VISARC

WHEN TECHNOLOGY MEETS SAFETY

PENTA

ELECTRICAL SAFETY PRODUCTS

VISARC

WHEN TECHNOLOGY MEETS SAFETY

As electrical workers, you play a crucial role in our society, working with an essential energy while facing considerable risks.
The VISARC helmet has been designed to give you the best protection against electrical hazards, enhancing your safety and the continuity of an essential service.

VISA

WHEN TECHNOLO

ARC

GY MEETS SAFETY

AN INDUSTRY FOCUS

At the heart of PENTA's industrial strategy lies an unwavering commitment to innovation and excellence.
This commitment is reflected in the construction of a new production plant in France, specifically dedicated to the manufacture of the revolutionary «VISARC» helmet.

This building embodies much more than just a production facility ; it has become a symbol of the company's bold vision and its commitment to product quality.

A new building dedicated :

- **for plastic injection**
- **for assembly line**
- **for laboratory tests**

MADE IN FRANCE

2

INJECTION PRESS

Because our helmets require the highest standards of reliability, our production lines must meet the expected quality. For instance, the shells are injected using a new-generation 350-ton press in an automated production cell.

THERMOPLASTIC POLYMER

The VISARC helmet meets the highest standards for lightness, durability, and impact resistance through the use of advanced thermoplastic polymers.

1

5 TEST LABORATORY

A series of tests is carried out in our laboratory to test the helmet's resistance to various risks and guarantee total effectiveness.

3 ASSEMBLY LINE

VISARC helmets are checked by various operators throughout the manufacturing process to guarantee the highest quality finish.

4 UPPER SHELL

The upper shell is secured using an ingenious vacuum-holding system.

6 MATERIAL STORAGE

An area of over 200m² has been allocated for storing raw materials and finished products.
This strategic approach allows us to optimize the entire production and logistics chain for maximum efficiency.

ELECTRONICS

ON-BOARD TECHNOLOGY

We have created a revolutionary helmet with integrated electronic capabilities, similar to the electronic functions found in pilot helmets used in aviation.

Various available functions
- Head lamp
- Head lamp with auxiliary battery
- Personal Integrated Voltage Detector*

* Audible beeps confirm the accurate positioning of the screen or shield, thanks to sensors integrated into the helmet (only available on versions with personal alarm).

THE HELMET

UNRIVALLED SAFETY & COMFORT

The «double shell» design allows us to go even further in controlling dielectric insulation. The balance and quality of the harness contribute to carrying comfort.

THE FACE SHIELD

UNRIVALLED VISUAL COMFORT

It protects the face and eyes from the thermal effects of an electric arc short-circuit (projection of molten metal, heat, UV radiation, etc.).

Injection molded into high-tech materials, it uses patented technology used in helicopter helmets to eliminate image distortion.

VISARC TECHNOLOGY PATENT REGISTERED

THE BEARD

NO MORE HOODS...

This rigid protection is optional for helmets with an APC1 face shield and essential for APC2 helmets.

When lowered, the BEARD fits perfectly over the face shield, completing the protection on the bottom and sides of the face. This patented technology is an advantageous replacement for traditional textile protectors (avoiding hygiene and cleaning problems).

The BEARD's lowering mechanism ensures a perfect fit with the screen.

VISARC TECHNOLOGY PATENT REGISTERED

A VISIONARY TECHNOLOGY

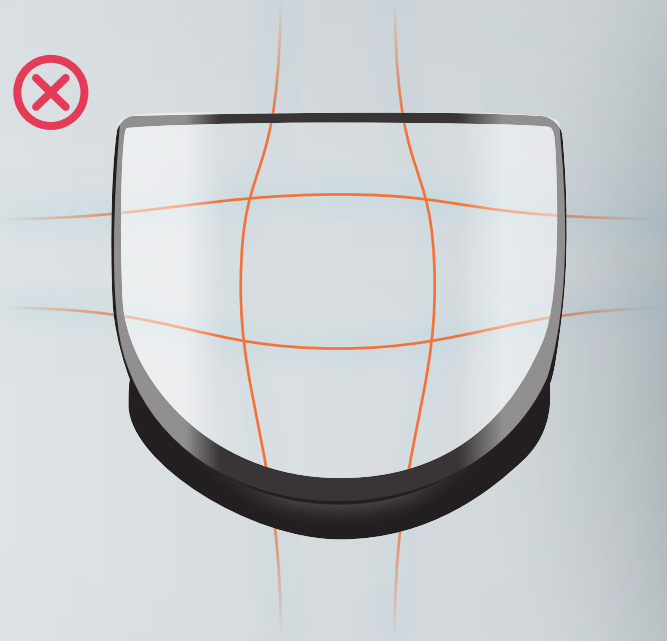
Because providing you with effective safety means above all allowing you to see clearly, the face shield benefits from cutting-edge technology to enable you to intervene in the best possible conditions:

