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ArcZone Summer Trousers

TROUSERS WITH ARC FLASH PROTECTION

SKU

0161
CE
CAT III

Certified By: AITEX Research & Innovation Center
Carretera Banyeres,10 ES-03802
NOTIFIED BODY 0161

USER INSTRUCTIONS – TROUSERS WITH ELECTRIC ARC FLASH PROTECTION

Protective clothing designed for individuals working in hazardous environments with low visibility, requiring antistatic protection and protection against electric arc exposure.

This garment is designed for use in industrial activities where the wearer may be exposed to:
- Brief contact with open flames.
- Convective heat exposure less than 80 kW/m^2.
- Radiant heat exposure less than 20 kW/m^2.
- Contact with splashes of molten metal.
- Contact with hot surfaces up to 250°C.
- Small splashes of molten metal during welding and similar operations, reducing the risk of minor electric shock and accidental contact with live parts up to 100V DC under normal welding conditions.
- Additional protective equipment (e.g. gloves, hoods) may be required.
- The garment must always be properly fastened to ensure effective performance.
- For full-body protection, the PPE must be fully closed and combined with other appropriate personal protective equipment.
- Environmental conditions and workplace hazards must be considered.
- Proper fit of the garment is essential for adequate protection.

Misuse Warnings
- This PPE should not be used for risks beyond those described above.
- Dirt or molten metal residues on the garment may impair its performance.
- Never remove the garment in explosive or flammable environments or while handling explosive or flammable materials.
- Increased oxygen concentration in the air can significantly reduce the protection level of this PPE.
- If the PPE consists of two pieces, both must be worn to achieve the stated level of protection.
- This PPE is not designed to protect feet or hands.
- Do not wear non-flame-resistant or meltable garments underneath.
- Any tears or damages must not be repaired by the user. Using flammable or meltable threads for repairs is extremely dangerous in case of explosion or fire.

Composition: **50% Cotton, 39% Modified Acrylic Fiber Type-F, 10% Viscose, 1% Antistatic**

PLEASE READ THESE INSTRUCTIONS CAREFULLY BEFORE WEARING THIS GARMENT.
Consult your safety officer or supervisor to determine whether this garment is appropriate for your specific work environment.
Keep these instructions for future reference.
The garment is made from flame-resistant fabric with protective properties verified for at least 5 washing cycles, offering an expected lifetime of up to 5 years under standard conditions, unless it becomes partially or fully damaged, or shows visible signs of ageing that reduce its protective performance.
Once the garment's useful life is over, dispose of it in containers prepared for textile waste or hand it over to an authorized manager.
The Declaration of Conformity or other necessary instructions can be found at: www.axioncotton.com

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Axion Cotton ABEE 11 Korinthou St., 14451 Metamorfosi, Greece
Tel: +30 210 2847280-3

Compliance with European Standards
The CE marking on this PPE indicates that it complies with the essential health and safety requirements of the European Regulation 2016/425 on Personal Protective Equipment, regarding:

- Safety
- Comfort
- Durability
- This garment has been type-approved and certified in accordance with harmonized European standards or technical specifications, ensuring protection against the specific risks described.

Certifications According to European Standards
-EN 1149-5:2018
-EN ISO 11611:2015 – A1, A2, CLASS 1
-EN ISO 11612:2015 – A1 A2 B1 C1 F1
-IEC 61482:2018 / EN 61482:2020 – Category APC1 | with ELIM 8,6 Cal/cm^2
-EN 17353:2020+A1:2025 TYPE B2
-EN ISO 13688:2013/A1:2021

EN 1149-5:2018 – Antistatic Clothing

EN 1149-5: 2018

To prevent the risk of fire in explosive atmospheres (ATEX environments – Zones 1, 2, 20, 21, and 22 where the minimum ignition energy is not less than 0.016 mJ), this PPE must be used as part of a fully antistatic and grounded system.
- Antistatic clothing may be single-piece (coverall) or multi-piece (jacket, trousers, vest, etc.), and shall not be open or removed whilst in presence of flammable or explosive atmosphere or while handling flammable substances. Always fully cover non-compliant materials (e.g. underwear) — even during movement or bending.
- Adequate overlapping between garments is required (e.g. jacket covering the trousers).
- Antistatic vests (thermal or high-visibility) must comply with EN 1149-5 and be worn over other antistatic garments.
- Only the outermost layer in multilayer clothing is required to have antistatic properties.
- Users must be grounded at all times to ensure the discharge of static electricity. Contact between the garment's conductive fabric and conductive footwear (per EN 20344) is required.
- Users wearing the electrostatic dissipative clothing shall be properly earthed. The resistance between the user 's skin and earth shall be less than 10^8 ohms e.g. by wearing adequate footwear on dissipative or conductive floors.
- Do not use antistatic clothing in electrical environments where insulating footwear is necessary.

