



Electrical Distribution

Installation

Extract of Catalogue
Low Voltage Energy

MICHAUD



60 YEARS EXPERTISE

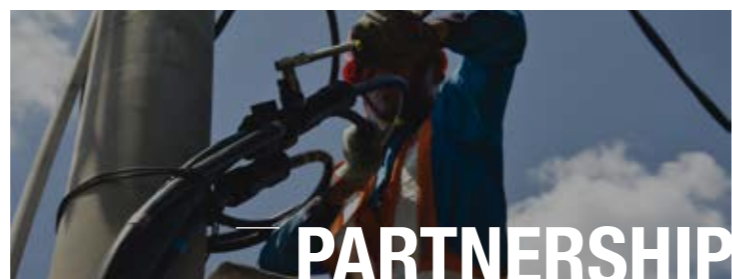
MICHAUD is a French industrial group specialised in energy distribution networks for more than 60 years.

MICHAUD Export, subsidiary dedicated to international markets, develops and sells solutions according to applicable standards thanks to its know-how as well as its relationships with local users.

- 60 Million €
- + 70 countries
- 70 protected innovations yearly
- 10 locations
- + 250 employees
- + 8 000 references
- 10 million € stock value
- 20 million products leaving factories yearly

PRESCRIPTION & DIAGNOSIS

A strong market understanding and a recognised technical knowledge to serve your projects in order to propose suitable solutions.



INNOVATION & QUALITY

Investing near 8% of the turnover in R&D, we develop tomorrow's solutions and guarantee quality and reliability of products thanks to a COFRAC and ASEFA accredited and independent test laboratory (accreditation n°1-0579 / www.cofrac.fr).



FITTERS TRAINING

As preferred technical partner, we encourage learning and knowledge transmission together with product commercialisation.



According to the international standards, Michaud Export designs and develops energy distribution solutions. The product range is focused on two fields of expertise:

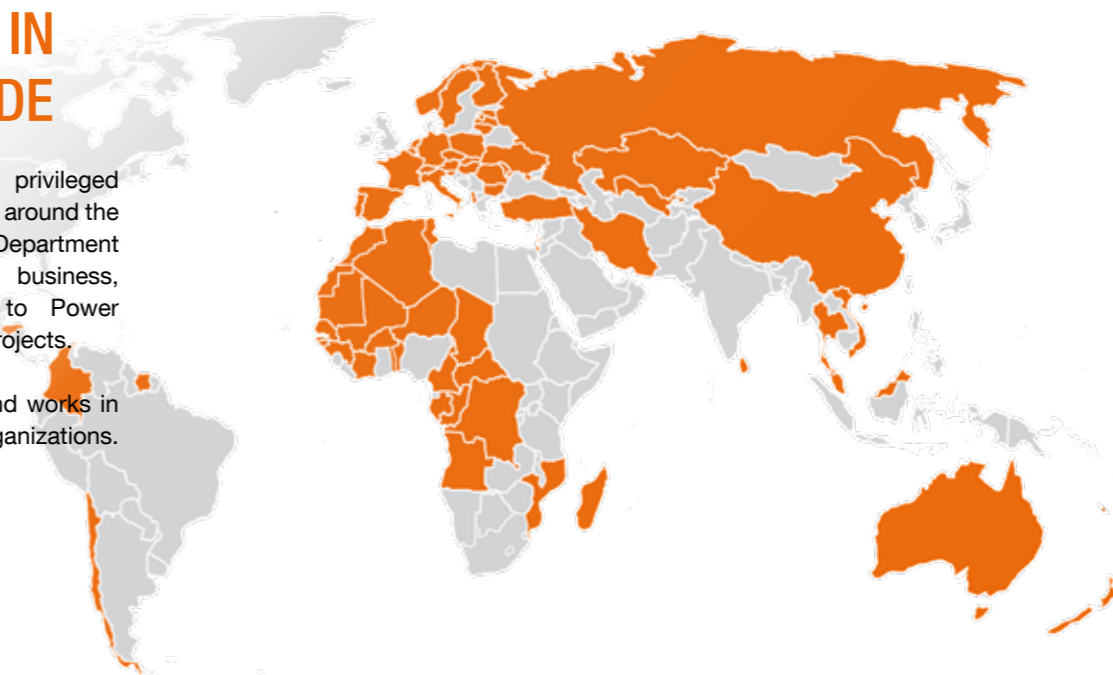
- **Low Voltage Network:** to connect and protect the overhead and underground electrical lines ;
- **Energy Controlling:** to manage and offer easy access to electricity.



+70 PARTNERS IN THE WORLD-WIDE

MICHAUD benefits from a privileged collaboration with many partners around the world. Thanks to an engineering Department dedicated to international business, MICHAUD provides support to Power Utilities in their grid expansion projects.

Besides, MICHAUD supports and works in partnership with power sector organizations.



PRODUCTS BRANDS

MICHAUD
HABITAT ET RÉSEAU ÉLECTRIQUE

MIPROTEC
PROTECTION ET INSTALLATION



PROTECTION



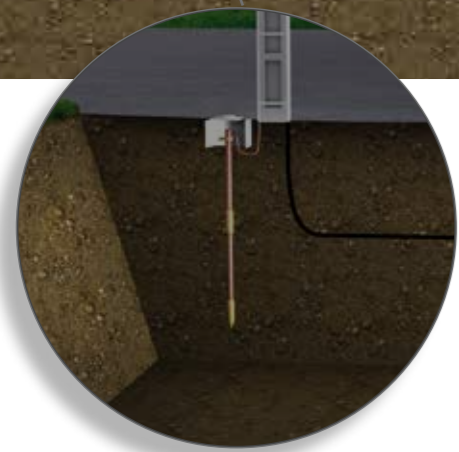
HOUSING



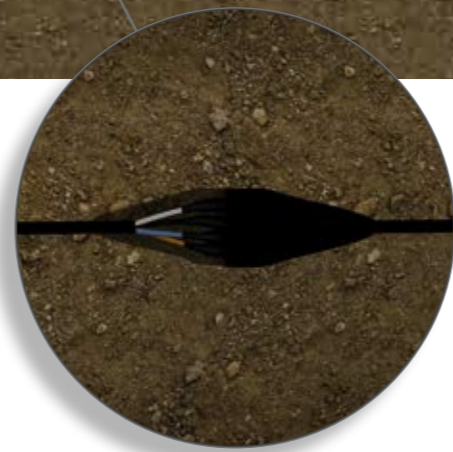
OVERHEAD



MICHAUD



EARTH SYSTEM



UNDERGROUND



INSTALLATION

In order to offer global service to customers, MICHAUD proposes a range of equipment and tools to **facilitate and to secure** products installation.



Protection against the electrical risk

During the installation of electrical equipment, the protection of the fitters from risks of direct or indirect contacts is a necessity. The risk is real when a part of the human body is in contact with an active part of the installation.

