



Welding solutions





Risks in the welding sector

The risks related to welding tasks are largely due to the welding fumes, metal splashes, contact with heat and flame.

The tasks are very demanding and often require protection for the welder and people working in the vicinity. Their prevention is based on collective protection devices or the wearing PPE.

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Risk of **burns**

Welding work causes sparks of glowing particles and heat from hot components..



Gloves

Welding involves a number of risks, and it is essential to protect the hand as it is the first to be exposed to danger. Welding gloves have the distinctive feature of protecting the hands against mechanical hazards, heat, burns and electrostatic discharges.

Welding gloves protect the hands and wrists against time-limited exposure to flame, contact heat, convective heat and also against molten metal splashes.

Type B gloves are recommended for applications that require greater dexterity (e.g. for Tungsten inert gas [TIG] electrode welding, while type A gloves are recommended for other welding methods.

For a welding glove to be certified and compliant with the standard EN12477 (welding standard), it must undergo tests of the standards EN388 (mechanical protection) and EN407(heat protection). Indeed, it must reach minimum levels in each test. The expected results are different depending on the type of welding glove. The minimum length of welding glove is 300 mm.

Welding gloves are classified into two types:

Type A : refers to gloves with higher heat protection but lower flexibility and dexterity.

Type B : refers to gloves with less heat protection but greater flexibility and dexterity.



Clothing

During welding operations, the operator may be exposed to metal splashes, small flames, contact and radiant heat, and the risk of electric shock, which cause burns and may also ignite clothing. In addition, he may also be exposed to ultraviolet radiation which is classified as a human carcinogen.

It is therefore important to wear suitable clothing that protects against all these elements..



Clothing that protects from welding risks must meet the **EN ISO 11611** standard. It is tested for the following risks:

- Propagation of flame: A1 and/or A2
- Molten metal splashes
- Heat transfer
- Electric resistance

2 classes have been defined based on the results:

- **Class 1:** low risk, few splashes, low radiant heat
- **Class 2:** higher risk, more and larger splashes, high radiant heat

The user may choose class 1 or 2 depending on the techniques used and the environment:

Type of clothing for welders	Selection criteria relating to the welding procedure	Selection criteria relating to the environmental conditions
Class 1	Manual welding techniques with slight spatter and droplet formation, e.g.: - gas welding - TIG welding - MIG welding (with low current) - brazing - spot welding - MMA welding (rutile coated electrode).	Operation of machines, for example: - flame cutting machines - plasma fusion cutting equipment - electric resistance welding equipment - thermal splashing equipment: - bench-top welding
Class 2	Manual welding techniques with high spatter and droplet formation, e.g.: - MMA welding (with base or cellulose-covered electrode) - MAG welding (with CO2 or gas mixture) - MIG welding (with high current) - self-protected flux-cored arc welding - plasma fusion cutting - gouging - oxycutting - thermal splashing..	Operation of machines, for example: - in confined spaces - at overhead welding/cutting locations or in uncomfortable positions..



The MAIAO range of treated cotton clothing complies with standard 11611 class 1 and is complemented by the SUMATRA range of leather clothing, which complies with standard 11611 class 2 to cover all risks associated with welding.



Footwear

Welding processes in heavy industry, metal industry and foundry involve various specific risks requiring an optimal level of foot protection. Footwear must therefore protect against the risks of molten metal splashes, contact with hot floors and slipping.

A specific standard, viz. ISO 20349, covers the needs for foot protection in the welding industry.



The COBRA4 shoe, S3 SRC WG HI HRO standardised according to EN ISO 20349, provides the best level of protection against the extreme heat risks encountered in the welding trades in heavy industry. In addition, its Velcro fastening system allows quick removal of the shoes in the event of splashes inside the shoe.

A safety shoe must pass several tests in order to be **EN ISO 20349** certified:

Resistance to the effects of molten metal splashes:

The shoe upper alone is resistant to at least 25 small splashes of molten metal, before the temperature inside the shoe rises to 40°C. This property corresponds to marking with the symbol «WG».

Resistance of the upper to a hot environment:

The upper of welders' safety shoes is flame resistant. The upper materials do not remain ignited or glowing for more than 2s after a contact time of 10s with a specified test flame.

Optional heat resistance properties:

- Heat Insulation (HI): The outsole of these shoes remains undamaged for 30 min on a 150°C floor. The temperature inside the shoes must not rise by more than 22° after 30 minutes of exposure.

- Heat Resistant Outsole (HRO):

The outsole does not degrade after 1 minute of contact at 300°C.

Risk of inhalation of welding fumes

A major risk: Metal welding fumes can, depending on their composition, concentration and duration of exposure, have adverse health effects and cause occupational diseases. The risks concern welders but also people working in the vicinity. Their prevention is based on the implementation of collective protection devices, which can be supplemented by wearing personal protective equipment.

EN149: Filtering half-masks

Tests of resistance to shocks, cleaning and disinfection products, flame and breathing resistance.

P1 Non-toxic dusts and/or water-based aerosols.

