext mm		In mm		Section mm <sup>2</sup>
MP-26-A	10		6.5		6 cm	4 to 10 mm <sup>2</sup>
MP-26-B	15		11		10 cm	10 to 35 mm <sup>2</sup>
MP-26-C	20		15		12 cm	16 to 70 mm <sup>2</sup>
MP-26-D	25		20		12 cm	25 to 120 mm <sup>2</sup>
MP-26-E	35		30		12 cm	to 300 mm <sup>2</sup>

### THE +

- ① Cylindrical cap made of flexible insulating material.
- ② With cross-shaped opening.



## FLEXIBLE - TYPE CONDUCTOR COVER

ST TST BT N°440 specification. For LV conductors. Shape type Ω, thickness 3.3 mm. For conductor Ø 16 mm max.

Reference		
MP-32/10	1 m	0.4
MP-32/15	1.5 m	0.6
MP-33	3 m	1.2



## FLEXIBLE - TYPE CONDUCTOR COVER

ST TST BT N°445 specification. For overhead network (< 1000 V). For conductor Ø 20-22 mm.

Reference	Characteristics	
MP-31	Spiral shape type 5 m	0.6
MP-59	Indent tool for MP-31	0.18





# Insulating flexible blanket

## ELECTRICAL INSULATING BLANKET

The electrical insulating blanket is used for the protection of workers from accidental contact with live or earthed electrical conductors, apparatus or circuits and avoidance of short circuits on electrical installations.



## ACCESSORIES SEE PAGE 70

Clamp and adhesive tape.



## ELECTRICAL INSULATING BLANKET IN ACCORDANCE WITH IEC 61112 STANDARD

According class 0 specifications. Operating voltage: 1000 V AC and 1500 V DC.

In accordance with specific properties:

**Category A: acid resistant.**

**Category C: resistant to very low temperature (-40°C).**

**Category H: oil resistant.**

### Recommendations for use

#### Storage/Transport

Insulated blanket should be properly stored to avoid the risk of damage to the insulating material. Do not store or use close to excessive heat. Do not expose to direct sunlight for long period. Storage temperature: 10°C to 21°C.

#### Before use

Insulating blanket cut from a roll should keep visible markings. Each side of the blanket should be visually inspected by the user. The insulating blanket must not have tears or holes. If the blanket is dirty, wash it with soap and water. Dry it with respect of using temperatures.

#### In use

Operating temperatures: -40°C to +55°C. Avoid contact with chemical products. Do not walk on the insulating blanket.

#### Periodic inspection

Insulating blanket should not be used without having been electrically tested within twelve months preceding with the exception of class 00 and 0. Only visual inspection is required for class 00 and 0.

## INSULATING FLEXIBLE BLANKET

Polyvinyl in roll. IEC 61112 – class 0 ☀

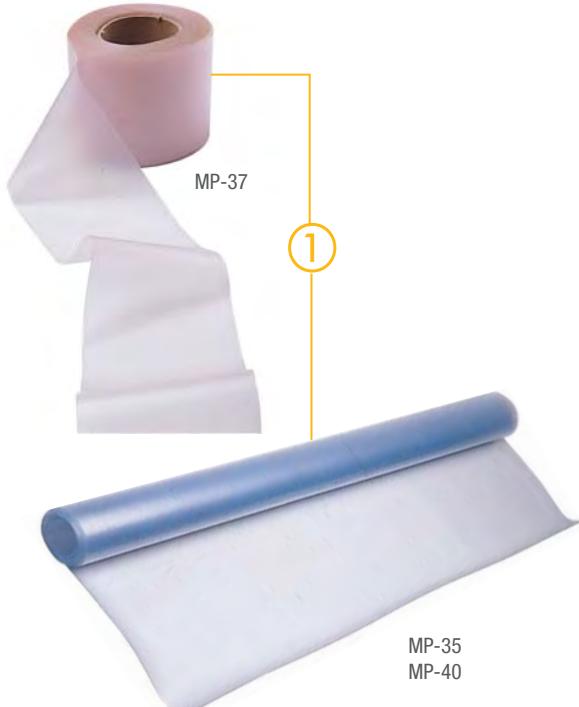
Reference	Class	Voltage	Voltage		é mm	kg
MP-35	0	< 1000 V	< 1500 V	1.3 x 25	0.3	12
MP-35/12	0	< 1000 V	< 1500 V	1.3 x 12.5	0.3	6
MP-37	0	< 1000 V	< 1500 V	0.09 x 25	0.3	0.8

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

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

### THE +

- 1 Flexible translucent polyvinyl. Fastening with clamps or adhesive tape.



## INSULATING FLEXIBLE BLANKET ORANGE RUBBER

IEC 61112 – class 0 ☀

Reference	Class	Voltage	Voltage		é mm	kg
MP-220	0	< 1000 V	< 1500 V	1 x 1	1	1.5
MP-220/1	0	< 1000 V	< 1500 V	1 x 10	1	15

### THE +

- 1 High resistance with perforation.



## INSULATING FLEXIBLE BLANKET REINFORCED POLYVINYL

Individual model. IEC 61112 – class 0 ☀

Reference	Class	Voltage	Voltage		é mm	kg
MP-123	0	< 1000 V	< 1500 V	360 x 660	0.5	0.15
MP-123/1	0	< 1000 V	< 1500 V	500 x 900	0.5	0.3
MP-123/2	0	< 1000 V	< 1500 V	800 x 1200	0.5	0.6

### THE +

- 1 Translucid polyvinyl. Reinforced by a grid of synthetic fibre.
- 2 The «Velcro™» type allows the flexible blankets to be closed by pressing the edges together. Several flexible blankets can also be connected in this manner.





## Cover-up equipment

### BLANKET CLAMP

ST TST BT N°415 – Class 0

Reference	mm		g
MP-4110	160	1	60
MP-41530	65	12	10



DIN VDE 0680-1 – Class 0

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



### THE +

- 1 Insulating plastic clamp with spring.
- 2 Bimaterial insulating clamp.
- 3 Fully insulating pliers.
- 4 Great pinching force.

### ELECTRICAL ADHESIVE TAPE

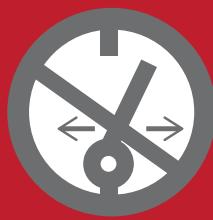
High quality electrical insulation tape which is self-extinguishing. Class 0

Reference	m	
MP-19-LOT	0.015 x 10	Set of ten rolls*

IEC EN 60454

\* Brown, yellow, red, orange, blue, white, black, green, green/yellow, grey.





# Locking

<b>Locking padlocks</b>	<b>73</b>
<b>Multiple lockers</b>	<b>76</b>
<b>Circuit breaker lockers</b>	<b>78</b>
<b>Padlock stations</b>	<b>80</b>
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<b>Lock-out kits</b>	<b>85</b>





# LOCKING, an essential stage for lockout.

## Depending on the environments, default lockout accidents are caused by the:

- Continued presence of live conductor parts for electrical installations.
- Presence of pressurized fluids (hydraulic circuits).
- Presence of unstable mechanical systems.

The corresponding recommendations must be applied for each risk, but in all cases specific locking with regard to the risk considered must be set up.

Sometimes the overall analysis of risks reveals a combination of the different risks which makes a more extensive locking operation mandatory. This is especially the case with electricity production equipment.



## What does locking mean?

The purpose of locking is to separate cut off or neutralisation parts with a suitable, and sufficiently protected system to prevent any operation by unauthorised persons (switching on power for an electrical installation). Locking is generally accompanied by signs.