Several conditions must be respected to guarantee protection:

- Installation of products with **no load**, except for specific indications
- Respect of the current **regulation**
- **Trained** and skilled **staff**
- Use of **personal protective equipment**

Classification of maximum used voltages of insulated gloves:

Class	Working voltage (V)	Tested voltage (V)
00	500	2 500
0	1 000	5 000
1	7 500	10 000
2	17 000	20 000
3	26 500	30 000
4	36 000	40 000

A support for your installations

MICHAUD uses its expertise to guide at best the fitters.

> Installation instructions

- + Products supplied with detailed instructions for the assembly >>>

> Installation videos

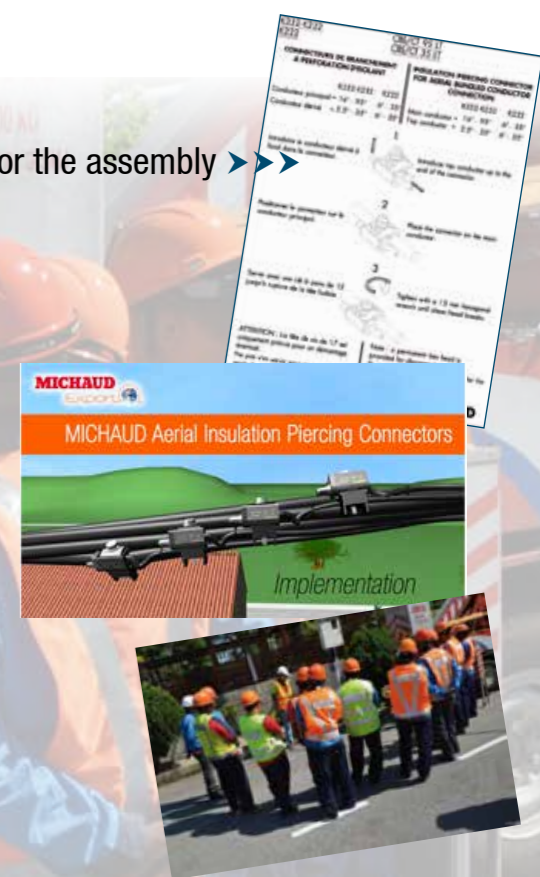
- + Supporting videos for some products >>>



See videos on
Michaud Export Youtube Channel

> Training

- + Fitters' guidance on the field >>>



In the low voltage field, **fitters' safety and protection** are essential themes. With a range of personal protective equipment, MICHAUD ensures an installation on safe environments.



To realise an installation in the best conditions, MICHAUD offers a **range of tools and equipment** to support low voltage lines and accessories.



In order to support the fitter the best way, MICHAUD supplies its products with **didactic solutions** assuring the right installation and to guarantee fitters' safety.

Personal protective equipment

Application

These equipment aim to protect hands during installation works.

Hands protection

PROTECTIVE NITRILE GLOVES



U833-1

These gloves are in nitrile on hands palm. They offer an important perforation resistance.

PROTECTIVE LEATHER GLOVES



U833-2

These leather gloves are made of red leather. They offer an important perforation and cutting up resistance.

LEATHER PROTECTION GLOVES



F081

The handling leather gloves protect insulating gloves against sharp and cutting objects. A scratch band holds the handling gloves around the wrists.

Code	Designation	Size	Weight (kg)	Sales unit
U833-1	PROTECTIVE NITRILE GLOVES	S - M - L - XL	0.200	1
U833-2	PROTECTIVE LEATHER GLOVES	33cm	0.220	1
F081	LEATHER PROTECTION GLOVES	10	0.160	1

Accessories



U819-1

Application

These accessories are used to control the air tightness of the insulating gloves.

The portable inflator is very easy to carry and enables to check the gloves before each operation. Its use is fast and easy.

The pump device can be daily used. Its implementation is slightly slower than the portable inflator one but enables to check a larger part of the gloves. It can be provided to fitters and electricians in a company.

These two test devices are complementary.



U819-2

Code	Designation	Weight (kg)	Sales unit
ACCESSORIES			
U819-1	GLOVES TESTER - PUMP DEVICE	0.500	1
U819-2	GLOVES TESTER - PORTABLE INFLATOR	0.065	1

Personal protective equipment

Application

These equipment aim to protect the head and the face during installation works.

Head protection



U830-1



U830-2



U830-4



U830-3

Breathing protection



U832-1

The half mask without valve is FFP1. It offers 75% of dust absorption.



U832-2

The half mask with valve is FFP2. It offers 95% of dust absorption.

Code	Designation	Weight (kg)	Sales unit
U830-1	BASIC HELMET	0.300	1
U830-2	HELMET WITH TOOTH WHEEL	0.300	1
U830-3	CHIN STRAP WITHOUT CHIN REST	0.050	1
U830-4	CHIN STRAP WITH CHIN REST	0.030	1
U832-1	FILTERING HALF MASK WITHOUT VALVE - FFP1	0.040	1
U832-2	FILTERING HALF MASK WITH VALVE - FFP2	0.070	1

Eyes protection



U831-1



U831-2

These tinted protection glasses have a UV filter.



U831-3



U831-4

The flexible vinyl frame gets an anti-fog treatment.



U831-5

This face shield guarantees a protection from impact.

The standard is EN 166. The product has a optical class 2, a protection from risk of impact "F" and a echanical resistance "A".



U831-6

This set comprising face shield + helmet guarantees an electric arc protection.

Code	Designation	Weight (kg)	Sales unit
U831-1	PROTECTION GLASSES	0.030	12
U831-2	PROTECTION GLASSES TINTED - UV FILTER	0.030	12
U831-3	PROTECTION OVER GLASSES	0.035	1
U831-4	PROTECTION MASK	0.070	1
U831-5	FACE SHIELD - IMPACT PROTECTION	0.300	1
U831-6	FACE SHIELD - ELECTRIC ARC PROTECTION	0.500	1

Personal protective equipment

Dielectric and mechanical protection



U826 - high shoes



U827 - short shoes

Application

These safety shoes ensure protection against electrical shocks. They also offer a mechanical protection. Two models are available :

- high shoes
- short shoes

Description

- These shoes are made of bovine black leather. They comprise a polyamide anti-allergic lining, a polyurethane antistatic sole and a non-metallic end. The antistatic property of the sole does not protect against electrical shocks.
 - The models are tested in compliance with ANSI Z41 and ASTM F2413-05 standards. When 14 000 and 18 000V currents are applied during 1 minute with a 60Hz frequency, the passage of current intensity is inferior to 1mA (according to conditions described in the standards).
 - Available sizes go from 39 up to 46.
 - The shoes offer an impact resistance of 200J and a compression resistance of 15kN. The sole is resistant to hydrocarbons.
 - The resistance to perforation is about 1100N.
 - The energy absorption in the heel is superior to 20J for both models.
 - Shoes are waterproof.
 - They provide an insulation against cold and heat coming from the ground. The resistance to heat contact from the ground is 300°C.
 - The soles are nonskid.
 - Dielectric safety shoes are not a substitute to obligatory PPE but an element of secondary protection.
- These shoes meet the criteria of **EN ISO 20345** standard.