P2 ASolid and/or liquid aerosols of low toxicity or irritation.

P3 Toxic solid and/or liquid aerosols

EN140: reusable half-mask

EN136: reusable full mask



Splashing (ocular/ face) risks

An arc is the best-known symbol of welding, but behind the beauty of the light and sparks there is also danger. Looking at an arc without eye protection can permanently damage eyesight, and even a short exposure can burn the surface of the eye and cause what is known as «arc flash». Ultraviolet and infrared radiation, and visible elements such as heat splash, can damage the eyes and burn unprotected skin..

EN166 : EN 166 is the basic certification for all personal eye protection.

It is a certification for polycarbonates (colourless or opaque) mounted on goggles, grinding visors or welding bonnets. Polycarbonates meet both mechanical criteria (strength, elasticity, thermal stability) in order to protect the operator's eyes or face against particle projections and optical criteria (power, transmission and diffusion of light) in order to attenuate certain light rays.

Polycarbonates are also used to protect optical filters, both inside and outside welding bonnets.

EN175 : certifies facial protection equipment for welding (bonnet).

It meets very strict criteria in terms of mechanical protection (strength, thermal stability, electrical insulation), but also physiological protection (facial covering). EN 175 certified equipment is always associated with an optical filtration device EN 169 (mineral glasses, passive filtration) or EN 379 (automatic cell, active filtration).

EN169 : EN 169 specifies requirements for the protection level and transmission factor of passive filters (or mineral lenses) intended to provide optical protection for welders.

The protective tint of the mineral glass is numbered according to levels. The choice of glass depends on the method used and the welding intensity: the gas flow for flame welding and the current for arc welding. Glasses with a level between 4 and 8 are suitable for grinding, flame welding or plasma cutting. Glasses with a level between 9 and 14 are suitable for arc welding. The higher the level, the more opaque the glass and the more light it filters. The disadvantage of the passive filter is that it must be changed according to the welding intensity.

More sophisticated and versatile, active filters are liquid crystal optoelectronic cells with variable tint. Thanks to them, the welder is no longer obliged to change the filter according to the welding method and intensity.

EN379 : specifies the requirements of the optical qualities and the range of protection of active filters (self-switching cells) when observed by the operator during the welding process.

The optical qualities of active filters can be identified according to 4 criteria rated from 1 to 3 (1 being the best): optical class or rectitude of the image (whether the image is distorted or not), light scattering, light transmittance variations (filter homogeneity) and angular dependence (indirect light filtration).

The protection range of an active filter is either between 5 and 13 (for grinding, plasma cutting, flame and arc welding) or between 9 and 13 (for arc welding only). Each cell also has a minimum protection shade, usually 4.

Finally, all active filters have permanent UV and IR protection, usually at 15, but can be as high as 16.



Risk related to **dangerous noises**

In addition to a noisy environment, arc welding can result in noise emissions of up to 85 dB(A) for some processes.

Some welding techniques are noisier than others. MIG, MIG/MAG and autogenous welding processes are quite noisy. Welders wear hearing protection, but this is not necessarily the case for people approaching their work area.

EN352-1 : Earmuffs

EN352-2 : Earplugs

EN352-3 : Earmuffs mounted on construction site helmets.

Requirements for construction, design, performance and test methods. Requires the provision of information on the characteristics.

Requirements Directive 2003/10/EC: Minimum requirements for the protection of workers from risks related to 8-hour exposure to noise

à ≥ 85 dB(A) : Hearing protector mandatory

à ≥ 80 dB(A) and < 85dB(A) : Hearing protector available to the worker

à > 75 dB(A) and < 80 dB(A) : Hearing protector recommended.