For the electrical domain, setting up and removing the lockout are described in national and European standards (EN50110-1).

For electricity production equipment.

More generally, the safety recommendations are included in Directive CE7: 2009/104/EC on the minimum health and safety recommendations for using work equipment



# Locking padlocks

## THE + RANGE

- For all locks A-76230 additional key (specify the key number). Anti-corrosion brass handle.
- Marking on both surfaces: standardized symbol/User identity.

### SPECIAL MODELS WITH PICTOGRAMS

Reference	Shackle mm	∅ mm	g
AL-230-(**)-EX	50	6	204
AL-230-S-(**)-EX	70	6	214
AL-230-Z-EX	50	6	204
AL-230-S-Z-EX	70	6	214
AL-240-(**)-EX	50	4	192
AL-240-S-(**)-EX	70	4	198
AL-240-Z-EX	50	4	192
AL-240-S-Z-EX	70	4	198

(\*\*) Add key number : 111 or 222...



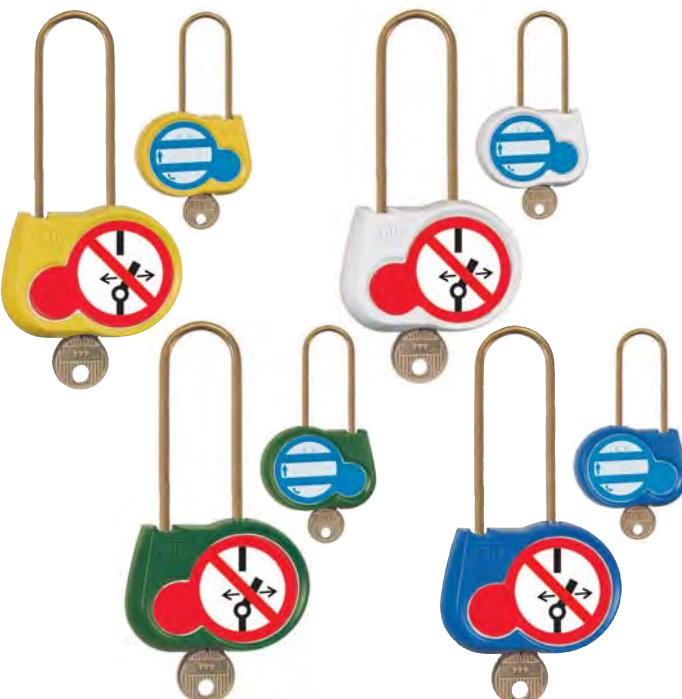
AL-230... -EX

AL-240... -EX

### COLOUR MODELS

Reference	Shackle mm	∅ mm	Colour	g
AL-240-B-111-EX	50	4	○	192
AL-240-B-Z-EX	50	4	○	192
AL-240-B-00-EX	70	4	○	192
AL-240-S-B-111-EX	70	4	○	198
AL-240-S-B-00-EX	70	4	○	198
AL-240-J-111-EX	50	4	■	192
AL-240-J-Z-EX	50	4	■	192
AL-240-J-00-EX	50	4	■	192
AL-240-S-J-111-EX	70	4	■	198
AL-240-S-J-00-EX	70	4	■	198
AL-240-BL-111-EX	50	4	●	192
AL-240-BL-Z-EX	50	4	●	192
AL-240-BL-00-EX	50	4	●	192
AL-240-S-BL-111-EX	70	4	●	198
AL-240-S-BL-00-EX	50	4	●	198
AL-240-V-111-EX	50	4	■■	192
AL-240-V-Z-EX	50	4	■■	192
AL-240-V-00-EX	50	4	■■	192
AL-240-S-V-111-EX	70	4	■■	198
AL-240-S-V-00-EX	70	4	■■	198

(\*) Key on request.



### MODELS WITH INSULATED SHACKLE

Shackle covered with insulating red PVC. With insulating red PVC 1000 V AC.

Reference	Shackle mm	∅ mm	Colour	g
AL-260-(**)-EX	50	6.2	●	200
AL-260-00-EX	50	6.2	●	200
AL-260-Z-EX	50	6.2	●	200
AL-260-S-(**)-EX	70	6.2	●	210
AL-260-S-00-EX	70	6.2	●	210
AL-260-S-Z-EX	70	6.2	●	210

(\*\*) Add the key numbers 111 or 222 only.



AL-260... -EX

AL-260-S... -EX

**For any padlock** A-76230 Additional key (specify key number)

Weight

Total height

Diameter

Locking / Locking padlocks

**CATU**<sup>TM</sup>

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## Locking padlocks

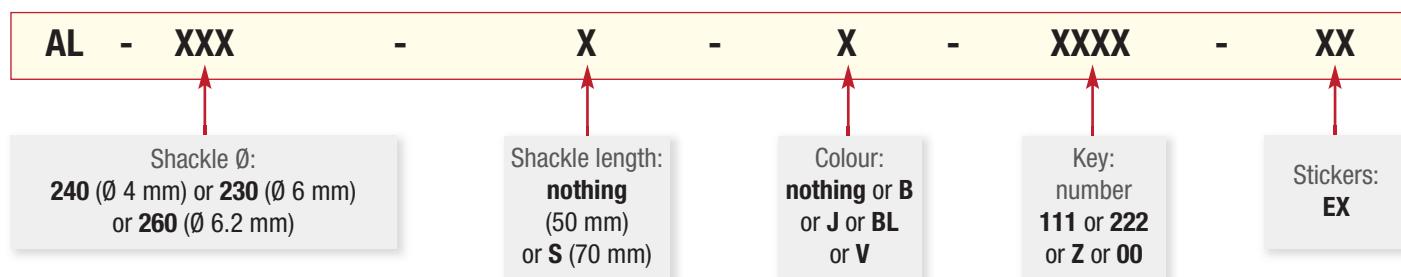
Choose your locks!

### A COMPLETE LINE OF AL PADLOCKS TO MEET ALL OF YOUR NEEDS

Shackle diameter			Shackle length		Body colours					Keys			Stickers
Ø 6.2 mm	Ø 4 mm	Ø 6 mm	50 mm	70 mm	Red	White	Yellow	Blue	Green	Standard	Random	Upon request	Picto
<b>260</b>	<b>240</b>	<b>230</b>	—	<b>S</b>	—	B	J	BL	V	(**)	Z	OO	EX
Aro aislado													

### TO ORDER YOUR PADLOCKS

Bill of material as a reference for your padlocks:



#### 1<sup>st</sup> example :

Insulated shackle Ø 6.2 mm ..... **AL-260**  
 Shackle Lg 50 mm ..... —  
 Standard colour (red) ..... —  
 Key n°222 ..... **222**  
 Sticker with picto ..... **EX**  
 Your reference: **AL-260-222-EX**



#### 2<sup>nd</sup> example :

Shackle Ø 4 mm ..... **AL-240**  
 Shackle Lg 70 mm ..... **S**  
 Colour blue ..... **BL**  
 Key upon request ..... **OO**  
 Sticker with picto ..... **EX**  
 Your reference: **AL-240-S-BL-OO-EX**



### Codes or key numbers

(\*\*) : Key number 111 or 222.

**Z** : Number of random key (at random).

**OO** : Key number on request.



## TABLES OF POSSIBLE COMBINATIONS

		AL-240 ( $\varnothing$ 4 mm)								AL-230 ( $\varnothing$ 6 mm)											
Key	Sticker	-	B	J	BL	V	-	B	J	BL	V	-	B	J	BL	V	-	B	J	BL	V
(**)		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Z		•	•	•	•	•	•	•	•								•	•			
00		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

		AL-260 ( $\varnothing$ 6.2 mm - insulated shackle)									
Key	Sticker	-	B	J	BL	V	-	B	J	BL	V
(**)			•						•		
Z		•						•			
00		•	•					•	•		
		•						•			

• Existing padlocks.