Code	Designation	Available sizes	Protection classes	Weight (kg)	Sales unit
U826	HIGH SAFETY SHOES - DIELECTRIC AND MECHANICAL PROTECTION	39 up to 46	SB+P+E+CI+HI+WRU+HRO+SRC+FO	0.900	1
U827	SHORT SAFETY SHOES - DIELECTRIC AND MECHANICAL PROTECTION	39 up to 46	SB+P+E+CI+HI+WRU+HRO+SRC+FO	0.700	1

Required size:

Add the required size to the reference.
Example with the high shoes model, size 42 : **U826-42**

Mechanical protection



U828 - high shoes



U829 - short shoes

Application

These safety shoes ensure a mechanical protection. Two models are available :

- high shoes : allow an optimal support of the ankle.
- short shoes

Description

- The shoes are made of black bovine leather.
- The antistatic property of the sole does not protect against electric shocks.
- Available sizes range from 36 to 47 for the high model and from 39 to 46 for the short one.
- The shoes offer an impact resistance of 200J.
- They dissipate electrostatic charges.
- The shoe sole absorbs energy at the heel.
- The shoe sole is resistant to perforation. It is also resistant to oils and hydrocarbons.

These shoes meet the criteria of the **EN ISO 20345** standard.

Code	Designation	Available sizes	Protection classes	Weight (kg)	Sales unit
U828	HIGH SAFETY SHOES - MECHANICAL PROTECTION	36 up to 47	S3	1.500	1
U829	SHORT SAFETY SHOES - MECHANICAL PROTECTION	39 up to 46	S2+CI+SRC	0.700	1

Required size:

Add the required size to the reference.
Example with the high shoes model, size 42 : **U828-42**

Personal protective equipment

Fall protection

HARNESSES



U834-2



U834-3



U834-4



U834-5

Application

These equipment aim to protect the fitter from falls during installation works at height.

Option: Kit

- 1 harness
- 1 tether
- 2 carabiners
- 1 bag



U834-1



U834-6

BELT



U835-1

Option: Kit

- 1 belt
- 1 rope
- 1 carabiner



U835-2

Code	Designation	Weight (kg)	Sales unit
U834-2	HARNESSES 1 ANCHORING POINT	0.750	1
U834-3	HARNESSES 2 ANCHORING POINT	0.800	1
U834-4	HARNESSES 4 ANCHORING POINT	0.950	1
U834-5	HARNESSES 2 ANCHORING POINT - DIELECTRIC	0.900	1
U834-7	HARNESSES 5 ANCHORING POINT	0.950	1
U834-1	BASIC HARNESSES KIT (HARNESSES + TETHER + 2 CARABINERS + BAG)	1.300	1
U834-6	WAIST HARNESSES	0.500	1
U835-1	WORK POSITIONNING BELT	0.300	1
U835-2	WORK POSITIONNING BELT (BELT + ROPE + CARABINER)	0.580	1

ROPE AND TETHER



U836-1 U836-2



U837-3



U837-1



U837-2



U837-4



U837-5



U837-6



U837-7

ACCESSORIES



U836-3



U836-4



U838-2



U838-3



U838-4

Code	Designation	Weight (kg)	Sales unit
U836-1	POLYAMIDE ROPE - 10 METERS	3.00	1
U836-2	POLYAMIDE ROPE - 20 METERS	6.00	1
U837-1	Y TETHER WITH CARABINERS AND ENERGY ABSORBER	0.700	1
U837-2	SIMPLE TETHER WITH CARABINERS AND ENERGY ABSORBER	0.600	1
U837-3	SIMPLE TETHER WITH CARABINERS AND ENERGY ABSORBER - DIELECTRIC	0.800	1
U837-4	Y TETHER WITH CARABINERS	1.10	1
U837-5	SIMPLE TETHER WITH CARABINERS	0.800	1
U837-6	SIMPLE TETHER	0.400	1
U837-7	SIMPLE ADJUSTABLE TETHER	0.450	1
U837-8	SIMPLE ADJUSTABLE TETHER WITH CARABINERS - DIELECTRIC	0.650	1
U836-3	GUIDED TYPE FALL ARRESTERS	0.230	1
U836-4	CARABINER	0.080	1
U838-1	TIE-OFF	0.070	1
U838-2	TIE-OFF - DIELECTRIC	0.030	1
U838-3	ANCHORING POINT	0.030	1
U838-4	HANGING RING	0.050	1

Personal protective equipment

Insulating mat



U840

Application

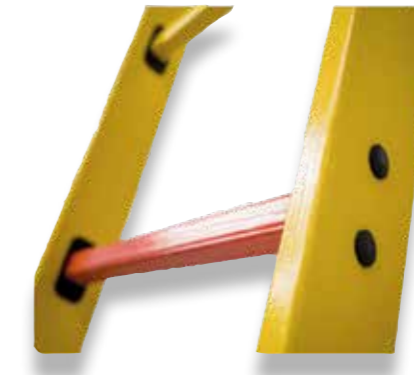
This mat is used to protect the fitter working area from contact voltage, during electrical work, without load in HV context and under load in LV one. Several models are available from class 0 to class 4.

Description

- This mat is made of rubber with both non-skid areas.
 - This mat offers a high dielectric strength.
 - It may be used for temperatures from -40°C to +70°C.
 - This mat is used directly laid on the ground.
 - Insulating mat is not a substitute to obligatory PPE but an element of secondary protection
- It meets the criteria of **IEC 61111** standard.

Code	Designation	Working alternative voltage (V)	Thickness (mm)	Weight (kg)	Sales unit
U840-0_1x1	INSULATING MAT CLASS 0 - 1x1m	1 000	2.5	3.98	1
U840-1_1x1	INSULATING MAT CLASS 1 - 1x1m	7 500	3	4.74	1
U840-2_1x1	INSULATING MAT CLASS 2 - 1x1m	17 000	3.5	5.51	1
U840-3_1x1	INSULATING MAT CLASS 3 - 1x1m	26 500	4	7.19	1
U840-4_1x1	INSULATING MAT CLASS 4 - 1x1m	36 000	5	8.11	1

Insulating ladder



U841

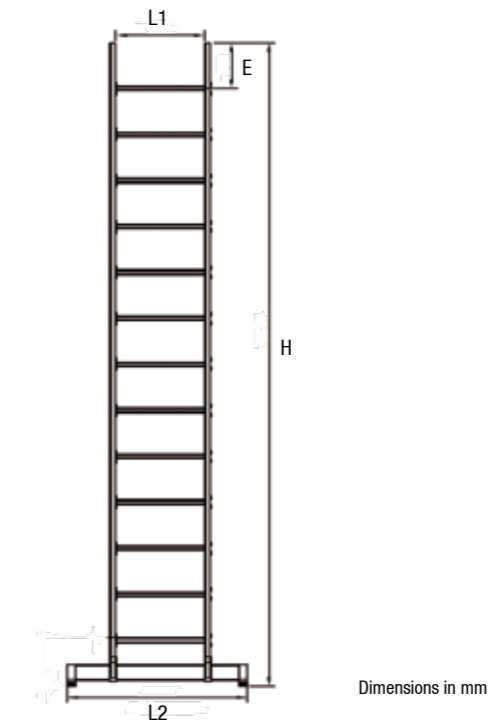
Application

This insulating ladder protects the fitter from current voltage during electrical installation works.