- **Optical accuracy**
- **Wide field of vision**
- **Accurate perception of shapes and colours**
- **Visual comfort**

PROTECTIVE SHIELD

- **Arc flash protection**
- **Fogg resistant treatment inside Scratch resistant treatment outside**
- **Fire-resistant / UV resistant**
- **Protection against molten particles projection**

UNRIVALLED VISUAL COMFORT



CLASSIC FACE SHIELDS

- **PRISMATIC DISTORTION**
  The image is shifted, forcing the eyes to move towards the centre (the eyes have to converge more).
- **ASTIGMATIC DISTORTION**
  Image appears smaller.

VISARC FACE SHIELD TECHNOLGY

- **PRISMATIC CORRECTION**
  No image shift: less eye fatigue.
- **ASTIGMATIC CORRECTION**
  The image appears at the right size: less blur and less fatigue

VISARC TECHNOLOGY
PATENT REGISTERED

THINGS TO KNOW
The distortions caused by bad eyepieces are not always detected by users. This is because the brain understands that the lines should be aligned. It then tries to reprocess the information received from the eyes to virtually realign the shapes. This constant, unconscious work by the brain is a major cause of fatigue.

CHOOSE YOUR
ARC FLASH PROTECTION

APC1 protection
4kA / 0,5s
Colorless face shiled

APC2 protection
7kA / 0,5s
ATPV 12 cal/cm²
Light grey tint face shield

APC2 protection
7kA / 0,5s
ATPV 25 cal/cm²
Light grey tint face shield

PROTECTION AGAINST

Blast and sound wave effects

Heat and flames with projection of molten metal fragments

UV radiation

THINGS TO KNOW

Strangely enough, electric current can travel through the air (the perfect illustration is lightning between the sky and the earth). This phenomenon can also occur in electrical installations, when ionised air becomes conductive under certain conditions, causing flash arcs.

These are extremely powerful thermal discharges, which can reach temperatures of 18,000°C, accompanied by the projection of molten metal and intense UV radiation. The consequences can be serious, even fatal, burns.

THE BEARD (INTEGRATED CHIN AND LATERAL PROTECTION)

Thanks to two side rails, the BEARD follows a perfect trajectory.

A SOLUTION UNIQUE IN THE WORLD

In the world of personal safety, an exceptional innovation is redefining the standards of protection. An engineering masterpiece that combines comfort, practicality and safety in a revolutionary way.

Imagine Arc-flash protection that deploys and retracts as you work. The VISARC helmet responds to this vision with an innovative design that combines cutting-edge materials and ultra smooth retraction mechanism.

VISARC is the 1st helmet to offer a rigid and retractable, integrated chin and lateral protection.

VISARC TECHNOLOGY
PATENT REGISTERED

ARC FLASH PROTECTION INTEGRATED INTO THE HELMET

- **Perfect overlap between face shield and the beard.**
- **Ultra-precise positioning of the BEARD using guide rails.**
- **An audible warning* if the BEARD is not fully lowered.**

* Only for helmet versions equiped with personal alarm.

FIT YOUR ELECTRONICS WITH JUST ONE CLICK

Thanks to a revolutionary attachment system, you can now add additional electronic devices to your helmet with a single click.

There's no need to juggle complex operations or time-consuming installations: our ergonomic design makes everything simple.

Whether you need a headlamp, an extra battery or a personal alarm for added safety, simply clip the desired electronics onto your helmet and you're ready to go.

Comfort, practicality and efficiency are now all at your fingertips, or rather your click.

NO MORE HEADBANDS OR OTHER DUBIOUS HANGING SYSTEMS


Remove the large central top cover from the helmet.
1
2
CLICK
Insert the lamp and click into place to ensure it is correctly positioned.
3
Connect the lamp to the auxiliary battery.
4
Insert the battery into its slot.
CLICK
5
Cover the cable with the central crest.
CLICK

ON-BOARD ELECTRONICS

VISARC is the first helmet to include
a slot for on-board electronics in its design.

