

EN470-1

Protective clothing - Requirements for protective clothing during welding and similar operations

Reference Number: EN 470-1

Status: European Standard - product specification (welding)

Scope: This standard specifies the requirements for protective clothing worn during welding operations. The standard covers protective clothing to be worn at ambient temperature for a 8 hour period and offering protection against small projections of molten metal, accidental contact with a flame, and UV radiation. The standard does not cover the protective clothing worn during special welding operations.

Design requirements

- See also EN340
- Some items may only protect parts of the body, e.g. sleeves, aprons, gaiters
- Preventive measures against electrical shock, e.g. by avoiding the use of metal parts or by covering them with a non-conductive material
- Overlap between jacket and trousers sufficient to keep the body protected at any posture the activity requires
- Preferably made without pockets; the trousers shall have only side pockets; the opening of any pockets shall be covered with a flap, which is at least 2 cm wider than the opening of the pocket
- Closures form no folds or openings likely to trap molten metal particles; the ends of the sleeves shall be adjustable to the wrist, e.g. by a button at the lower part of the sleeve; possible side openings in the trousers shall be covered and equipped with a closure

Material Requirements

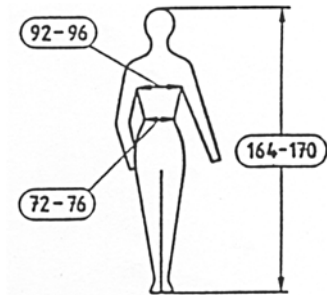
| | |
|-----------------------------------|--|
| Tensile strength | ≥ 300 N in all directions |
| Tear strength | ≥ 15 N in all directions |
| Dimensional stability | <input type="checkbox"/> |
| Textile | ≤ 3 % shrinkage in all directions (If shrinkage exceeds 3 %: to be mentioned on the label) |
| Leather | ≤ 5 % in all directions |
| Specific requirements for leather | Fat content ≤ 15 % Thickness ≥ 1 mm |

Safety Requirements

| | |
|--|--|
| Flame spread (EN 532) | Does not continue to burn Forms no hole Does not melt or drip Afterflame time ≤ 2 s Afterglow time ≤ 2 s |
| Protection against small droplets of molten metal (EN 348) | ≥ 15 droplets to reach a temperature rise of 40 K |

Size Designation (Based on EN340)

- A pictogram is used



Marking

- On a clearly visible and legible label resisting to the foreseeable number of cleaning cycles
- Contents
 - The CE marking (as appropriate for PPE category II)
 - Cleaning and maintenance symbols
 - Name or logo of the manufacturer
 - Type of the garment (manufacturer's reference)
 - Size designation (pictogram)
 - Reference to EN 470-1
 - Pictogram(s) "flame"
- If relevant, reference to the availability of product information (pictogram "booklet")

Information for the user

- To be provided by the manufacturer in at least the official language(s) of the country of use; precise and understandable for the user
- Contents
- Name and address of manufacturer or his authorized representative
- Name and reference of the product
- Reference to the relevant product standard
- Explanation of pictograms and of the performance levels obtained
- Instructions for use, e.g. safety checks before use, specific area of use and limitations of use, storage and maintenance instructions, instructions for cleaning and disinfection, spare parts, etc.
- Packaging instructions for transport
- Special information to be given:
 - Contamination with flammable materials, e.g. oil or solvents, can seriously jeopardize the flame retardant properties of the clothing
 - The clothing in itself does not protect against electrical shock; other measures to be taken to protect the welder against electrocution (moisture and transpiration, decreases the electrical insulation of the clothing)
 - An oxygen enriched atmosphere increases the flammability risk

Pictogram



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