Description

- This ladder is in fibreglass. It is entirely made of composite material and does not comprise metallic part to realise mechanical bonding (screw, bolt...).
- This ladder is light and easily transportable.
- It offers a high resistance to atmospheric and chemical agents.
- It is available in several lengths.
- The ladder bottom is equipped with a stabilizer for models with a length superior to 3 meters.

This ladder meets the criteria of **EN 131** standard.



Dimensions in mm

Code	Designation	Dimensions (mm)				Number of ladder rungs	Weight (kg)	Sales unit
		H	L1	L2	E			
U841-3	INSULATING LADDER 3m	3	400	400	250	11	9.5	1
U841-3.5	INSULATING LADDER 3.5m	3.5	400	800	250	13	10.5	1
U841-4	INSULATING LADDER 4m	4	400	850	250	15	12	1
U841-4.5	INSULATING LADDER 4.5m	4.5	400	900	250	17	14	1
U841-5	INSULATING LADDER 5m	5	400	950	250	19	16	1
U841-6	INSULATING LADDER 6m	6	400	1050	250	23	19	1

Collective protective equipment

Warning tape



F865

Application

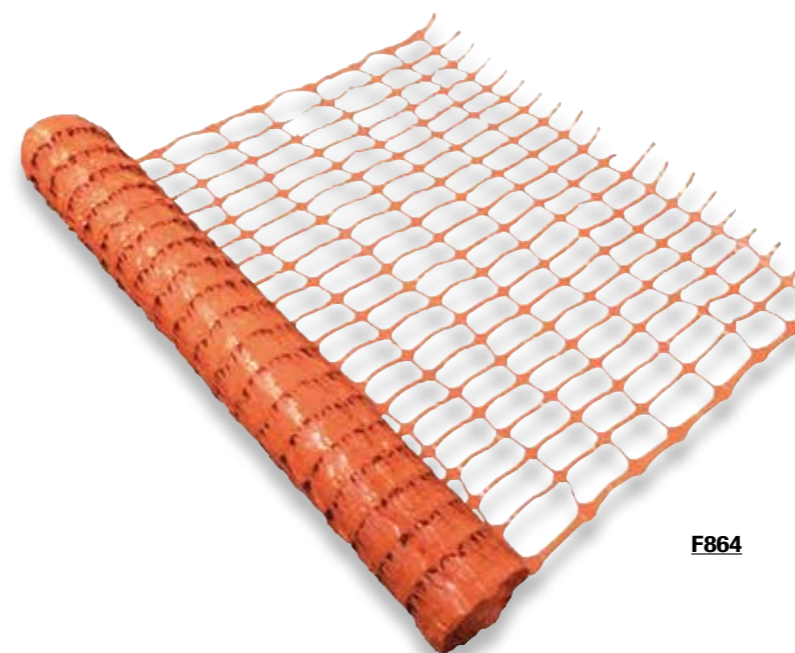
This warning tape enables to secure and delimit a work area on a construction site.

Description

- The warning tape is red and white (stripes).
- It is made of polyethylene.
- It is delivered in roll of 100m.

Code	Designation	Length (m)	Width (mm)	Thickness (mm)	Weight (kg)	Sales unit
F865	WARNING TAPE RED/WHITE (ROLL 100m)	100	70	0.050	1.500	1

Safety barrier



F864

Application

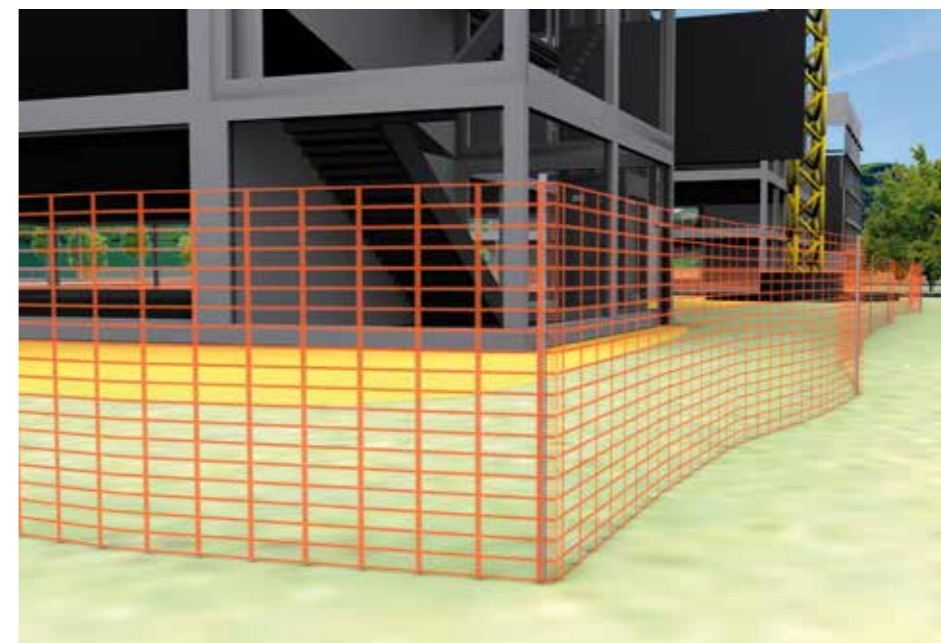
This safety barrier enables to secure and delimit a work area on a construction site. This netting is made of stretch mesh and offers a high tensile strength allowing extension without any risk of deformation or tearing.

Description

- The safety barrier is orange.
- The unoriented manufacturing process makes it more resistant in lengthwise axis.
- The netting is made of high density polyethylene.

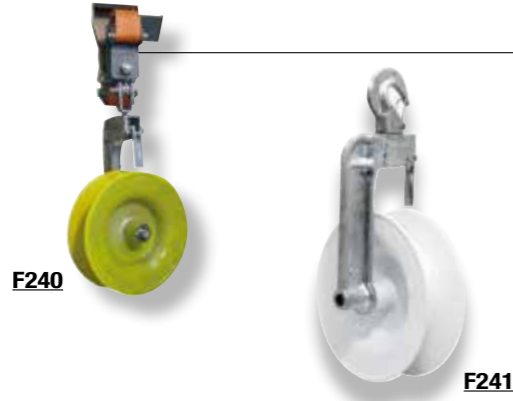
It meets the criteria of the **EN 13934-1** standard.