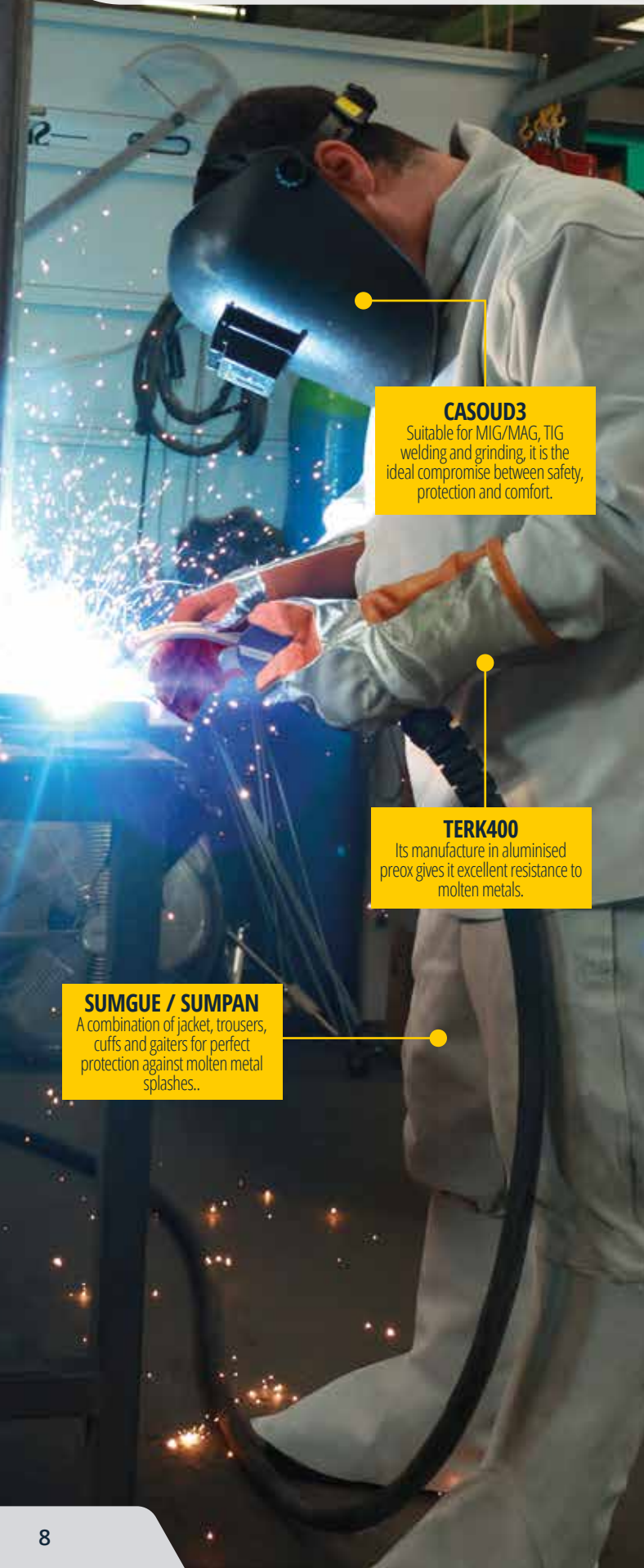
WELDING	MMA	MIG	MAG	TIG	TORCH	PLASMA	LASER
Process	Electric arc + Electrode 			Electric arc + Electrode Tungsten 	Torch flame 	Electric arc + Electrode 	Laser ray 
Gas supply	No	Inert protective gas (Argon or Helium)	Active protective gas (Argon/CO2 or Argon/Oxygen)	Neutral gas (Argon)	Fuel gas (acetylene, propane, butane or methane) + Combustion gas (oxygen - hydrogen or natural gas)	Argon (principal) + Hydrogen or Helium (annular)	No
	3 500°C to 7 000°C			3 500°C	3 150°C	15 000°C to 25 000°C	
Metal supply	Yes (melting electrode)	Yes (metal coil)		Yes (Filler metal rod)	Yes	No	No
Example of jobs using these process	Craftsmen, locksmiths, metal workers, coachbuilders	Steel structure, boilermaking, metalwork / ironworks, railway and naval construction		Boilermaking, metalwork / ironworks	Plumbers, heating engineers, cold storage, locksmiths	Aeronautics, light and pharmaceutical Industry	Light and pharmaceutical Industry
Materials	Steel, stainless steel, cast iron, aluminum	Pure steel or weakly alloyed*	Stainless steel and copper alloy*	All type of metals (except light aluminum alloy*)	Copper, tin, brass, aluminum, zinc	Steels, stainless steel, aluminum and alloy*	Metals and plastics
Thickness	2 mm to 10 mm	0,5 mm to 10 mm		0,3 mm à 6 mm	Inférieur to 2 mm	Micro plasma : 0,01 to 1 mm Plasma : 1 to 3 mm Unblocking spray plasma: 3 mm to 8 mm	2 mm to 8 mm
Features	Economical and good quality welding	High speed, regular and good quality welding bead		«Clean» welding, very high quality, slow process	Easy to settle, stand alone device. Easy to learn but average aspect.	Quality welding (fine and precise). Possibility of automatic process but rather slow. + Possibility to cut pieces	«Clean» and very high quality but expensive welding process + Cut of pieces in large series

An alloy is the combination of a metallic element with one or several other chemical elements by melting, with the aim of modifying the mechanical properties of the basic metal. Examples of known alloys :

- Cast iron: iron + carbon (between 2,1 and 6,7 % in carbon mass)
- Steel: iron + carbon (less than 2,1 % in carbon mass)
- Brass: copper + zinc - Bronze: copper + tin

TIG / MIG / MAG

Boiler making



CASOUD3
Suitable for MIG/MAG, TIG welding and grinding, it is the ideal compromise between safety, protection and comfort.

TERK400
Its manufacture in aluminised preox gives it excellent resistance to molten metals.

SUMGUE / SUMPAN
A combination of jacket, trousers, cuffs and gaiters for perfect protection against molten metal splashes..

CASOUD3



Helmet for all types of welding that requires shade 11 protection. Headband. Solid ready to use: fixed screen equipped with one clear polycarbonate filter (FILTER-IN), flip-up screen equipped with one 11 filter (FILTER-11), protected by one clear polycarbonate filter (FILTER-IN). Dimensions of the filters: 108 x 51 mm.. Polypropylene

CE EN166 1F/F EN169 11 EN175 F

TERK400



Heat-resistant cowhide split leather palm (HR). Aluminised Kevlar Preox® back. Wool fleece lining. Kevlar® Technology sewn. American assembly. 20 cm cuff. Length: 40 cm.