Download our  
LOCKOUT/TAGOUT  
SOLUTIONS on

[www.catuelec.com](http://www.catuelec.com)



## Multiple lockers

### THE + RANGE

- 1 To lock simultaneously the same piece of equipment through several persons.
- 2 Impossible to open as long as the last lock has not been removed.

### FLEXIBLE MODELS

Nylon (non-conductive). Warning label "Danger" and identification of the person during the intervention.  
3 or 6 locks possible.

Reference	Shackle ↓ mm		Holes Ø mm	↔ mm	
ALP-03	50	3	9	105	20
ALP-06	80	6	9	183	30



### ALL-PLASTIC MODELS

Label with 'DANGER' warning and identification of the person carrying out the work.

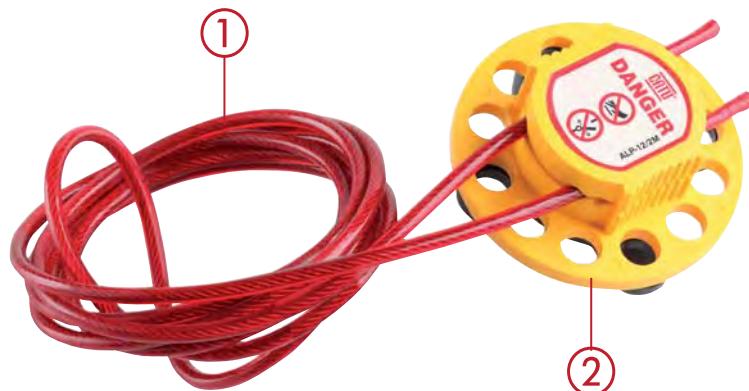
Reference	Shackle ↓ mm		Holes Ø mm	↔ mm	
ALP-4/3	46	3	4	8	108
ALP-4/6	46	6	4	8	108



### UNIVERSAL MODEL

Maximum weight supported: 100 kg. 'DANGER' warning label.

Reference			Holes Ø mm	
ALP-12/2M	Ø4 Lg 2m	12	9	130



### THE +

- 1 Steel cable coated in non-conductive PVC.
- 2 Holds up to 9 padlocks. Nylon body.

# Multiple lockers

## METAL MODELS

Made of anti-corrosion metal. Holds up to 4 padlocks of Ø 6 mm max (AL-203, AL-230 or AL-240).

Reference	Dimensions mm	Description	Weight g
AL-200	100 x 60 x 10	EDF type A	150
AL-202	165 x 50 x 12	EDF type B	200

### Safety padlock

Reference	Shackle Ø mm	Shackle height mm	Weight g
AL-203*	6	50	180

\* Key n°111.

### THE +

- ① Allows hanging a prohibition disk.

## HASP MODELS

Made of high-resistance steel.

Reference	Clamping Ø mm	Lock	Holes Ø mm	Total length mm	Weight g
ALM-6/25	25	6	9	112	95
ALM-6/38	38	6	9	125	110
ALM-20/45	20 & 45	6	9	138	120

### THE +

- ① Double sided. Holds up to 6 padlocks.

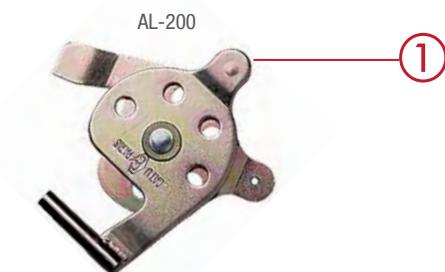
## STEEL SHACKLE MODEL

Label with 'DANGER' warning and identification of the person carrying out the work. High-strength steel shackle and body.

Reference	Shackle height mm	Shackle Ø mm	Holes Ø mm	Total length mm	Weight g
ALM-6/8	25	5	8	115	80

### THE +

- ① High-strength steel shackle and body.



↑ mm Total height      → mm Total length      🔒 Number of locks  
Ø mm Diameter      ⚜ Cable      ⚡ Dimensions      ⚑ Weight

Locking / Multiple lockers

**CATU**™

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## Circuit breaker lockers

### CLIPBLOCK™ SMALL MODEL

Quick fitting with a no. 3 flat screwdriver. Highly compact and can be padlocked. Prohibition sign. Delivered in blister pack.

Reference	Description and		
AL-201/1	5 units, no padlock		158
AL-201-C/1	Delivered with 1 padlock *		60
AL-216	Padlock only, steel shackle Ø 3 mm		16

\* Key on demand.

#### THE +

- 1 Compatible with all the brands of modular circuit breakers, switches and differentials.



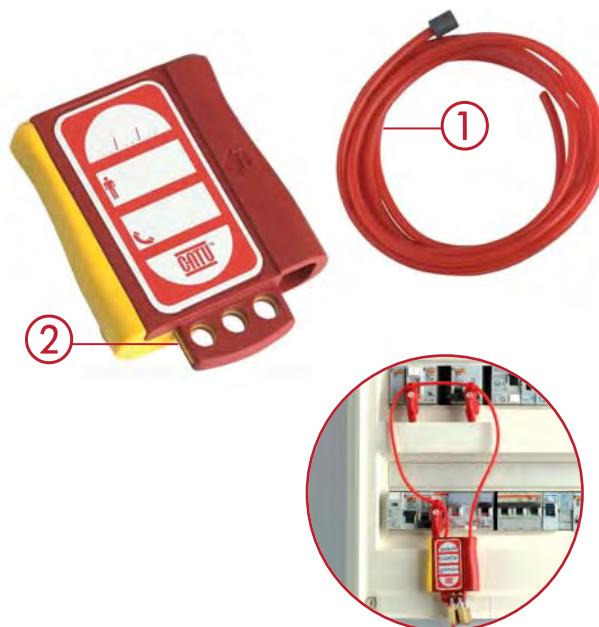
### MULTIPLE MODEL

Suitable for all types of low voltage protection unit locker. Particularly suited to the CLIPBLOCK™ circuit breaker locker. High resistance plastic cord. Length 2 m or 5 m. ABS body for use with Ø 4 to 6 mm padlocks.

Reference	Description and				
AL-205	Supplied with 2 m PVC cord		3	6	110
AL-205/5	Supplied with 5 m PVC cord		3	6	160

#### THE +

- 1 Cable with plastic stopper to use in loop or single cord.
- 2 Allows to deport the padlock in case of lack of space.



### MEDIUM-SIZE MODELS

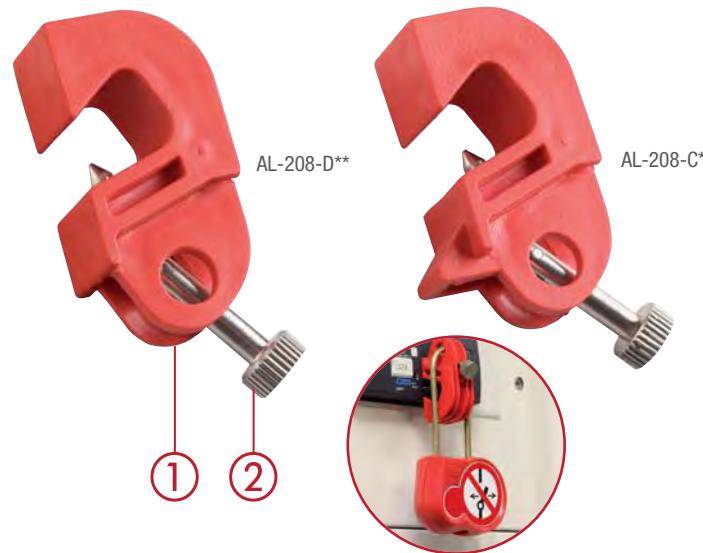
Red plastic. No tool needed for installation (tightened manually).