Code	Designation	Length (m)	Height (m)	Color	Weight (g/m ²)	Sales unit
F864	NETTING BARRIER	50	1	Orange	90	1



LV line unwinding and pulling

Pulley for aerial bundled conductors



Application

This pulley is designed to receive low voltage A.B.C. (Aerial Bundled Conductors) for unwinding and pulling operations.

Description

- The body of the pulley is made of aluminium alloy.
- The 250mm diameter wheel is made of synthetic materials. It has a 60mm groove to make the passage of A.B.C. up to 3x150 + 70N + 16mm² easier.
- The pulley is equipped with safety locking allowing the rope to be fitted with one hand. This system prevents the rope and therefore the A.B.C. from jumping out of the wheel during handling.
- Two types of pole fixing are available:
 - Pulley with swivelling hook,
 - Pulley with ratchet tightener and 1.20m strap.

Code	Designation	Pulley width (mm)	Operating load (daN)	Weight (kg)	Sales unit
F240	PULLEY WITH STRAP	60	800	5.200	1
F241	PULLEY WITH HOOK	60	800	2.650	1

For other characteristics, please contact us.

Mechanical winch



Application

This mechanical winch is designed to pull conductors of a low voltage power line. Light and small, it can be used for all types of cable adjustments, in particular on top of supports. It can be used also for lifting loads, stowing poles and other applications.

Description

- Two hooks at each end enable the winch to be fixed. They are equipped with a safety locking pin.
- The operating arm with ergonomic handle makes it easier to adjust the traction.
- The body is equipped with ratchet tightening system.

Code	Designation	Operating load (daN)	Weight (kg)	Sales unit
U354	MECHANICAL WINCH 500	500	9.00	1
U355	MECHANICAL WINCH 1 000	1 000	9.00	1

Overhead comealong clamp



Application

This overhead comealong clamp is designed to pull, retain and stretch bare or insulated conductors of a power line. Three models are available according to the type of conductors to be implemented:

- Bare steel or aluminium cable,
- A.B.C. (Aerial Bundled Conductors) type neutral messenger,
- A.B.C. type fully supported.

Description

- The half-cylinder shaped parallel jaws ensure secure tightening of the conductor, protecting it.
- An ergonomic handle with its wide opening enables good handling.
- The sliding of the jaws and arms is facilitated thanks to bolts and slides.
- The assembly is made of corrosion-proof galvanised steel or aluminium.

Code	Designation	Conductor type	Tighten capacity	Maximum load (daN)	Weight (kg)	Sales unit
F257	BARE CONDUCTOR COMEALONG 4-12mm	Bare Al / Steel	4-12mm	1 700	0.500	1
F258	INSULATED CONDUCTOR COMEALONG 6-14mm	Insulated Al / Cu	6-14mm	800	1.555	1
F269	SELF-SUPPORTED A.B.C. COMEALONG 4x95-150mm ²	A.B.C.	4x95mm ²	600	6.500	1
			4x150mm ²	900		

Wire-strainer



Application

This wire-strainer is designed to pull conductors on a low voltage electrical line manually.

Code	Designation	SWL (kg)	Ø cable or Ø wire to pull (mm)	Lever's two way distance (mm)	Comealong type	Weight (kg)	Sales unit
U353	WIRE-STRAINER (400KG)	400	from 5 up to 8	65	2	4.90	1
U351	WIRE-STRAINER (600KG)	600	from 7 up to 15	75	3	5.20	1
U352	WIRE-STRAINER (800KG)	800	from 14 up to 18	90	4	6.20	1

Wooden pole climbers



Application

These climbers are designed to help fitters climbing along poles and facilitate work at height. Sold in pair.

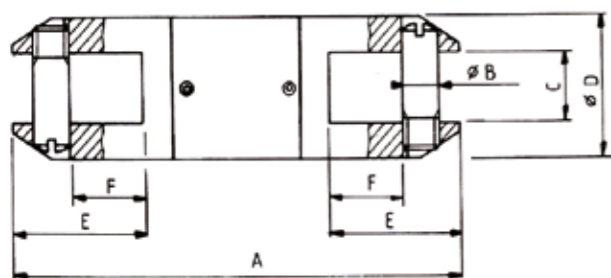
Code	Designation	Weight (kg)	Sales unit
WOODEN POLE CLIMBERS			
F448-20	WOODEN POLE CLIMBERS 6 PEAKS DIAM 20cm	2.45	1
F448-25	WOODEN POLE CLIMBERS 6 PEAKS DIAM 25cm	2.70	1
F448-30	WOODEN POLE CLIMBERS 6 PEAKS DIAM 30cm	3.00	1
F448-35	WOODEN POLE CLIMBERS 6 PEAKS DIAM 35cm	3.20	1
AUTOMATIC LOCKING CONCRETE CLIMBERS			
F495	AUTOMATIC LOCKING CONCRETE CLIMBERS 120-450mm	8.200	1
F496	ADJUSTABLE STEEL POST CLIMBERS 5/20	3.700	1

Overhead pulling grip and swivel

Swivel



U356-14



Application

This overhead swivel is used between two overhead pulling grips to replace an old conductor by a new one or between a pulling grip and the wire rope on the winch.

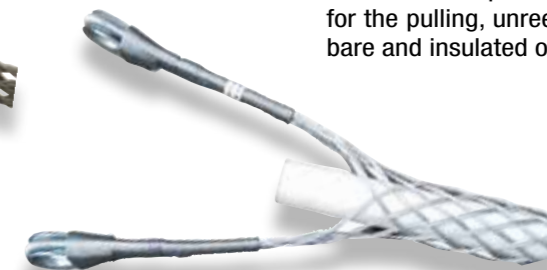
It prevents any twisting of the conductor during pulling, unreeling and laying. All of the parts are made of alloyed steel.

Code	Designation	A (mm)	B (mm)	C (mm)	Ø D (mm)	E (mm)	Linear break-down (daN)	Weight (kg)	Sales unit
U356-14	OVERHEAD SWIVEL DIAMETER 14	61	6	6	14	16	1 650	0.075	1
U356-16	OVERHEAD SWIVEL DIAMETER 16	70	6.5	8	16	19	1 700	0.100	1
U356-22	OVERHEAD SWIVEL DIAMETER 22	88	8.5	10	22	29	4 600	0.230	1
U356-34	OVERHEAD SWIVEL DIAMETER 34	122	12	16	34	35	6 500	0.520	1
U356-38	OVERHEAD SWIVEL DIAMETER 38	122	12	16	38	35	9 500	0.690	1
U356-55	OVERHEAD SWIVEL DIAMETER 55	200	16	32	55	35	5 000	2.000	1

Single and double eye grip



Single grip



Double grip

Application

This overhead pulling grip is designed for the pulling, unreeling and laying of bare and insulated overhead cables.