CE EN388 EN407 EN12477 TYPE A
3244X 413444

SUMVES



Welding jacket. Fastening with velcro band. Cowhide split leather. Thickness: 1.20 and 1.30 mm.

CE EN ISO 11611 CLASS 2 A1 A2

SUMMAN



Pair of welding over sleeve. with elasticated hems. 40 cm length. Cowhide split leather. Thickness: 1.20 and 1.30 mm.

CE EN ISO 11611 CLASS 2 A1 A2

SUMPAN



Welding trousers. Elastic belt with keepers. Fly closed with press studs under flap. Pockets with keepers on both sides. Cowhide split leather. Thickness: 1.20 and 1.30 mm.

CE EN ISO 11611 CLASS 2 A1 A2

SUMGUE



Pair of gaiters. 1 ajustement loop. Fastening with velcro band. Cowhide split leather. Thickness: 1.20 and 1.30 mm.

CE EN ISO 11611 CLASS 2 A1 A2

COBRA4 S3 SRC



Upper: Pigmented split leather, S3 water resistant treatment. Lining: Polyester. Insock: Removable premolded - Polyamide on EVA. Outsole: Injected - PU/Rubber nitrile. Para aramid seams. Flap. Fastening with velcro band.

CE EN ISO 20345 S3 HRO HI SRC EN ISO 20349-2 WG

PACAYA T5



Polycarbonate single lens glasses. Integrated polycarbonate nose piece. Adjustable nylon arms. Side protection.

CE EN166 1FT/FT EN169 UV 5

TERK500



Outside aramid fabric. 100% cotton inside. 16 cm cuff. Length: 36 cm.

CE EN388 EN407
2541E 44424X

MAIVE2



Jacket. High collar closed by concealed press studs. Zip fastening with concealed studded flap. Elasticated waist on both sides. Adjustable cuffs with press-studs. 3 pockets including 1 inner. 2 gas detector holders. Twill 99% cotton 1% Antistatic fibre 320 g/m².

CE EN ISO 11612 EN ISO 11611 EN1149-5
A1 A2 B1 C1 E3 F1 CLASS 1 A1 A2
EN61482-2
ELIM = 5.4 cal/cm² APC 1

COBRA4 S3 SRC



Upper: Pigmented split leather, S3 water resistant treatment. Lining: Polyester. Insock: Removable premolded - Polyamide on EVA. Outsole: Injected - PU/Rubber nitrile. Para aramid seams. Flap. Fastening with velcro band.

CE EN ISO 20345 EN ISO 20349-2
S3 HRO HI SRC WG

MAIPA2



Trousers. Elasticated waist on both sides. 4 pockets. Twill 99% cotton 1% Antistatic fibre 320 g/m².

CE EN ISO 11612 EN ISO 11611 EN1149-5
A1 A2 B1 C1 E3 F1 CLASS 1 A1 A2
EN61482-2 EN14404 TYPE 2 LEVEL 0
ELIM = 5.4 cal/cm² APC 1

PLASMA T4 - T12 / LASER
Industry



PACAYA T5
The tilting arms allow the glasses to be adjusted to the shape of the face for a better fit.