Reference	Holes  mm	Screw		
AL-208-C *	8	Stainless steel	52 x 25	20
AL-208-D **	8	Stainless steel	52 x 33	20

\* Bent snipe nose. \*\* Straight.

#### THE +

- 1 No tools needed for installation (tightened manually).
- 2 Trip worm to allow space for the padlock shackle.



# Circuit breaker lockers, panels and inserts

## LARGE MODEL

No tool needed for installation. Turn the screw in the circuit breaker handle and add one or more padlocks and a warning label.

Reference		Holes mm	For levers mm	Dimensions mm	Weight g
AL-209-L	12	8	76 x 23	105 x 95	66

### THE +

- ① Easy installation without tools.



## MODEL FOR MOULDED UNITS

Suitable for Schneider circuit breakers with the following references: NS80, NSE75/NSE100, NS100/NS160/NS250, NSF150/NSF250, NS400/NS630, NSJ400/NSJ600.

Reference		Holes mm	Dimensions mm	Weight g
AL-204	3	8	37 x 49 x 4*	32

\* Closed.



## BADGE MODELS

Ø 10mm hole for attachment on the upper part.

Reference		Type
AM-467-GB	80	Aluminium
AP-499/1	100	Plastic



AM-467-GB



AP-499/1

Diameter

Number of locks

Packaging

Dimensions

Weight



## Padlock stations

### YELLOW PVC HANDLE MODEL

Fitted to the belt so as to free up the hands. Key ring incorporated into the handle. Label system ensures that the user knows that all the power sources have been locked out.

Reference		Holes ∅ mm		mm	
AL-212	12	9	190 x 130		120

#### THE +

- ① Yellow PVC.
- ② Holds up to 12 padlocks.

### IVORY HANDLE MODEL

Ivory white PVC. High resistance to impacts. Holds up to 30 padlocks.

Reference		Holes ∅ mm	
AL-207/30	30	9	130



### 'LOCKOUT MANAGER' MODEL

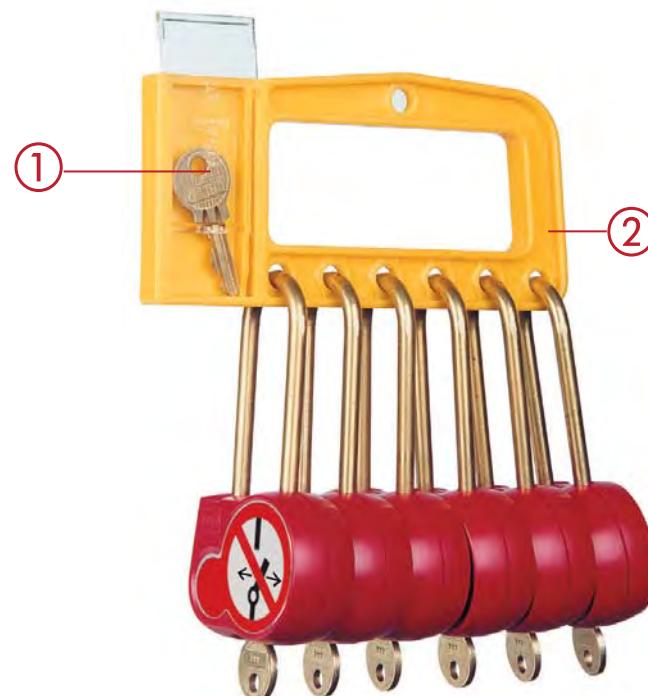
Handle dimensions 156 x 73 x 12 mm.

Reference		
AL-206	0 (Handle only)	0.15
AL-236-111-EX	6 (AL-230-111-EX)	1.15
AL-236-222-EX	6 (AL-230-222-EX)	1.15
AL-236-S-111-EX	6 (AL-230-S-111-EX)	1.21
AL-236-S-222-EX	6 (AL-230-S-222-EX)	1.21
AL-236-00-EX	6 (AL-230-00-EX *)	1.15
AL-236-S-00-EX	6 (AL-230-S-00-EX *)	1.21

00: key number on request.

#### THE +

- ① Compartment with transparent cover for key storage.
- ② Plastic handle with 6 padlocks that are all opened with the same key.



# Circuit breaker lockers, panels and insert

## WALL SUPPORT FOR PADLOCKS

Red-painted metal wall support. Fixation hole.

Reference		mm	g
RL-100	12	175 x 71 x 31	65



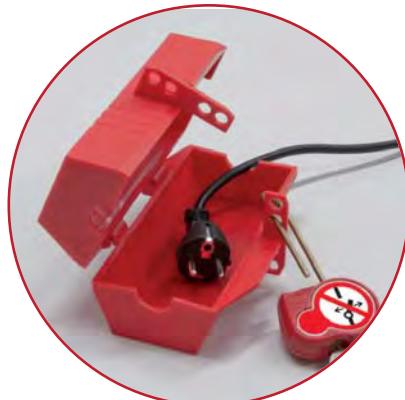
## ELECTRICAL OR PNEUMATIC SOCKET LOCKERS

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

Reference	Holes mm		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

### THE +

- ① Holds up to 4 padlocks.



PL-100

## MACHINE CONTROL LOCKER

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

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

### THE +

- ① Holds up to 6 padlocks.



Diameter

Dimensions

Number of locks

Packaging

Weight



## Fluid locking

### MODELS FOR GATE VALVES

Polyurethane. Easy to install with the two articulated parts\*. Padlock locking.

Reference	Holes Ø mm	Lock	Gate* Ø mm	Int. Ø mm	mm	g
HL-100	10	1	25 to 63.5	69	35	69
HL-101	10	1	63.5 to 127	130	46	211
HL-102	10	1	127 to 165	170	54	336
HL-103	10	1	165 to 254	267	70	670
HL-104	10	1	254 to 330	354	70	1150
HL-105	10	1**	25 to 165	170	53	243

\* Except HL-105, 2 parts. \*\* 4 position settings.

### THE +

- ① Prevents any handling of the gate valve.
- ② Adjustable model



### MODELS FOR 1/4 TURN VALVES

Polyurethane. Easy to adjust with the two clip-in parts. Padlock locking that prevents any quarter turn handling.

Reference	Holes Ø mm	Lock	Locking	mm	g
HL-200	7	18 positions	45 to 125	140	155
HL-201	7	113 positions	50 to 190	254	230
HL-202	9	112 positions	75 to 215	295	580

### THE +

- ① 8 adjustment positions.
- ② 13 adjustment positions.
- ③ 12 adjustment positions.



# Fluid locking

## UNIVERSAL MODEL

Polypropylene. For locking all types of valves: 1/4 turn, butterfly, etc.

Reference	Holes ∅ mm	Locking	Locking mm	Weight g
HL-203	9	1 padlock 9 positions	95 to 255	300

### THE +

- ① Adjustable model.



## GAS BOTTLE MODELS

Polystyrene. Gas bottle locker device (propane, butane, etc.).

Reference	Holes ∅ mm	Locking	Locking mm	Weight g
GL-100	7	1	29	Ø 70
GL-101	7	1	35	Ø 85-L150

### THE +

- ① Easy to install with the two articulated parts.