Description

- Eyes are made of galvanised steel.
- The single eye grip gets a grip at one of its ends and is closed at the other end (with a spliced core lug). It is used for cable-end pulling.
- The double eye grip is opened at both ends. It is used to start the pulling at the cable-end and to continue it in any part of the cable.

Code	Designation	Ø of cables (mm)	Maximum operating load (T)	M (mm)	N (mm)	Weight (kg)	Sales unit
SINGLE GRIP							
U357-8	OVERHEAD PULLING GRIP SINGLE EYE Ø 8	8 up to 10	0.400	250	125	0.070	1
U357-10	OVERHEAD PULLING GRIP SINGLE EYE Ø 10	10 up to 15	0.400	300	125	0.070	1
U357-15	OVERHEAD PULLING GRIP SINGLE EYE Ø 15	15 up to 20	0.800	350	130	0.129	1
U357-20	OVERHEAD PULLING GRIP SINGLE EYE Ø 20	18 up to 25	0.800	425	130	0.135	1
U357-25	OVERHEAD PULLING GRIP SINGLE EYE Ø 25	23 up to 30	1.650	475	135	0.225	1
U357-30	OVERHEAD PULLING GRIP SINGLE EYE Ø 30	30 up to 38	1.650	500	135	0.230	1
U357-35	OVERHEAD PULLING GRIP SINGLE EYE Ø 35	35 up to 43	3.400	525	150	0.445	1
U357-40	OVERHEAD PULLING GRIP SINGLE EYE Ø 40	40 up to 50	3.400	575	155	0.480	1
DOUBLE GRIP							
U358-8	OVERHEAD PULLING GRIP DOUBLE EYE Ø 8	8 up to 10	0.400	250	125	0.100	1
U358-10	OVERHEAD PULLING GRIP DOUBLE EYE Ø 10	10 up to 15	0.400	300	125	0.142	1
U358-15	OVERHEAD PULLING GRIP DOUBLE EYE Ø 15	15 up to 20	0.800	350	130	0.150	1
U358-20	OVERHEAD PULLING GRIP DOUBLE EYE Ø 20	18 up to 25	0.800	425	130	0.157	1
U358-25	OVERHEAD PULLING GRIP DOUBLE EYE Ø 25	23 up to 30	1.650	475	135	0.271	1
U358-30	OVERHEAD PULLING GRIP DOUBLE EYE Ø 30	30 up to 38	1.650	500	135	0.276	1
U358-35	OVERHEAD PULLING GRIP DOUBLE EYE Ø 35	35 up to 43	3.400	525	150	0.520	1
U358-40	OVERHEAD PULLING GRIP DOUBLE EYE Ø 40	40 up to 50	3.400	575	155	0.560	1

The same models are available in stainless steel or in Rilsan. Please contact us. Further models type sleeved are also available.

LV insulated tooling

Application

These toolings are designed to realise connections.



F445

INSULATED RATCHET WRENCH HEXAGONAL

This ratchet spanner is generally used for the installation of connectors. It has a H13/H17 end socket. It is manufactured according to the standard: **DIN EN 60900: 2012 = 1000V + double triangle.**



K004

HOLDING SPANNER

The holding spanner is designed to facilitate the installation of service connectors. It is placed on the connector walls.



K005

INSULATED WEDGE SEPARATOR

The wedge separator is designed to separate a conductor in an aerial bundle or in an underground cable to enable localised work on this conductor. It comprises 2 wedges linked by a 1m long cord. Each black wedge is made of strong synthetic material, and is UV, shock and cold resistant.

2 separations are possible:

- 2cm: for the installation of connectors.
- 4cm: for the installation of anchoring and pulling devices.

A hole at the end enables insertion of a tool to make 90° rotation easier, providing the separation from 2 to 4cm. Very smooth ribs and a slight penetration angle make wedge insertion in the cable easier.



F450

BRUSH

This brush is used with neutral grease to brush conductor cores in order to remove the oxide film.



L024

NEUTRAL GREASE

This tube of neutral grease is used to brush the conductors to be connected and thus protect the electrical connection. The nozzle enables grease to be applied to contacts that are difficult to access. The neutral grease complies with the ERDF France technical guide. It is neutral as regards aluminium and copper. It has the following technical characteristics:

- A high drop point (190°),
- A wide use temperature range (-20°C up to + 120°C).

Code	Designation	Weight (kg)	Sales unit
F450	BRUSH FOR CONDUCTOR WITH CASE	0.080	1
F445	INSULATED RATCHET WRENCH HEXAGONAL 13/17mm	0.380	1
K004	HOLDING SPANNER CBS/RDP	0.080	20
K005	INSULATED WEDGE SEPARATOR	0.360	5
K007	INSULATED WEDGE SEPARATOR 200x15x9mm	0.050	100
L024	CONTACTAL N190 NEUTRAL GREASE - TUBE OF 100g	0.115	1

Spanners

INSULATED CROSS SPANNER 8 - 10 - 13 - 17mm

The particular structure of this spanner allows it to be easily held. Generally, 13 and 17mm spanners are used for the installation of insulation piercing connectors. The 4 sides are insulated from one to another one.



F460

Code	Designation	Weight (kg)	Sales unit
F460	INSULATED CROSS SPANNER 8-10-13-17mm	0.400	1

MONKEY WRENCH

These monkey wrenches ensure a 1000V protection.



U814-1



U814-2

Code	Designation	Length (mm)	Weight (kg)	Sales unit
U814-1	MONKEY WRENCH 10" 1000V	250	0.620	1
U814-2	MONKEY WRENCH 12" 1000V	300	0.950	1

HEX KEYS



U814-3

This set of spherical head hex keys comprises 10 pieces covering diameters from 1.5 up to 10mm.

Code	Designation	Ø key (mm)	Weight (kg)	Sales unit
U814-3	SET OF 10 SPHERICAL HEAD HEX KEYS	1.5 2 2.5 3 4 5 5.5 6 8 10	0.360	1

Screwdrivers



SET OF SCREWDRIVERS

Sets of screwdrivers U815-1 and U815-2 comprise 6 screwdrivers (3 flat screwdrivers and 3 cross-head screwdrivers PZ).

The set of screwdrivers U815-3 comprises 7 screwdrivers type Torx (T).