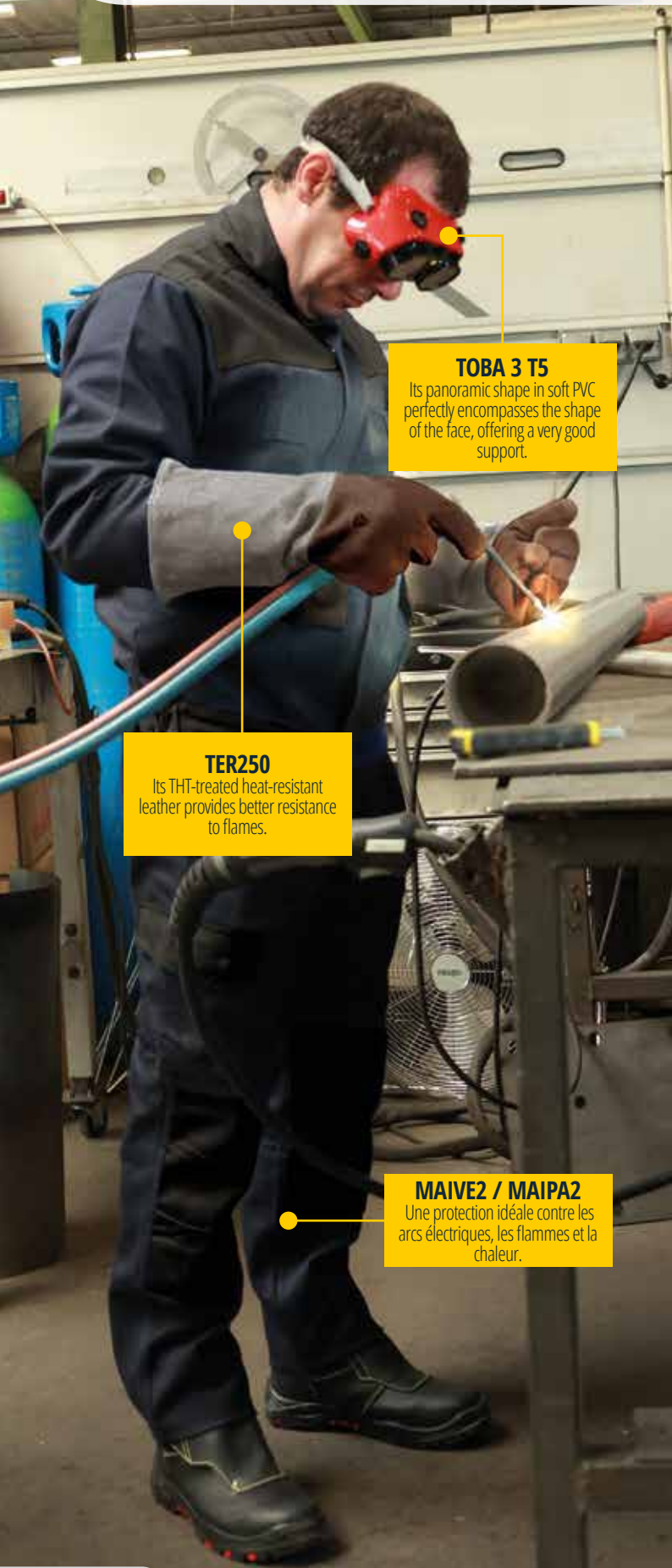
TERK500
Its multi-layer structure offers contact heat protection up to 500°C for 15 seconds..

MAIVE2 / MAIPA2
Ideal protection against electric arcs, flames and heat.

COBRA4 S3 SRC
A complete protection S3 SRC WG HI HRO.
A Velcro fastening system that allows quick removal of shoes in case of molten metal splashes inside the shoe.

TORCH

Plumbing



TOBA 3 T5
Its panoramic shape in soft PVC perfectly encompasses the shape of the face, offering a very good support.

TER250
Its THT-treated heat-resistant leather provides better resistance to flames.

MAIVE2 / MAIPA2
Une protection idéale contre les arcs électriques, les flammes et la chaleur.

TOBA 3 T5



Welding goggles. Flip-up screen. Flexible PVC frame. Indirect ventilation. Elastic strap. Clear polycarbonate inside lens. Shade 5 polycarbonate upper lens with clear polycarbonate reinforcement lens.

CE EN166 1FT N/FT EN169 5 EN175 F

TER250



Heat-resistant cowhide split leather palm (HR). Wool fleece lining on palm. Cuff with canvas lining. Kevlar® Technology sewn. American assembly. 20 cm cuff. Length: 40 cm.

CE EN388 EN407 EN12477 TYPE A
3 2 4 3 X 4 1 3 X 4 X

MAIVE2



Jacket. High collar closed by concealed press studs. Zip fastening with concealed studded flap. Elasticated waist on both sides. Adjustable cuffs with press-studs. 3 pockets including 1 inner. 2 gas detector holders. Twill 99% cotton 1% Antistatic fibre 320 g/m².

CE EN ISO 11612 EN ISO 11611 EN1149-5
A1 A2 B1 C1 E3 F1 CLASS 1 A1 A2

EN61482-2
ELIM = 5.4 cal/cm² APC 1

COBRA4 S3 SRC



Upper: Pigmented split leather, S3 water resistant treatment. Lining: Polyester. Insock: Removable premolded - Polyamide on EVA. Outsole: Injected - PU/Rubber nitrile. Para aramid seams. Flap. Fastening with velcro band.

CE EN ISO 20345 S3 HRO HI SRC EN ISO 20349-2 WG

MAIPA2



Trousers. Elasticated waist on both sides. 4 pockets. Twill 99% cotton 1% Antistatic fibre 320 g/m².

CE EN ISO 11612 EN ISO 11611 EN1149-5
A1 A2 B1 C1 E3 F1 CLASS 1 A1 A2

EN61482-2 EN14404 TYPE 2 LEVEL 0
ELIM = 5.4 cal/cm² APC 1

BARRIER2

Helmet for electric arc welding with self-obscuring screen. Can be used for MIG, MAG, TIG and plasma welding requiring 9 to 13 shade protection. Can be used in shade 5 to 9 for low intensity or flame welding. Can be used for grinding in shade 4.

CE EN166 1B EN379 1/1/1/2 4/5-9/9-13 EN175 B

ANSI ANSI-SEA Z87.1 Z87 W4/5-9/9-13

FC115

High quality cowhide full grain leather palm with full index. Cowhide split leather back and cuff. American assembly. 15 cm cuff. Length: 35 cm.

