

# Electric Arc Resistance



## ASTM F1891

- **Arc Rating:** The amount of energy needed to create the 50% probability of a second degree burn injury.
- **Heat Attenuation Factor:** The percent of the energy which is blocked by a material.
- **Breakopen Threshold:** The amount of energy that results in a 50% probability that the fabric will breakopen.

### Requirements

- Material must be flame retardant (ASTM D6413), self-extinguish <2 seconds, <6" char length.
- Must determine Arc Rating (ASTM F1959) – report results, no minimum required.
- Must determine Heat Attenuation Factor (ASTM F1959) – report results, no minimum required.
- Must determine Breakopen Threshold (ASTM F1959) – report results, minimum of 5 cal/cm<sup>2</sup>.
- Must not melt, drip or ignite at two (2) times arc rating.

## NFPA 70E

- NFPA 70E Standard for Electrical Safety Requirements for Employee Workplace, includes codes, standards and recommended practices and guides for safe work practices.
- Covers protection to workers from electrical hazards associated with installation, maintenance or repair of electrical systems. This standard excludes the transmission and distribution of electric power by utility companies.
- Requires workplace to conduct a hazard assessment then provide personal protective equipment (PPE) based on that assessment. Hazard risk categories have been established to help employers select proper PPE.
- Hazard Risk Categories are:

HRC	Minimum Arc Rating
1	4
2	8
2*	8 with Face Protection
3	25
4	40

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