GL-100

↔ Total length  
∅ Diameter  
↔ Dimensions  
kg Weight

Locking / Fluid locking

**CATU**™

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## Cabinets

### LOCKOUT CABINET

Two adjustable shelves (12 positions). Locked by key.  
Delivered empty with attachment pegs and screws  
Optional accessories.

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

#### THE +

- ① Shelves with rim preventing the fall of objects.
- ② Versatile : for wall mounting and hand carrying, thanks to an integrated reversible handle.



### STORAGE CABINET

Locked by key. Delivered with 4-level padlock support, attachment pegs and screws. Optional padlocks.

Reference	mm	kg
SL-102	42	4.5

#### THE +

- ① Support padlock at adjustable height.



# Consignment Kits

## GENERAL CONSIGNMENT KIT

Composition	Reference: KIT-CONSI01G GB	Quantity
M-87370	Storage bag	1
AL-240-Z-EX	Padlock with shackle 50 mm and Ø 4 mm	2
ALM-6/25	Hasp	1
ALP-4/6	Multiple locker	1
ALP-12/2M	Universal multiple locker	1
HL-105	Fluid locking for gate valves (Ø 25 to 165 mm)	1
HL-200	Fluid locking for gate valves (locking from 9.5 to 31.75 mm)	1
HL-201	Fluid locking for 1/4 turn valves (locking from 38 to 63.5 mm)	1
AM-467-GB	Locking « badge model »	10



HL-200



HL-200



M-87370



AL-240-Z-EX



ALM-6/25



ALP-4/6



ALP-12/2M



AM-467-GB



HL-105



## ELECTRICAL CONSIGNMENT KIT

Composition	Reference: KIT-CONSI01E GB	Quantity
AL-260-Z	Padlock with shackle 50 mm and Ø 4 mm	1
M-87292	Storage bag	1
AL-240-Z	Padlock with shackle 50 mm and Ø 4 mm	1
AL-205	Hasp	1
ALM-6/25	Hasp	1
ALP-06	Multiple locker	1
AL-201/C1	Universal multiple locker	1
AL-208-D	Medium size circuit breaker locker	1
AL-208-C	Medium-size circuit breaker locker	1
AL-209-L	Large circuit breaker locker	1
AM-467-GB	Locking « badge model »	2



AL-209-L



AL-208-D



AL-208-C



M-87292



AL-260-Z-EX



AL-240-Z-EX



ALM-6/25



AM-467-GB



AL-205



Locking / Consignment kits

**CATU**™

Dimensions mm

Weight g

Number of locks



## Consignment Kits

### CIRCUIT BREAKER CONSIGNMENT KIT

Composition	Reference : KIT-CONSI01D GB	Quantity
AL-201/C1	Small circuit breaker locker with padlock	3
AL-208-D	Medium-size circuit breaker locker	3
AL-209-L	Large-size circuit breaker locker	1
AM-467-GB	Locking « badge model »	5
M-87290	Storage bag	1



AL-209-L



AL-201/C1



AL-208-D



AM-467-GB



M-87290



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# Signaling

**Warning signs**

**88**

**Signaling and delineators**

**91**





## Warning signs

### WARNING SIGNS

Special tool steel, oil-hardened.

Reference	Type	mm	Colour
AM-344-GB	aluminium	100 mm side	black letters on yellow
AM-345-GB	aluminium	100 mm side	black letters on yellow
AM-344	aluminium	100 mm side	black & yellow
AM-344/05	aluminium	50 mm side	black & yellow
AM-49/1	aluminium	100 mm side	black & yellow
AM-49/2	aluminium	200 mm side	black & yellow
AM-41/1	aluminium	100 mm side	black & yellow
AM-41/2	aluminium	200 mm side	black & yellow
AM-467-GB	aluminium	Ø 100 mm	white letters on red
AP-499/1	plastic	Ø 100 mm	white & red
AM-20-GB	aluminium	270 x 300 mm	blue letters plain aluminium
AP-510-BT-GB	plastic	297 x 210 mm	golden rules



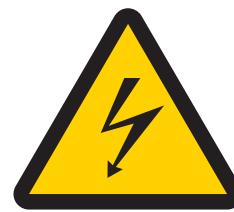
AM-344-GB



AM-345-GB



AM-344 - AM-344/05



AM-49/...



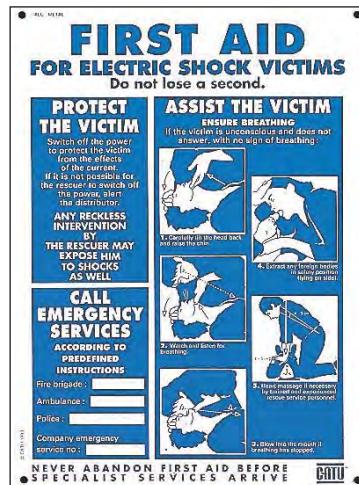
AM-41/...



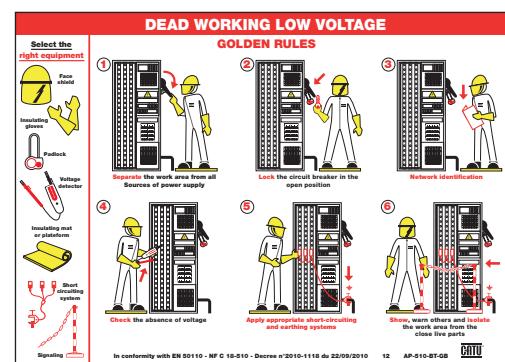
AM-467-GB



AP-499/1



AM-20-GB



AP-510-BT-GB

# Warning signs

## SUBSTATION SIGNS

Specialist signs.

Reference	Type	mm	Colour
AM-61-GB	aluminium	200 x 150 mm	
AM-61-RM	aluminium	200 x 150 mm	
AM-282/2-RM	aluminium	200 x 60 mm	
AM-7002	aluminium	200 x 150 mm	black & yellow
AM-32/3	aluminium	Ø 300 mm	white & red
AM-33/3	aluminium	Ø 300 mm	red/black on alu
AM-34/2	aluminium	Ø 200 mm	red/black on alu
AP-951/2	plastic	200 x 200 mm	white & red
AP-510-GB	plastic	420 x 297 mm	golden rules
AM-20-RM	aluminium	500 x 350 mm	blue letters on plain aluminium



AM-61-GB



AM-61-RM



AM-282/2-RM



AM-7002



AM-32/3



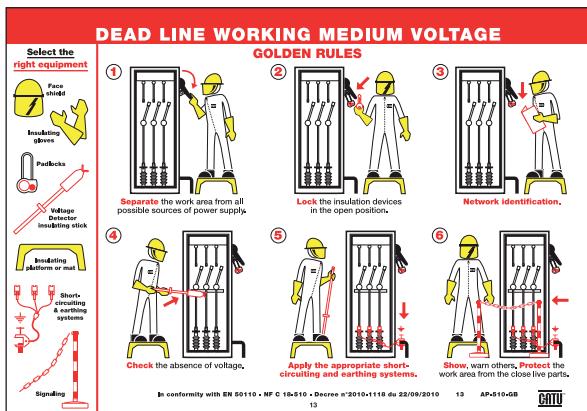
AM-33/3



AM-34/2



AP-951/2



AP-510-GB



AM-20-RM

# Warning signs



## SELF ADHESIVE WARNING SIGNS

Complete range of self adhesive, warning signs packed in box of 20, 30 or 50 units.