CE EN388 EN407 EN12477 TYPE B
2 132X 4 12X4X

SUMTAB

Welding apron with bib. Adjustment buckle on the neck. Sewn split leather strap with plastic buckle. Dimensions: 90 cm x 60 cm. Cowhide split leather. Thickness: 1.20 and 1.30 mm.

CE EN ISO 11611
CLASS 2 AT A2

COBRA4 S3 SRC

Upper: Pigmented split leather, S3 water resistant treatment. Lining: Polyester. Insock: Removable premolded - Polyamide on EVA. Outsole: Injected - PU/Rubber nitrile. Para aramid seams. Flap. Fastening with velcro band.

CE EN ISO 20345 S3 HRO HI SRC EN ISO 20349-2 WG

M2VE3

Jacket. Elasticated cuffs. Elasticated waist on both sides. 7 pockets including 1 inside. Twill 65% polyester 35% cotton 245 g/m².

CE

M2PA3

Trousers. Regular cut. Elasticated waist on both sides. Preformed knees. 7 pockets including 1 ruler. Twill 65% polyester 35% cotton 245 g/m².

CE EN14404 TYPE 2 LEVEL 0

TIG Plumbing

**BARRIER2**

Its auto-darkening screen provides maximum optical quality. Its comfortable headband can be easily adjusted with one hand.

FC115

Very good wrist protection with artery guard.

SUMTAB

Its soft leather offers excellent protection against radiation.

M2PA3

Tight-fitting trousers that are very comfortable to wear thanks to the inseam gusset.

Structural steelwork

CASOUD2HE

A welding mask mounted on a high-performance helmet, resistant to very high temperatures of up to 150°C. Easy-to-open window for greater comfort.

CA615K

Its fleece lining offers great comfort.

MAIVE2 / MAIPA2

Ideal protection against electric arcs, flames and heat.

SUPER QUARTZ



ABS-PC safety helmet. Polyamide cradle: 3 textile bands with 8 fixing points. Foam sweat band. Innovative button adjustment "colour to colour" for head sizes 53/63 cm. 2 possible positions of the headband (high/low) for better comfort. Electrical Insulation up to 1 000 V.A.C. or 1 500 V.D.C.

CE EN397 MM LD -30°C +150°C 440VAC EN50365 CLASS 0

CASOUD2HE



Polypropylene welding face shield, to be used on safety helmets. For all types of welding that requires shade 11 protection. Sold ready to use: fixed screen equipped with one clear polycarbonate filter (FILTER-IN), flip-up screen equipped with one shade 11 filter (FILTER-11), protected by one clear polycarbonate filter (FILTER-IN). Dimensions of the filters: 108 x 51 mm.

CE EN166 1F/S EN169 11 EN175 S

MAIVE2



Jacket. High collar closed by concealed press studs. Zip fastening with concealed studded flap. Elasticated waist on both sides. Adjustable cuffs with press-studs. 3 pockets including 1 inner. 2 gas detector holders. Twill 99% cotton 1% Antistatic fibre 320 g/m².

CE EN ISO 11612 A1 A2 B1 C1 E3 F1 EN ISO 11611 CLASS 1 A1 A2 EN1149-5 EN61482-2 ELIM = 5,4 cal/cm² APC 1

MAIPA2



Trousers. Elasticated waist on both sides. 4 pockets. Twill 99% cotton 1% Antistatic fibre 320 g/m².

CE EN ISO 11612 A1 A2 B1 C1 E3 F1 EN ISO 11611 CLASS 1 A1 A2 EN14404 TYPE 2 LEVEL 0 EN1149-5 ELIM = 5,4 cal/cm² APC 1

CA615K



High quality heat-resistant split leather (HR). Cuff with canvas lining. Kevlar® Technology sewn. American assembly. Length: 35 cm.

CE EN388 EN407 EN12477 TYPE A 3 1 3 2 X 4 1 3 X 4 X

SUMMAN



Pair of welders over sleeve. with elasticated hems. 40 cm length. Cowhide split leather. Thickness: 1.20 and 1.30 mm.

CE EN ISO 11611 CLASS 2 A1 A2

SUMTAB



Welder apron with bib. Adjustment buckle on the neck. Sewn split leather strap with plastic buckle. Dimensions: 90 cm x 60 cm. Cowhide split leather. Thickness: 1.20 and 1.30 mm.

CE EN ISO 11611 CLASS 2 A1 A2

HAR12



2 fall arrester anchorage point harness (back - front). 2 adjustment loops. 2 adjustable lateral plates.

CE EN361 140 kg

COBRA4 S3 SRC



Upper: Pigmented split leather, S3 water resistant treatment. Lining: Polyester. Insock: Removable premolded - Polyamide on EVA. Outsole: Injected - PU/Rubber nitrile. • Para aramid seams. • Flap. Fastening with velcro band.

CE EN ISO 20345 S3 HRO HI SRC EN ISO 20349-2 WG

MMA / TIG / MIG / TORCH
**Metalworks
 Ironworks**

BARRIER2



Helmet for electric arc welding with self-obscuring screen. Can be used for MIG, MAG, TIG and plasma welding requiring 9 to 13 shade protection. Can be used in shade 5 to 9 for low intensity or flame welding. Can be used for grinding in shade 4.

