

Arc® 43



Triple layer of high-spec superior, cellulose-based flame and heat protective fabric for high level Arc Flash heat protection.

- 3-layer fabric provides an Arc Thermal Protective Value of up to 43 cal/cm² *
- 3 layers of 240gsm European-made fabric: 48% modacrylic / 37% cellulosic / 15% para-aramid... 720gsm total weight
- Full suit consists of hood with arc visor, jacket, bib & brace pants with braces, gloves and boots
- Carry / storage case included
- Hood features 40 cal-rated arc visor, sealed with hook and loop fastening and hanging loop
- 81cm jacket features raglan sleeves for superior fit and freedom of movement
- Bib & Brace pants with swing pockets
- Hook and loop fastenings used throughout
- Seams are five needle safety stitch with FR/Aramid thread

* Note: Results for fabric: visor offers 40 cal/cm²

Flame, Heat and Arc Thermal Protective Performance				
	Property	EN Standard	Result	CE Class
EN 11612	Flame Spread - Face Ignition	ISO 15020-2000	A1	-
	Heat Resistance	ISO 17492	Pass	Pass
	Convective Heat	ISO 9151:1995	5.2 sec	B1
	Radiant Heat	ISO 6942:2002	12.2 sec	C1
	Dimensional Change md/cd	ISO 5077:2000	-3% / -2.5%	Pass
EN 161482	Arc Protection - Box Method	EN 61482-1-2	7 Ka	2
	Arc Protection - ATPV	EN 61482-1-2	42 cal/cm ²	2
	Arc Protection - HRC	NFPA 70E	HRC 4	-

Physical Properties			
Property	EN Standard	Result	CE Class
Tensile Strength (N) - md	EN 13934-1:2013	970	Pass
Tensile Strength (N) - cd	EN 13934-1:2013	630	Pass
Trapezoidal Tear - md	ISO 13937-2	29	Pass
Trapezoidal Tear - cd	ISO 13937-2	26	Pass
Seam Strength (N)	EN 13935	355	Pass

Note: the above strength properties relate to testing on ONE layer of the ARC® 43 fabric only. The garment consists of an assembly of THREE layers of the fabric.

Arc® 43 Styles



AR43-HD-TSP18
Hood with arc rated removable tinted sealed visor (40 cal/cm²) with hook and loop fastening.
Size: One size



AR43-SC-TSP18
81cm coat with stand up collar, raglan sleeves -hook and loop fastening. No metal fastenings.
Size: S - XXXL



AR43-BO-TSP18
Bib and brace pants set with adjustable plastic buckles, teardrop style swing pockets, leg openings with velcro adjustments.No metal fastenings. Size: S - XXXL



AR43-G-TSP18
Gloves - 40cm length for full coverage
Size: One size



AR43-C-TSP18
Boot covers
Size: S - XXXL

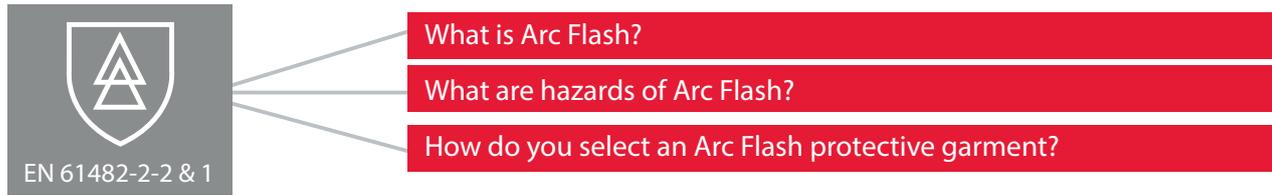


AR26
43 cal Arc Flash protection long coat/robe



ARBAG
Carry case for easy transport and storage

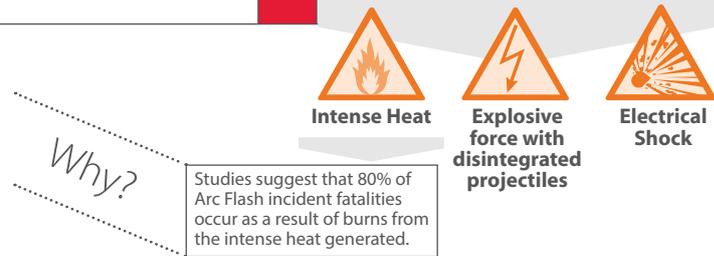
Understanding Arc Flash Protection



- 1. What is Arc Flash?**
Arc Flash occurs when an electrical charge jumps between two terminals or from a terminal to earth
- 2. What are the hazards of Arc Flash?**
Arc Flash incidents present 3 hazard types

Arc Flash protective garments are primarily designed to protect against the heat hazard of electric arc and not the electrical shock or concussive force.

In an instant an arc flash incident can generate enormous amounts of heat energy and temperatures of up to 35,000°C... that's roughly the temperature of the surface of the sun!



- 3. How do you select the correct Arc Flash garment?**
- There are three stages to selecting an arc flash garments
- | A. ASSESS | B. IDENTIFY | C. SELECT |
|-----------------------------------|--|--|
| Assess incident heat energy level | Identify appropriate Hazard Risk Category (HRC) or Arc Thermal Protective Value (ATPV) requirement | Select garment or garment combination with the correct minimum HRC or ATPV |

A. ASSESS the incident heat energy level

The energy level released in an arc flash incident can be calculated according to the voltage in the circuit, the working distance from the terminal, the distance between the terminals and the related equipment class.

This should only be done by a qualified electrical engineer!



- Heat energy calculators are available on the internet
- US standard NFPA 70E identifies a method of calculating heat energy levels
- NFPA 70E also provides a list of standard tasks with associated heat energy levels and HRC

Heat energy levels are measured in Calories / cm²

A 'Calorie' is a measurement of energy:
 - raise the temperature of 1 gram of water
 - through 1°C (defined as 4.1868 joules)

B. IDENTIFY the required ATPV or HRC



ATPV = Arc Thermal Protective Value

ATPV is the 'arc rating' - the identified heat energy level protection value of clothing designed for arc flash protection. Measured according to European test **EN 61482-2-1** OR **ASTM F1959**.

These tests measure the level of protection in cal/cm² based on 'the heat energy required to pass through the fabric resulting in 50% probability of a 2nd degree burn'

HRC = Hazard Risk Category

HRC is the identified classification of garments according to the ATPV measurement and defines four classes of garment:-

HRC 1	HRC 2	HRC 3	HRC 4
4	8	24	40

Hazard Risk Category (up to cal/cm²)

EN 61482-2-2 measures arc protection for low energy levels according to the 'arc-in-a-box' method. It identifies two classes of protection. This certification does NOT identify an ATPV and certified garments are suitable only for protection in low voltage situations.

EN 61482-2-2: Class 1 - Up to 4Ka
 EN 61482-2-2: Class 2 - Up to 7Ka

C. SELECT Arc clothing with the minimum required HRC or ATPV rating



Arc clothing should be labelled EITHER with an HRC classification or an ATPV rating.

EXAMPLE: If assessed Heat Energy Level in the incident is 23 cal/cm², the garments selected should be either:

HRC Class 3 (up to 24 cal/cm²) OR An ATPV rating of AT LEAST 23 cal/cm²

Layering of garments
 Combinations of garments can be used to increase protection to the required level. Thus wearing 2 layers of clothing with an ATPV of 8 cal/cm² can be reasonably assumed to achieve an ATPV of at least 16 cal/cm².