Reference		
AT-41/025	25 mm side	50
AT-41/05	50 mm side	30
AT-41/1 **	100 mm side	20
AT-49/025	25 mm side	50
AT-49/05 **	50 mm side	30
AT-49/1 **	100 mm side	20
AT-50/025	25 mm side	50
AT-50/053	50 mm side	30
AT-50/1	100 mm side	20
AT-51/025	25 mm side	50
AT-51/05	50 mm side	30
AT-51/1	100 mm side	20
AT-52/05	50 x 25 mm side	30
AT-52/1	100 x 50 mm side	20
AT-53/05	50 x 25 mm side	30
AT-53/1	100 x 50 mm side	20
AT-54/05	Ø 50 mm	30
AT-54/1	Ø 100 mm	20
AT-55/05	Ø 50 mm	30
AT-55/1	Ø 100 mm	20
AT-56/05	Ø 50 mm	30
AT-56/1	Ø 100 mm	20
AT-58/05	Ø 50 mm	30
AT-58/1	Ø 100 mm	20
AT-59/05	Ø 50 mm	30
AT-59/1	Ø 100 mm	20
AT-60/05	Ø 50 mm	30
AT-60/1	Ø 100 mm	20
AT-61/05	Ø 50 mm	30
AT-61/1	Ø 100 mm	20
AT-62/05	Ø 50 mm	30
AT-62/1	Ø 100 mm	20
AT-63/05	Ø 50 mm	30
AT-63/1	100 mm side	20

\* Available in pack of 500, references : AT-41/1-500, AT-49/1-500 and AT-49/05-500.



# Signaling and delineators

## WARNING FLAGS

Brightly colored ribbon.

Reference	Dimensions mm	Fixing
AL-53	350 Width x 650 Height	Fixing on handle.



AL-53

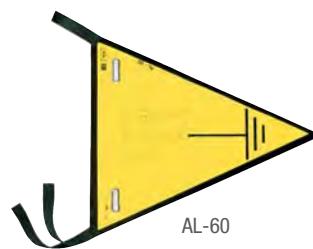
## GROUNDING FLAGS

Vinyl coated fabric.

Reference	Dimensions mm	Fixing
AL-58	338 Base x 365 Height	Fixing on handle; for work site 0.75 m
AL-60	338 Base x 365 Height	Fixing on earthing cable; for immediate identification in open-type switchgears possible inscription: 0 to 99 (by using ALU-SCRIPT markers)



AL-58



AL-60

## SAFETY BOUNDARY POST

For temporary installation used with tough link chain delineators.

Reference	Dimensions mm	Description	Weight kg
AL-316 *	Length: 90 cm	Red & white	4.2
AL-318 **	Length: 90 cm	Black & yellow	4.2

\* Use with chain delineators AL 31/05 and 31/25.

\*\* Use with chain delineators AL 32/05 and 32/25.



Marker post  
on a flexible base.



AL-318



Weighted  
base.

AL-321



Concrete  
base.

AL-323

Dimensions

Weight



# Signaling and delineators

## FIXING TOOLS FOR WARNING SIGNS

Reference	Characteristics
AC-21	Small nickelled chain sold in bags of 10 units. Dim 2 x 11 cm
AD-01	Roundheaded screw anti-vandalism M3x15 sold in bags of 100 units.
AC-44	Self-adhesive plastic plates Ø 40 mm for magnetic fixing (10 units).



## SAFETY ADHESIVE TAPE

Reference	Description
AT-5005	100 m Length x 50 mm Width Adhesive tape black and yellow.



## TEXTILE TAPE DELINEATORS

Reference	Description
AL-127	50 m Length x 50 mm Width Red & yellow
AL-129	50 m Length x 50 mm Width Red & yellow
AL-138	500 m Length x 80 mm Width Red & white



## TEXTILE TAPE DELINEATORS

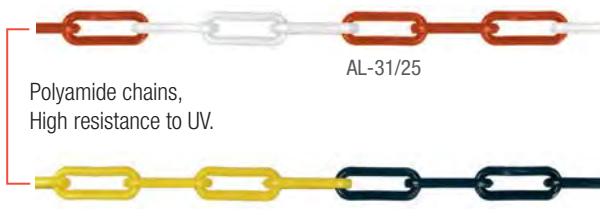
Reference	Description
AL-62-A	Red
AL-63-A	Yellow
AL-65-A	Replacement ribbon*

\* For AL-62-A.

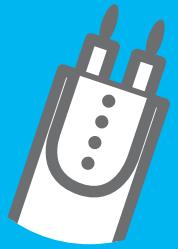


## CHAIN DELINEATORS

Reference	mm	Chain link mm	Dimensions mm	Description	g
AL-31/05	5 m	8	70 x 27	Red & white	550
AL-31/25	25 m	8	70 x 27	Red & white	3750
AL-32/05	5 m	8	70 x 27	Black & yellow	550
AL-32/25	25 m	8	70 x 27	Black & yellow	3750
AL-31	-	6.5	52 x 30	Set of 10 opening links red & white.	55



# LV Test and measurement



<b>Voltage Detector</b>	<b>94</b>
<b>Safety test probes and accessories</b>	<b>99</b>
<b>Phase rotation indicator</b>	<b>100</b>
<b>Safety test probes and accessories</b>	<b>101</b>
<b>Installation Controller</b>	<b>102</b>
<b>Accessories</b>	<b>104</b>



# Voltage Detector



## DETETX™ 917-L AND 918-L VOLTAGE DETECTORS AND TESTERS

The **Detex™ MS-917-L** and **918-L** are designed based on the **IEC 61243-3** standard, in response to the requirements of the **EN 50110-1** European standard. Sound and lighting equipment, suitable for indoor/ outdoor use. It enables to detect absence of voltage and :

- Checks voltage levels from 12 to 690V AC, 750V DC (MS 917-L) and from 12 to 900V AC, 1000V DC (MS 918-L).
- Sound and light continuity for a non-live circuit (threshold of  $200 \Omega$  for 917-L and  $100 \Omega$  for 918-L),
- Unipolar identification of the phase,
- Search for the polarities of a DC circuit,
- Rotary Field by the two-wire method only for 918-L.

The configuration with both fixed points allows for a 19 mm gap between points, which immediately normalizes the double contact (2P+T, 10/16 A).



**Detex™**  
..... **MS-917-L**

IEC 61243-3  
EN 61243-3



## THE +

### MS 917-L et MS 918-L

- 1 Test-lead points. Point Ø 2 mm and 19 mm lengths for well contact
- 2 Hazardous voltage indicator light ( $> 50 \text{ V}$ ).
- 3 Phase identification light (unipolar).
- 4 Test button.
- 5 Completely modular and adjustable using type E plugs.

### MS 918-L

- 6 Lighting unit.
- 7 Phase rotation detection check (two-wire method).
- 8 Voltage light for 12 to 900 V AC (1000 DC).



# Voltage Detector

**Detex™**  
MS-918-L

Phase identification light (unipolar).



MS-918-L  
storage configuration.



M-87369  
Carrying bag.



M-952325 Board hanger provided  
on the back of the device.

## Accessories

Reference	Characteristics
<b>M-87369</b>	Carrying bag *
<b>M-952325</b>	Board hanger *

\* Ordered separately.