CE EN166 1B EN379 1/1/1/2 4/5-9/9-13 EN175 B

ANSI ANSI-ISEA Z87.1 Z87 W4/5-9/9-13

TER300



Heat-resistant cowhide split leather palm (HR). Leather reinforcement on palm. Cotton lined hand and cuff. Kevlar® Technology sewn. American assembly. Length: 40 cm.

CE EN388 EN407 EN12477 TYPE A
 4 144 X 4 33 14 X

SUMMAN



Pair of welding over sleeve. with elasticated hems. 40 cm length. Cowhide split leather. Thickness: 1.20 and 1.30 mm.

CE EN ISO 11611 CLASS 2 A1 A2

SUMTAB



Welding apron with bib. Adjustment buckle on the neck. Sewn split leather strap with plastic buckle. Dimensions: 90 cm x 60 cm. Cowhide split leather. Thickness: 1.20 and 1.30 mm.

CE EN ISO 11611 CLASS 2 A1 A2

COBRA4 S3 SRC



Upper: Pigmented split leather, S3 water resistant treatment. Lining: Polyester. Insock: Removable premolded - Polyamide on EVA. Outsole: Injected - PU/Rubber nitrile. • Para aramid seams. • Flap. Fastening with velcro band.

CE EN ISO 20345 S3 HRO HI SRC EN ISO 20349-2 WG

M2VE3



Jacket. Elasticated cuffs. Elasticated waist on both sides. 7 pockets including 1 inside. Twill 65% polyester 35% cotton 245 g/m².

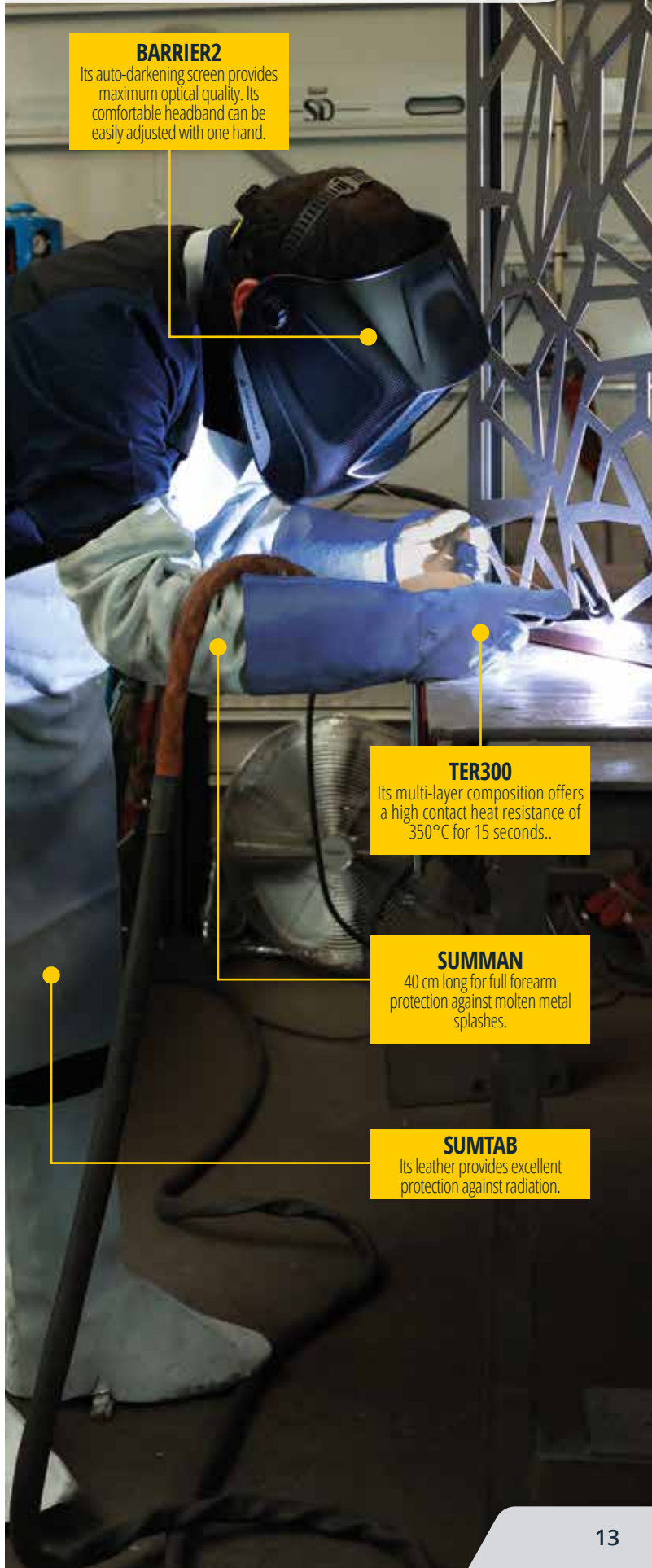
CE

M2PA3



Trousers. Regular cut. Elasticated waist on both sides. Preformed knees. 7 pockets including 1 ruler. Twill 65% polyester 35% cotton 245 g/m².