VEA-1

Standalone dual-beam headlamp
(with integrated battery)

VEA-2

Dual-beam headlamp
and auxiliary battery
with red LEDs at the rear

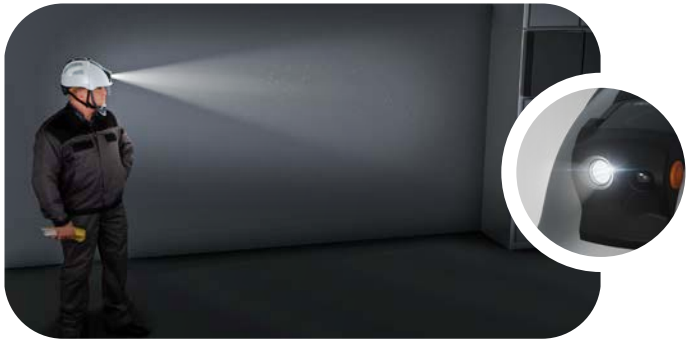
VEA-3

Dual-beam headlamp
with personal alarm and auxiliary battery
with red LEDs at the rear

SEEING AND BEING SEEN

VISARC is the first helmet to be fitted with red LEDs at the rear (for versions VEA-2 and VEA-3).

This additional lighting considerably improves the operator's visibility in low-light conditions or at night.



Approach light beam

Work light beam

2 BEAMS USES

A headlamp with two beams of light offers an undeniable advantage for professionals.

As you walk towards the work area, the approach light beam diffuses a distant, uniform light, providing a clear view of the surrounding terrain, which is essential for navigating safely in the dark.

However, once on site, it's the working light beam that takes over. This open-angle beam illuminates the entire work area.

Thanks to this combination of beams, the headlamp offers unrivalled versatility, enabling its user to adapt quickly and effectively to different situations and lighting requirements.

SUN, NIGHT, NOISE
THE REALITY OF LIFE ON A WORKSITE...

In their day-to-day work, electrical workers can be exposed to harsh working conditions (night work, intense sunlight, noise, etc.).

It is crucial to take adequate safety measures and to remain aware of the potential dangers associated with these working environments.

THE RIGHT ACCESSORY
FOR EVERY SITUATION

NECK SUNBURN

NECK PROTECTOR

Protection for the back of the neck against the effects of the sun.
Ref : VA-NECK

NOT TO BE SEEN IN THE DARK

REFLECTIVE STRIPS

4 self-adhesive strips.
Ref : VA-REFLECT

NOISE NUISANCE

EAR MUFFS

SNR 26 décibels
Ref : TC42AB

CONFIDENCE DOES NOT EXCLUDE CONTROL

Our manufacturing batches are released through rigorous controls and destructive testing to ensure impeccable quality and the reliability essential to guarantee user safety.
These measures ensure that every product meets the highest standards, offering total peace of mind to our customers and end-users.

SHOCK ABSORPTION

This test validates the helmet's ability not to transmit the impact of a shock to the operator's head (e.g. when a heavy object is dropped).

A 5kg round striker is dropped on the helmet from a height of 1 metre.

The force transmitted to the false head must not exceed 5kN.

PENETRATION RESISTANCE

This test validates the helmet's ability not to be pierced by a sharp, heavy object (e.g. a falling spanner).

A 3kg pointed firing pin is dropped from a height of 1 metre.

The firing pin must not come into contact with the false head

ANCHORING THE CHINSTRAP

This test is used to check that the chinstrap can unhook, avoiding tearing the operator's head off (example of an operator bending down and hitting a protruding part).

A tensile force of 150 N is applied to the chinstrap and then increased in increments of 20 N.

The chinstrap anchorage must detach for forces of between 150N and 250N

FLAME RESISTANCE

This test verifies that the helmet does not catch fire in the event of contact with a flame (example: case of fire following a short circuit).

Helmet turned upside down, cap exposed to propane flame for 10s

The materials must not burn with flame emission for more than 5 s after the flame is withdrawn.

ELECTRICAL RESISTANCE TEST

This test checks that the helmet provides insulating electrical protection for the head in the event of contact with a live conductor.

The helmet, which is placed upside down, is filled with water and is itself immersed in a tank of water. A voltage up to 30kV (class 2, according to EN 50365) is generated between the two water reserves.

No perforation should occur.

020249

ENDURANCE TESTING

Above and beyond the norm, we put our helmets to the test by cycling the screen and shield up and down.