## Selections and Characteristics:

Reference	~	~	Ω	IP65 IK06	Class II	IV	Operations -15 to +45 °C (class N)	2 AAA batteries 1.5 V	Rotary Field	Suitable for standard 2P+T. 19 mm	Lighting unit.	g
	Voltage	50/60 Hz +/- 10 %	Continuity	IP65 Protection IK06	Category IV 600 V	Operations -15 to +45 °C (class N)	2 AAA batteries 1.5 V	Rotary Field	Suitable for standard 2P+T. 19 mm	Lighting unit.	210	
<b>MS-917-L *</b>	690	•	200	•	•	•	•	•	•	•	•	
<b>MS-918-L *</b>	900	•	100	•	•	•	•	•	•	•	•	

\* Supplied without accessories.

# Voltage Detector



## DETTEX™ 920-EX VOLTAGE DETECTOR AND TESTER

The Detex™ MS-920-EX is designed based on IEC 61243-3 standard, in response to the requirements of the EN 50110-1 European standard.

Sound and lighting equipment, suitable for indoor/outdoor use. It enables to detect absence of voltage and :

- Check of voltage levels > 50 V DC and AC,
- Up to 690 V AC and 800 DC,
- Continuity sound control for a non-live circuit (< 100 Ω),
- Unipolar identification of the phase,
- Search for the polarities of a DC circuit,
- Rotary field by the two-wire method.
- Resolution : 1 V
- Precision : ± 5 %

**Detex +**  
..... MS-920

IEC 61243-3 / EN 61243-3  
EN 61010-1 CE ▲



### THE +

- 1 Test-lead points according to IEC 61010-031 Point Ø 2 mm and 19 mm lengths for well contact.
- 2 Three digit colour LCD screen display.
- 3 Test button.
- 4 Indicator light when voltage > 50 V.
- 5 Completely modular and adjustable using type E plugs.
- 6 Lighting unit.

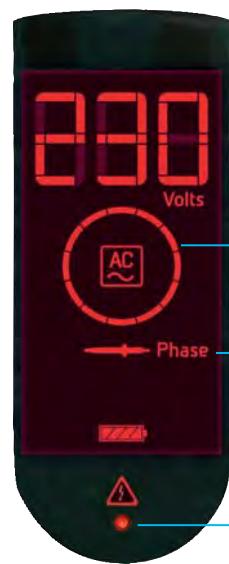
The configuration with both fixed points allows for a 19 mm gap between points, which immediately normalizes the double contact (2P+T, 10/16 A).



# Voltage Detector



Example of continued 24 V detection,  
display is **BLUE** because < 50 V.



Example of detecting 230 V AC,  
displayed in **RED**.



## Accessories

Reference	Characteristics
M-87369	Carrying bag *
M-952325	Board hanger **

\* Ordered separately.



M-87369  
Carrying bag.



M-952325  
Board hanger  
provided on  
the back of the device.

## Selections and Characteristics:

Reference													
	Voltage 12-690 VAC 12-800 VAC	50/60 Hz	Continuity < 100 Ω	IP65 Protection IK06	Class II	Category IV 600 V	-15 to +55°C (class N)	Display 3 digits	2 AAA batteries 1.5 V	Rotary Field	Suitable for standard 2P+T. 19 mm	Lighting unit.	210
MS-920-EX *	•	•	200	•	•	•	•	•	•	•	•	•	•

\* Unit comes with a hook table.

# Voltage Detector



## NO VOLTAGE TESTER FOR ELECTRIC VEHICLES

The **MS-917-VE NVT** voltage tester was specially designed to check for no voltage and direct current voltages on electric or hybrid vehicles.

Used for No Voltage Checks and also:

- checking voltage levels from 12 to 700 V DC,
- checking a circuit's sound and light continuity (power off),
- searching for polarity in a DC circuit.

**Do not leave on for more than 30 s.**

EN 61243-3 (2010) / IEC 61243-3 (2009)



### THE +

- 1 IP2X test-lead points retractable sleeves. New: the "Touch" function: hold in the retracted position in complete safety.
- 2 Test button and continuity control.



Voltage detection on electrical power circuit.

### Selections and characteristics:

Reference										
	Voltage	Continuity	Protection IP65 IK06	Class II	Category IV 600 V	-15 to +45°C (class N)	2 AAA batteries 1.5 V	Phase rotation direction	Suitable for standard 2P+T. 19 mm	210
<b>MS-917-VE</b>	12-700 V DC	•	•	•	•	•	•	•	•	•

\* Unit comes with a hook table.

# Safety test probes and accessories

## CONTACT PROBES FOR L.V. TESTER

Light and rigid contact antennas for Detex™ : MS-917-L, MS-918-L and MS-920-EX. Contact antennas used as suspension hooks. Round tip contact.



### For installations and sidewalk boxes

Reference	↔	kg
MS-8013-2	50 cm	0.40

Delivered in storage bag 50 x 130 x 470 mm.

### For overhead lines

Reference	↔	kg
MS-8014-2	125 cm	0.75

Delivered in storage bag 50 x 130 x 470 mm.

## HAND STICK

For distance working 2 removable elements. Field of use: 1 000 V max. Ergonomic handle. Connecting test probe by standard socket.

Reference	Characteristics	↔	kg
M-951143	Hand stick	80 cm	0.24
M-952439	Extension	40 cm	0.12

Delivered in storage bag.



## STORAGE BAG

Reference	mm	Characteristics
M-87369	180 x 70 x 45	Storage bag with seatbelt for MS-917, MS-920.
M-87290	200 x 120 x 50	Storage bag with strap for MS-152+ et MS-703.



M-87369

M-87290

Dimensions

Weight

Total length

# Phase rotation indicator



## PHASE ROTATION INDICATOR DETEX™ MS-152 +

Signaling via the successive lighting of diodes symbolising rotation.

"FAULT" diode lits: phase cut off or incorrectly connected. Phase rotation activated  $\geq 85$  V.

A set of diodes is turned on and off successively

The diodes indicate:

- Clockwise rotation indicated by the green arrow "OK",
- Anti-clockwise rotation indicated by the red arrow "INVERSE",
- Fault: the DEFECT diode (DEFAUT) indicates an error of connection such as the cut or absence of phase or the presence of neutral between phases

Probes with retractable protector with 1.20 flexible cable.

**GREEN** - CX-35811.

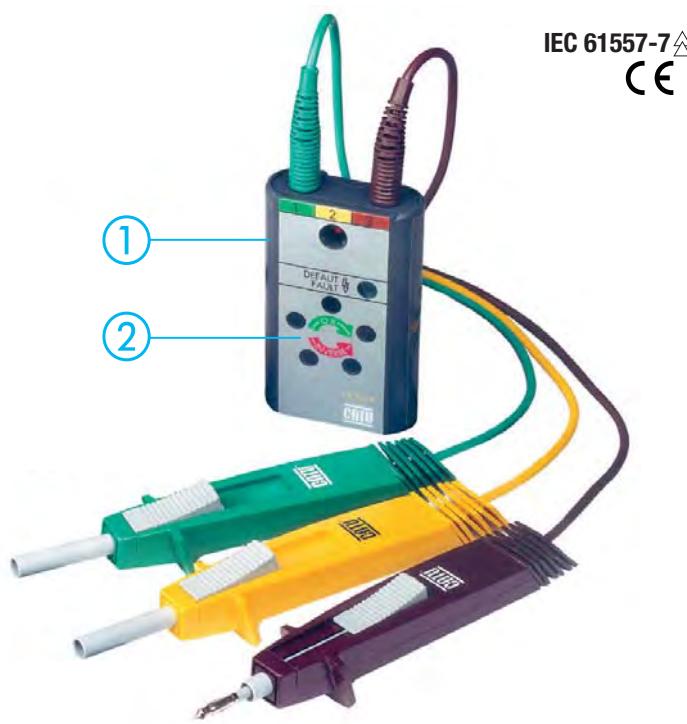
**YELLOW** - CX-45411.