CE EN14404 TYPE 2 LEVEL 0



BARRIER2

Its auto-darkening screen provides maximum optical quality. Its comfortable headband can be easily adjusted with one hand.

TER300

Its multi-layer composition offers a high contact heat resistance of 350°C for 15 seconds..

SUMMAN

40 cm long for full forearm protection against molten metal splashes.

SUMTAB

Its leather provides excellent protection against radiation.

MMA / MIG / MAG

Bodywork



SCREEN
 Its auto-darkening screen easily adjusts to the intensity of the light. Its comfortable headband can be easily adjusted with one hand.

GFA115K
 Its sheep leather design provides flexibility and dexterity

MAIVE2 / MAIPA2
 Ideal protection against electric arcs, flames and heat..

SCREEN



Helmet for electric arc welding with self-obscuring screen. Can be used for MIG, MAG, TIG and plasma welding requiring 9 to 13 shade protection.

CE EN166 1F EN379 1/1/1/2 4/9-13 EN175 F
 ANSI ANSI-ISEA 287.1 287 W4/9-13

GFA115K



Lambskin full grain leather. Cowhide split leather cuff. Kevlar® Technology seams. Fourchette assembly. 15 cm cuff. Length: 35 cm.

CE EN388 EN407 EN12477 TYPE B
 2 111 X 4 1 X X 4 X

MAIVE2



Jacket. High collar closed by concealed press studs. Zip fastening with concealed studded flap. Elasticated waist on both sides. Adjustable cuffs with press-studs. 3 pockets including 1 inner. 2 gas detector holders. Twill 99% cotton 1% Antistatic fibre 320 g/m².

CE EN ISO 11612 EN ISO 11611 EN1149-5
 A1 A2 B1 C1 E3 F1 CLASS 1 A1 A2
 EN61482-2
 ELIM = 5.4 cal/cm² APC 1

COBRA4 S3 SRC



Upper: Pigmented split leather, S3 water resistant treatment. Lining: Polyester. Insock: Removable premolded - Polyamide on EVA. Outsole: Injected - PU/Rubber nitrile. Para aramid seams. Flap. Fastening with velcro band.

CE EN ISO 20345 S3 HRO HI SRC EN ISO 20349-2 WG

MAIPA2



Trousers. Elasticated waist on both sides. 4 pockets. Twill 99% cotton 1% Antistatic fibre 320 g/m².

CE EN ISO 11612 EN ISO 11611 EN1149-5
 A1 A2 B1 C1 E3 F1 CLASS 1 A1 A2
 EN61482-2 EN14404 TYPE 2 LEVEL 0
 ELIM = 5.4 cal/cm² APC 1

BARRIER2



Helmet for electric arc welding with self-obscuring screen. Can be used for MIG, MAG, TIG and plasma welding requiring 9 to 13 shade protection. Can be used in shade 5 to 9 for low intensity or flame welding. Can be used for grinding in shade 4.

CE EN166 1B EN379 1/1/1/2 4/5-9/9-13 EN175 B

ANSI-ISEA 287.1 287 W4/5-9/9-13

TC716



High quality cowhide split leather. American assembly. 15 cm cuff. Length: 35 cm.

CE EN388 EN407 EN12477 TYPE A
3 1 2 2 X 4 1 2 X 4 X

SUMTAB



Welder apron with bib. Adjustment buckle on the neck. Sewn split leather strap with plastic bucklet. Dimensions: 90 cm x 60 cm. Cowhide split leather. Thickness: 1.20 and 1.30 mm.

CE EN ISO 11611 CLASS 2 A1 A2

MAICO2



Overalls. High collar closed by concealed press studs. Zip fastening with concealed studded flap. Elasticated back and waist on both sides. Gusset on back. Adjustable cuffs with press-studs. 5 pockets including 1 inner. 2 gas detector holders.

Twill 99% cotton 1% Antistatic fibre 320 g/m².

CE EN ISO 11612 EN ISO 11611 EN1149-5
A1 A2 B1 C1 E3 F1 CLASS 1 A1 A2
EN61482-2 EN14404 TYPE 2 LEVEL 0
ELIM = 5.4 cal/cm² APC 1

COBRA4 S3 SRC



Upper: Pigmented split leather, S3 water resistant treatment. Lining: Polyester. Insole: Removable premolded - Polyamide on EVA. Outsole: Injected - PU/Rubber nitrile. Para aramid seams. Flap. Fastening with velcro band.

CE EN ISO 20345 S3 HRO HI SRC EN ISO 20349-2 WG

Welding Aluminium



BARRIER2

Its auto-darkening screen provides maximum optical quality. Its comfortable headband can be easily adjusted with one hand.

MAICO2

Ideal protection against electric arcs, flames and heat.

TC716

Very good wrist protection with artery guard.

SUMTAB

Its soft leather offers excellent protection against radiation.



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