The garment must be worn before entering an ATEX environment and must be fully fastened, with tightening mechanisms (e.g. sleeve cuffs) secured to ensure proper contact with the skin or antistatic undergarments.
- Velcro fasteners must be fully overlapped and pressed firmly.
- Do not remove or unfasten the clothing within ATEX zones.
- Removable accessories (e.g. name tags, epaulettes) must not be detached during use.

All metallic conductive components must be fully covered by antistatic material during use (e.g. a belt with a metal buckle must be covered by a jacket if worn with trousers with loops).

Antistatic clothing must not be used in oxygen-enriched environments or in ATEX Zone 0 without prior approval from the safety officer.
Its antistatic properties may deteriorate with wear, cleaning, or contamination. No modifications to the garment design are allowed.

EN ISO 11611:2015 – Welding Protection Clothing
Protective garments marked with WEx, Ax offer coverage for body areas exposed to:

EN ISO 11611 2015
Class 1 - A1/A2

- Small splashes of molten metal
- Brief contact with flame
- Radiant heat from electric arcs
- And reduce the risk of electric shock due to momentary accidental contact with live conductors (up to approx. 100 V DC under normal welding conditions)

Protection Classes:
- Class 1:
  - Suitable for less hazardous welding techniques and situations with lower risks of molten metal splashes and radiant heat.
  - Withstands 15 drops of molten metal causing a max internal temperature rise of 40°C
  - RHTI 24 (radiant heat test index) ≥ 7 seconds
- Class 2:
  - Suitable for more hazardous welding conditions with greater exposure.
  - Withstands 25 drops of molten metal with the same max internal temperature rise
  - RHTI 24 ≥ 16 seconds

Clothing is also marked A1, A2, or A1 + A2, referring to flame spread tests (as defined in EN ISO 11612).

For recommendations on choosing the appropriate welding protection class, visit: **http://sio.to/eudoc**

Important Notes
For maximum safety, the garment must be worn correctly and in combination with other PPE as needed.
- Wet or contaminated clothing significantly reduces protective performance.
- Special precautions are necessary in confined spaces or oxygen-enriched atmospheres.
- In case of wear or reduced protection, garments must be repaired by qualified personnel or replaced.

Selection Criteria for Welding Garments

Type of welding clothing	Criteria based on welding process	Criteria based on environmental conditions
Class 1	- Gas welding - TIG - MIG (low current) - Microplasma welding - Brazing - Spot welding - MMA with rutile rod	- Oxy-fuel cutting machines - Plasma cutting machines - Resistance welding machines - Thermal spraying - Welding benches
Class 2	- MMA with basic/cellulosic rod - MAG with CO_2/mixed gases - MIG (high current) - Self-shielded flux-cored arc welding - Plasma cutting - Gouging - Oxy-fuel cutting - Thermal spraying	- Confined spaces - Overhead or otherwise restricted welding/cutting positions

EN ISO 11612:2015
Protective clothing with limited flame spread and protection against industrial heat

Garments marked with **FAxBxCxDxExFx**, indicating:
- **Limited Flame Spread:**
  A1: Surface ignition
  A2: Bottom edge ignition

Protection from limited flame spread, after-flame, and after-glow:
- ≤ 2 seconds, • No holes, no flaming or melted residues

The **EN ISO 11612** standard defines the following thermal transmission properties (thresholds based on the prevention of second-degree burns):

Convective Heat (Flame) HTI24 Index:
B1: ≥ 4 s, < 10 s
B2: ≥ 10 s, < 20 s
B3: ≥ 20 s

Radiant Heat (20 kW/m²) – RHTI24 Index:
C1: ≥ 7 s, < 20 s
C2: ≥ 20 s, < 50 s
C3: ≥ 50 s, < 95 s

Contact Heat (250°C):
F1: ≥ 5 s, < 10 s
F2: ≥ 10 s, < 15 s
F3: > 15 s

Important Safety Information
- This garment is not intended for firefighting use.
- It does not provide aluminized heat-reflective protection.