Code	Designation	Number of pieces	Shape	Sales unit
U815-1	SET OF 6 SCREWDRIVERS 1000V	6	-	3x100 4x125 5x150 PZ0 PZ1 PZ2 1
U815-2	SET OF 6 SCREWDRIVERS	6	-	4x100 5.5x100 6.5x125 PZ1 PZ2 PZ3 1
U815-3	SET OF 7 SCREWDRIVERS TORX	7	T6 T8 T10 T15 T20 T25 T30	- - 1

LV insulated tooling

Pliers

Application

These pliers are designed to facilitate the cable work for connection operations.

UNIVERSAL PLIER



U810-1 U810-2 U810-3 U810-4

PHONE PLIER



U810-5 U810-6

CUTTING PLIER



U810-7 U810-8

STRIPPING PLIER



U810-9

PLIER FOR INSULATED TERMINALS



U810-10

WATER PUMP PLIER



U810-11

SET OF 3 PLIERS

The set of 3 pliers comprises:
- a universal plier L=180mm
- a diagonal cutting plier L=160mm
- a stripping plier L=160mm



U810-12

Code	Designation	Length (mm)	Weight (kg)	Sales unit
U810-1	UNIVERSAL PLIER L=165mm 1000V	165	0.230	1
U810-2	UNIVERSAL PLIER L=180mm 1000V	180	0.270	1
U810-3	UNIVERSAL PLIER L=200mm 1000V	200	0.330	1
U810-4	UNIVERSAL PLIER L=210mm 1000V	210	0.280	1
U810-5	PHONE PLIER 1000V	200	0.210	1
U810-6	CURVED PHONE PLIER 1000V	200	0.210	1
U810-7	DIAGONAL CUTTING PLIER 1000V	160	0.210	1
U810-8	STRENGTHENED CUTTING PLIER 1000V	200	0.380	1
U810-9	STRIPPING PLIER 1000V	160	0.170	1
U810-10	PLIER FOR INSULATED TERMINALS	200	0.175	1
U810-11	WATER PUMP PLIER	254	0.350	1
U810-12	SET OF 3 PLIERS 1000V		0.620	1

Cutting

Application

These toolings are designed for cables and synthetic materials cut.

CABLE CUTTER



U811-1



U811-2
U811-3



U811-4

SCISSORS



U811-5

ANGLED KNIFE



U811-6

CUTTING PLIER FOR PLASTIC SADDLES



U811-7

PLASTIC PIPE CUTTER



U811-8

Code	Designation	Cu (mm ²)	Al (mm ²)	Length (mm)	Weight (kg)	Sales unit
U811-1	CABLE CUTTER 1000V			250	0.500	1
U811-2	CABLE CUTTER WITH PAWL DIAM 32 1000V	240	300	260	0.600	1
U811-3	CABLE CUTTER WITH PAWL DIAM 52 1000V	400	600	280	0.800	1
U811-4	CABLE CUTTER WITH PAWL DIAM 70 1000V	800	1000	300	0.900	1
U811-5	BIG BREACH SCISSORS 1000V			160	0.098	1
U811-6	ANGLED KNIFE 1000V			180	0.100	1
U811-7	CUTTING PLIER FOR PLASTIC SADDLES			150	0.100	1
U811-8	PLASTIC PIPE CUTTER 1000V			64	0.600	1

LV insulated tooling

Electrician sets



17 pieces - **U812-1**



26 pieces - **U812-2**



37 pieces - **U812-3**



31 pieces - **U812-5**



5 pieces - **U812-4**

Application

These sets offer several toolings designed for LV electrical equipment installation.

Code	Designation	Number of pieces	Weight (kg)	Sales unit
U812-1	ELECTRICIAN SET 17 PCS 1000V	17	3.60	1
U812-2	ELECTRICIAN SET 26 PCS 1000V	26	5.00	1
U812-3	ELECTRICIAN SET 37 PCS 1000V	37	9.00	1
U812-4	ELECTRICIAN TOOLINGS SET 5 PCS 1000V	5	0.75	1
U812-5	WRENCH SOCKETS SET 1/2" 1000V	31	10.00	1

Tool belts



U839-2



U839-1

Application

These belts make the fitter's job easier by giving an easy access to needed tools during the installation

Code	Designation	Weight (kg)	Sales unit
U839-1	SIMPLE TOOL BELT	0.500	1
U839-2	DOUBLE TOOL BELT	0.800	1

Measuring devices

Application

These devices are designed to perform test or control measurements in order to make sure of the right products installation.



U813-1

DIGITAL MULTIMETER

It measures direct or alternative current and voltage, resistance, electrical capacity, diodes and frequency.



U813-2

CLAMP AMMETER

The clamp measures current, voltage, resistance, temperature, diodes and electrical continuity.



U813-3

DIGITAL TESTER

It enables to perform voltage measurements from 0 up to 220V.

Code	Designation	Weight (kg)	Sales unit
U813-1	DIGITAL MULTIMETER	0.915	1
U813-2	CLAMP AMMETER	0.520	1
U813-3	DIGITAL TESTER 220V	0.040	1

Hydraulic crimping tool



F400



F407



F408



F424



F432



F420 - F421 - F422

Application

These crimping tools are designed for the crimping of junction sleeves and lugs.

They are available in 2 versions:
- hydraulic type,
- electro-hydraulic type.

Description

Hydraulic type:

- The ergonomic mobile handle enables the beginning of crimping by operating the tool with one hand.
- The developed force is 50kN maximum.
- The safety valve and audible "click" ensure efficient crimping and good protection of the hydraulic closing system.
- The ram retract mechanism is actuated by a release trigger.
- A 13mm stroke enables crimp connectors to be crimped between 6 and 150mm².
- The 180° rotating head facilitates use in any situations.
- The length is 365mm.
- The carrying case can contain one hydraulic crimping tool and up to 12 dies.

This hydraulic crimping tool meets the criteria of **NF C 20-130**.

Electro-hydraulic type:

- The developed force is 60kN maximum.
- The crimping time varies between 5 and 8 seconds depending on the section.
- The return is automatic after complete crimping.
- The autonomy is approximately 120 crimping operations.
- The F408 adaptor is used to assemble proposed dies.
- The product is delivered in a carrying case.