01

I CHOOSE MY
FLASH ARC PROTECTION

Depending on my field of work,
I choose one of the 3 models:

- APC1 (4kA / 0,5s)
- APC2 (7kA / 0,5s et ATPV 12 cal/cm²)
- APC2 (7kA / 0,5s et ATPV 25 cal/cm²)

02

I CHOOSE MY
ON-BOARD ELECTRONICS

Depending on my needs,
I equip my helmet with :

- **1 headlamp**
  (with integrated battery)
- **1 headlamp**
  + 1 battery with red LEDs at the rear
- **1 headlamp**
  + 1 battery with red LEDs at the rear
  + 1 personal alarm at the rear

03

I CHOOSE MY
CREST COLOUR

Thanks to a choice of colours,
you can personalise the full crest
of the helmet with the colour
that suits you best:

Black (standard) | **White** | **Red** | **Yellow** | **Green**

04

I CHOOSE MY ACCESSORIES

I add the right accessories to my helmet :

- **Neck protector**
- **Retro-reflective strips**
- **Ear muffs**

05

I CHOOSE TO CUSTOMIZE

I can highlight my company name.

There is a dedicated space on the front of the helmet.

Complete all these steps in our configurator on our website

pentaesp.com

Face shield gripping area

Ratchet knob with push-pull system for easy adjustment when wearing gloves

Battery: «rear lights»

Dual beam headlamp
with personal alarm.

VISARC: a unique visual signature

Arc-Flash APC 1
4kA / 0,5s
Beard : As an option

V1-BK-W*

Arc-Flash APC 2
7kA / 0,5s
ATPV 12 cal/cm²
Beard : Integrated chin and lateral protection

V2-12-LPP-BK-W*

Arc-Flash APC 2
7kA / 0,5s
ATPV 25 cal/cm²
Beard : Integrated chin and lateral protection

V2-25-LPP-BK-W*

/ STANDARDS

Helmet
EN 397, EN 50365 (Class 2)

Face shield
GS-ET-29, ASTM F 2178, EN ISO 16321 (EN 166, EN 170)

Helmet + face shield : Arc-flash Protection
IEC 62819 according 2 méthods
Box test and Open arc

CE 0161

*Our helmets are systematically delivered with a Black (BK) full crest, clipped onto the helmet. If you wish to complete it with a crest of another color, simply add one of the following codes to the end of the helmet reference:

W(White)= White
R (Red)= Red
Y (Yellow)= Yellow
G (Green) = Green

The colored crest will then be added to the packaging box

/ FEATURES

Helmet
- Double shell for optimum protection against electrical and Arc-Flash risks. In ABS material
- 6-point textile harness, with wide sweatband, and very precise adjustment of the ratchet knob with push-pull system
- Head size (cm): 53-63
- 4-point chin strap, with quick release closing and opening system. Easy to use with insulated gloves

Face shield
- Ergonomic, polycarbonate material
- Optical quality (Class 1), for extended wear, without deformation, and without visual fatigue
- Resistant to molten metals (symbol 9)
- Resistance to particles launched at high speed (80m/s - symbol DT)
- UV resistance (index UL 1.2 for colorless face shield / UL 1.7 for tinted face shield)
- Inside : fog resistant (symbol N)
- Outside : Scratch resistant (symbol K)

Lifespan : 5 years from start of use
(after storage under recommended conditions for up to 3 years)

Scan Me

/ HELMETS DELIVERED WITH:

- Storage, protection and transport bag (soft and silky interior, double drawstring for easy closing and for transport in a backpack)
- Microfiber wipe
- Individual box
- Instructions for use

Individual carton box

Microfiber wipe


Carrying bag

/ MULTIBEAM HEADLAMP

Dual beam: long range beam and broad beam with various lighting modes and intensity levels.
Light intensity: up to 250 lumens.
Lighting distance: up to 20/30 m for the long-range beam.
Lamp autonomy: up to 100 hours (active detection).

Beam type	Light intensity	Beam angle	Lighting distance	Autonomy
Long beam	140 lumen	11°	20-30 m	4 h
HIGH broad beam	100 lumen	65°	10-15 m	4 h
MEDIUM broad beam	50 lumen		5-10 m	25 h
LOW broad beam	20 lumen		< 3 m	50 h
Alert mode	/	/	/	150 h

Dual-beam headlamp
Monoblock (integrated battery)

VEA-1-BK-W*

Dual-beam headlamp
and auxiliary battery with red LEDs at the rear

VEA-2-BK-W*

Dual-beam headlamp with personal alarm
and auxiliary battery with red LEDs at the rear
Supplied with USB charger and large carrying bag (Faraday cage, allows you to transport the headset equipped with its detector without triggering the alarms)

VEA-3-BK-W*

* When clipping the lamps, the full crest of the helmet is no longer compatible.
Our lamps are therefore systematically delivered with small complementary crest in Black (BK).
If you wish to equip yourself with a small crest in another color, simply add one of the following codes to the end of the lamp reference:

W (White) = White
R (Red) = Red
Y (Yellow) = Yellow
G (Green) = Green

The colored central crest will then be added to the packaging box.

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