In case of exposure to flame or heat: immediately move away from the heat or flame source. Protection is void in case of significant wear or damage.
Residues of flammable substances or certain chemicals (e.g., oils) negatively affect flame spread resistance.

In Case of Contamination:
- With chemical or flammable liquids:
- The wearer must immediately leave the work area.
- Carefully remove the garment to avoid skin contact with the liquid.
- Wash or dispose of the garment.

With molten metal:
- The wearer must also exit immediately and remove the garment.
- If the garment is worn directly on the skin, it cannot fully eliminate the risk of burns.
- Pocket flaps and other openings must be completely closed to prevent the accumulation of molten materials.

EN 61482-2:2020

Live Working – Protective Clothing Against Thermal Hazards of an Electric Arc
Garments marked with EAx and/or ELIM.
Arc Protection Class (APC): Class 1 or 2 and/or ELIM value (cal/cm²)
This PPE protects only against thermal hazards, not against:
- Electric shock, Noise, Ultraviolet radiation, Flying debris, Hot oil, Psychological or physical consequences of an accident, Toxic substances that may be released during an arc event
-Not suitable for firefighting

IEC 61482-1-2 (Box Test)
Garments and fabrics/layers have been tested in accordance with IEC 61482-1-2 under the following conditions:
- Voltage: 400 V
- Frequency: 50 Hz
- Arc Duration: 500 ms
- Electrode-to-sample distance: 30 cm
- Distance between electrodes: 3 cm

Protection Classes based on second-degree burn avoidance:

Class	Arc Current
Class 1	4 kA
Class 2	7 kA

Conducted optionally for informative purposes, under variable duration (e.g., 0.2–2 sec):
- Arc current: 8 kA
- Sample-to-electrode distance: 30 cm
- Distance between electrodes: 30 cm

Usage Requirements
For full protection:
- Garment **must cover the entire body, be fully buttoned/zipped,** and used in combination with other appropriate PPE (jacket/trousers, face shield, helmet, gloves, footwear).
- **Do not wear meltable materials** (e.g., polyamide, polyester) underneath (e.g., underwear, t-shirts).

EN 17353:2020+A1:2025 TYPE B2

This limb-worn visibility product complies with EN 17353:2020+A1:2025 Type B2 and enhances visibility in dark conditions by reflecting light from sources like vehicle headlights. Designed for medium-risk use (e.g., walking or cycling at night), it uses retroreflective material and provides a minimum of 0.018 m² reflective area. It is not effective in daylight, requires light to function, and should be kept clean. Not a replacement for full high-visibility clothing. CE marking applies if certified under PPE Regulation (EU) 2016/425.

EN ISO 13688:2013 +EN ISO 13688:2013/A1:2021– General Requirements

All protective clothing marked LPN xy will be labeled with the above standards.
Inspection & Certification
- Module B – Type Examination conducted by

AITEX Research & Innovation Center, Carretera Banyeres,10 ES-03802, NOTIFIED BODY 0161
- If a number appears next to the CE mark on the garment label, it means the item is Category III PPE, designed to protect against fatal or serious health hazards.
- This type of PPE is subject to a quality assurance system according to (Module C2).
- The EU/UK Declaration of Conformity is available at: www.axioncotton.com

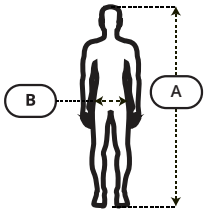
REACH Compliance & User Health
This PPE complies with the REACH Regulation and:
- Contains no known allergens, carcinogens, or mutagens
- Does not include substances known or suspected to be harmful under normal use
- Is designed to avoid irritation or discomfort
- Does not contain materials known to cause allergic reactions
- If an allergic reaction occurs, seek medical advice and contact the manufacturer.

Care and Washing Instructions
- Wash at 40°C
- Do not bleach
- Dry cleaning not allowed
- Tumble dry at low temperature
- Iron at medium temperature

Max.5X

TROUSERS

Sizes	Height (A)	Waist (B)
XS	156 - 164	66 - 74
S	156 - 164	74 - 82
M	164 - 172	82 - 90
L	172 - 180	90 - 98
XL	180 - 188	98 - 106
2XL	188 - 196	106 - 114
3XL	196 - 204	114 - 122
4XL	196 - 204	122 -130
5XL	196 - 204	130 138



*οι μετρήσεις που εμφανίζονται είναι σε εκατοστά.