Code	Designation	Weight (kg)	Sales unit
CRIMPING TOOLS			
F400	50kN HYDRAULIC CRIMPING TOOL	2.350	1
F401	CARRYING CASE FOR 50kN HYDRAULIC CRIMPING TOOL	2.850	1
F407	60kN ELECTRO-HYDRAULIC CRIMPING TOOL	4.500	1
F408	HEXAGONAL DIE ADAPTOR	0.110	1
F409	BATTERY FOR F407	1.200	1
DIES FOR PREINSULATED SLEEVES			
F420	HEXAGONAL DIE TYPE E140	0.115	1
F421	HEXAGONAL DIE TYPE E173	0.115	1
F422	HEXAGONAL DIE TYPE E215	0.115	1
DIES FOR Al/Cu LUGS			
F424-140	HEXAGONAL DIE E140 Al/Cu SECTIONS 35+50	0.115	1
F424-173	HEXAGONAL DIE E173 Al/Cu SECTIONS 70+95+120	0.115	1
DIES FOR TUBULAR LUGS			
F432-4-120	HEXAGONAL DIE SECTIONS 4+120	0.115	1
F432-6-35	HEXAGONAL DIE SECTIONS 6+35	0.115	1
F432-10-50	HEXAGONAL DIE SECTIONS 10+50	0.115	1
F432-16-70	HEXAGONAL DIE SECTIONS 16+70	0.115	1
F432-25-95	HEXAGONAL DIE SECTIONS 25+95	0.115	1
F432-150	HEXAGONAL DIE SECTION 150	0.115	1
F432-185	HEXAGONAL DIE SECTION 185	0.115	1
F432-240	HEXAGONAL DIE SECTION 240	0.115	1

Other dies and hydraulic tools are available. Please contact us.



Installation video available on www.michaud-export.com



INSTALLATION

These products must be implemented and used in **compliance with the applicable regulations** with a skilled, qualified professional undertaking to do so following the generally accepted rules of the trade.

For **live-line** implementation or handling, the electrician must comply with the requirements for live-line work conditions and must be equipped with the necessary personal protection equipment. The implementation temperature limits are: -10°C to +40°C.

Live-line work is carried out under the responsibility of the ordering customer in compliance with the applicable rules.

Before powering up the equipment, all the required verifications must be carried out.



TOOLS

The product should be installed and used with **suitable tools**.

The screw heads should be tightened with the appropriate tool: **Spanner** for hexagonal cap screws, **flat screwdriver** for slotted screw heads of the right size, **Phillips screwdriver** for cruciform screw heads, **HSHC screw head (awls)** for hollow hexagonal screw heads, etc. The screw heads with no torque-limiting device must be tightened to the recommended torque and must not be tightened again.



RECOMMENDATIONS

The installation instructions must be read carefully before using the product.

The product must be used and implemented in compliance with these recommendations for use and installation instructions. It must be used for the applications for which it was defined by the operator/manager of the network and on an electrical installation that is compliant and compatible with the product.

Never exceed the capacities indicated on the device and in the instructions sheet.

Unless explicitly indicated, products are designed for no-load connection.



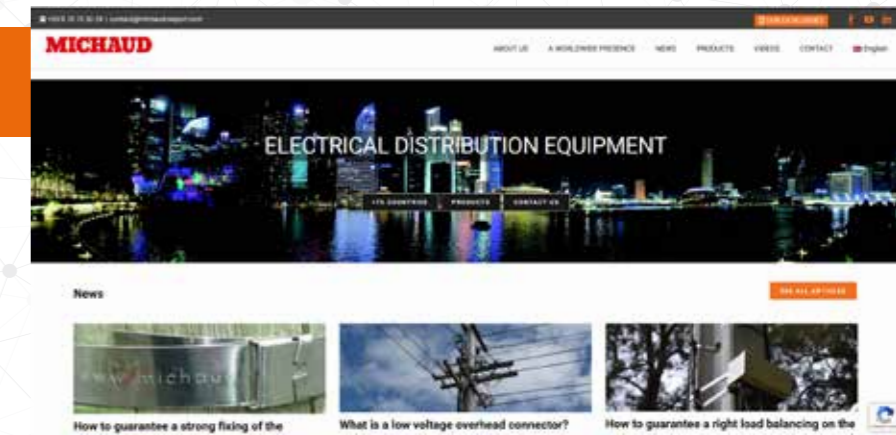
ENVIRONMENT

Please group your waste together and follow the recycling and destruction instructions before leaving the worksite.

WEBSITE



www.michaud-export.com



LINKEDIN

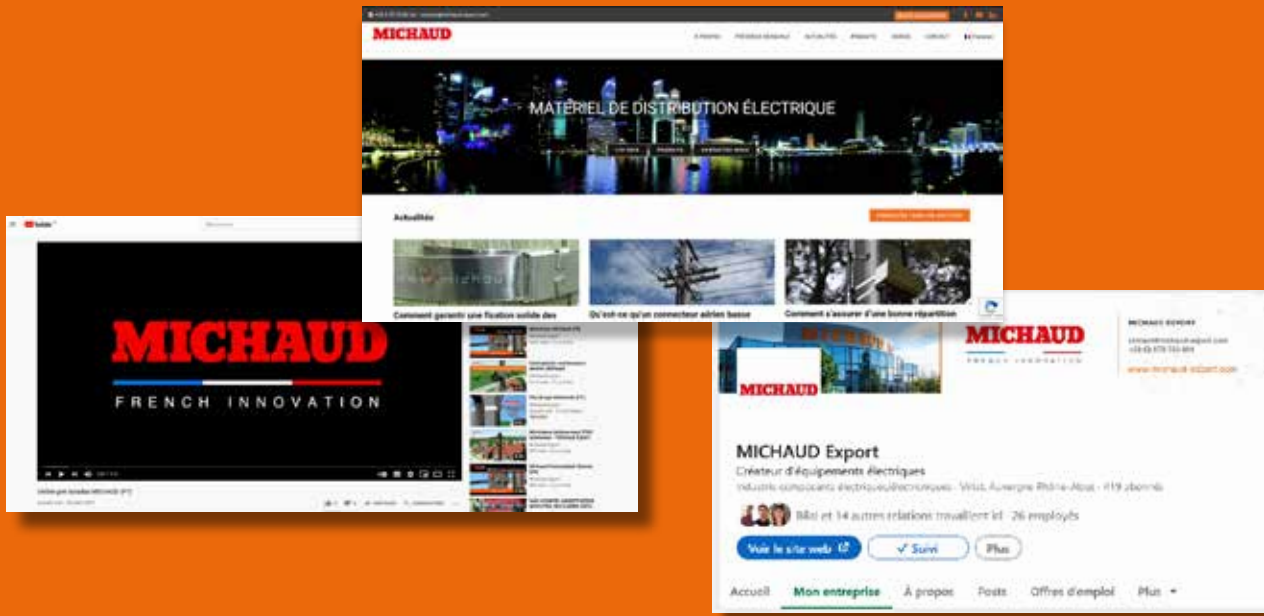
Suivez notre actualité :



YOUTUBE

Découvrez nos vidéos :





Découvrez notre site Internet
www.michaud-export.com

International expert in electrical distribution, **Michaud Export** designs, develops and implements reliable systems reducing maintenance operations on distribution networks.

As the architect of your solution, the company focuses on on-going innovation and leverages on the worldwide renowned expertise of the 250 employees at **Michaud Group**, leader in the industry for systems and connection fittings for electrical installations.

Michaud Export

499, Rue du Revermont
ZAC La Cambuse
01440 Viriat
France
Tél +33 (0)9 70 75 50 24
contact@michaud-export.com
www.michaud-export.com

MICHAUD