**BROWN** - CX-34211.

Isolated crocodile clamp IP2X :

**YELLOW** - CX-01422.

**BROWN** - CX-01222.



IEC 61557-7



### Accessories

Reference	Characteristics
M-87290	Carrying bag with strap. (included)



M-87290

### THE +

- 1 Compact.
- 2 Visualization by rotation LED's circle.
- 3 Works on generating units.



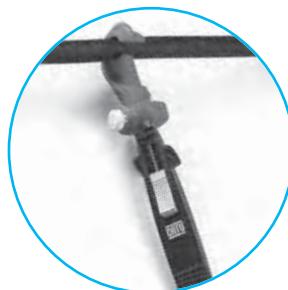
### Selections and characteristics:

Reference				IV				
MS-152-X	Voltage 90-400 V	45/60 Hz	Protection IP54 IK06	Class III IEC 61010-1	Phase rotation direction	IP2X test lead points. IEC 61010-31	225x130x65 = storage	100

\* Delivered in storage bag with 3 probes (GREEN, YELLOW, BROWN) 2 crocodile clamps (YELLOW BROWN).

## VOLTAGE TAKE-OFF PUNCH

The voltage take-off punch is able to make an insulating piercing on a low voltage wire to plug a measurement device. Steel pin. Isolated body. Female socket for safety test probe Ø 4 mm.



Reference	Clamping capacity mm	Weight g
MS-62	Ø 6 - 14.4	15
MS-63	Ø 12 - 31	5



## Railways Electrical safety equipment



**CATU™**

↔ Clamping capacity

kg Weight

↔ Dimensions

# Installation Controller



## GROUNDING AND CONTINUITY MEASUREMENT

### DEVICE CATOHM™ DT-300

CATOHM™ DT-300 is designed based on the IEC 61557-4 standard.

The device measures ground resistance using the "default loop" principle.

The CATOHM™ DT-300 shows the following on its LCD display:

- The presence of voltage and compliance,
- The position of the phase,
- The grounding of the production conductor, the main functions being to measure the ground resistance value and to thus check the continuity of metal masses by sound signal.

Once connected to properly connected installation, the grounding value is instantly measured and displayed at the top of the LCD display, indicating ground resistance values:

- 0 to 100 Ω, BLUE numbers (< the 100 threshold Ω)**
- 101 to 1999 Ω, RED digits**

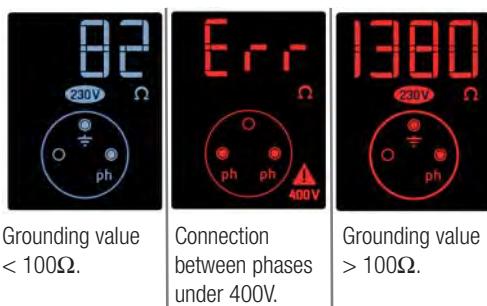
The measurement is taken with an accuracy of +/- 3 % + 1 digit for pure resistance, ranging 0-200 Ω, at 23°C +/- 5°C.

Uses 2P+T 10/16 A or LV table for single-phase 230V circuits between phases and neutral. IP2X connection wells from the test-lead point. 4-digit display of the grounding value in Ω. Anti-skid clothing. Continuity extended 7 m along the roller (Ø 105 x H 62 mm). IP2X test-lead point with retractable sheathing. Checks the continuity of metal masses.

### Accessories

Reference	Characteristics
M-921647	Roller with 7 m of cord *
M-87292	Storage bag

\* To be ordered separately.



Example measurement without grounding, displayed in RED.



Check 2P+T outlet with test-lead point on extension.

### THE +

- 1 Full autonomy (without battery).
- 2 Use on 2P+T outlet or on LV table with cord.
- 3 LCD display instantly displays the interpretation of measures in terms of their conformity.
- 4 Measures the grounding loop without tripping the breakers: < 15 mA.
- 5 Non-slip coating for a better grip.
- 6 7 m continuity extension cord.

### Features:

Reference	~	~	Ω	⚡	💦	□	III	🌡	888	⚡	mm	kg
DT-300 *	230V voltage TT schema	50/60 Hz	Continuity measured at ≤ 2 Ω	400 V voltage present	IP40 Protection IK06	Class II	Category III 600V	Use: -15 °C to +45 °C	4-digit screen display	Grounding < 2000 Ω	71x210x51	0.36

\* Controller delivered with probes and extension on roller.

# Installation Controller

## INSULATION CONTROLLER CATEX™

**IEC 60364** standard recommends periodically checking insulation resistance. Insulation resistance is measured between each active conductor and the ground (when not live). Its value should be  $500\text{ k}\Omega$  for a DC testing voltage of 500 V.

The DT-500 is a specially designed device for quickly, easily, and safely measuring insulation resistance.

It provides a safety system that prevents a measurement when connected to a live installation.

### Measures insulation resistance below 500 V.

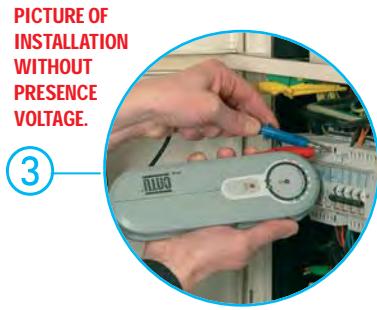
The insulation resistance value is indicated by illuminating a light:

- **RED** for values including 0, 300, 400  $\text{k}\Omega$ .
- **GREEN** for values including 500, 600, 700, 800, 900, 1 000  $\text{k}\Omega$  et  $\infty$ .

IP2X test-lead point **YELLOW/GREEN** (ground).

3 large opening alligator clips:

**RED**, **YELLOW/GREEN**, **BLUE**.



### Accessories

Reference	Characteristics
M-951981	<b>BLUE</b> probe for replacement *
M-87292	Carrying bag *
M-881602	<b>BLUE</b> alligator clip for replacement
M-881601	<b>YELLOW/GREEN</b> alligator clip for replacement

\* To be ordered separately.



## THE +

- 1 Battery status indicator light.
- 2 IP2X test-lead point **BLUE** (neutral) independent and connected by a safety terminal.
- 3 The DT-500 can bypass the phase and neutral in order to protect sensitive equipment (electronics, computers, etc.).
- 4 The DT-500 comes with a belt clip and areas where test-lead points can be stored.

### Features:

Reference	500V measures	$\Omega$ measures	IP54 Protection IK06	Class II	III	Use: 15 °C to +45 °C	4 LR6 batteries	IP2X test-end points	213 x 75 x 46 mm	kg
DT-500 *	Output voltage < 500 V DC	from 0 to $\infty$	IP54 Protection IK06	Class II	Category III 600V	15 °C to +45 °C	4 LR6 batteries	IP2X test-end points	213 x 75 x 46 mm	600 with batteries and accessories

\* Controller delivered with 3 probes, 3 alligators clips and batteries.

Dimensions

Masse

LV Test and measurement / Installation Controller

**CATU**™

#103



## LEAD SET FOR CHECKS ON L.V DISTRIBUTION BOARD

Heartbring safety crocodile clamp. Safety test probes with retractables sheath. Female socket Standard 2P+T.

Reference	Characteristics
M-952271	Lead set for checks on L.V distribution board * Lg 0.80 cm

\* For DT-300 and DT-170 only.



## STORAGE BAG

Reference	Dimensions mm	Characteristics
M-87292	250 x 200 x 70	Flexible storage bag with handle.



## RANGE OF TESTERS FOR LAW VOLTAGE



For more informations, consult us.