






Arc Flash PPE Recommendations (from NFPA 70E)

The National Fire Protection Association (NFPA) uses five Hazard/Risk Categories (HRCs) to classify five general ranges of arc flash hazards. Each category represents a range of energy exposures, and has a corresponding requirement for Personal Protective Equipment (PPE). Because more protective gear is bulkier and clumsier, overprotection may increase the chance of an accident. The NFPA 70E recommendations are a balance of protection and practicality.

Second-degree burns (bad, but curable) are generally expected when 1.2 cal/cm² of energy reaches the skin; in terms of an arc flash, this is not very much. To block energy from an arc

flash, use PPE that has an Arc Rating (AR). The AR is measured in cal/cm², and indicates the amount of energy needed to reach a 50% chance of a second-degree burn through that equipment. Keep in mind that the NFPA's AR requirements are for the complete suit, not just the most protective part, so you may need to check with your PPE manufacturer for details.

Before AR became the standard rating system, Fire Resistance (FR) was used; FR and AR are not equivalent. All Arc Rated PPE is also fire resistant, but not all fire resistant PPE is Arc Rated.

HRC 0	HRC 1	HRC 2	HRC 3	HRC 4
No Arc Rating (AR) requirement	Minimum Arc Rating of 4 cal/cm²	Minimum Arc Rating of 8 cal/cm²	Minimum Arc Rating of 25 cal/cm²	Minimum Arc Rating of 40 cal/cm²
<ul style="list-style-type: none"> • Non-melting Long Sleeve Shirt & Pants • Safety Glasses or Safety Goggles • Hearing Protection (with Inserts) 	<ul style="list-style-type: none"> • AR Shirt & Pants or Coverall • AR Face Shield or Hood • Hard Hat • Safety Glasses or Safety Goggles • Hearing Protection (with Inserts) • Heavy Duty Leather Gloves 	<ul style="list-style-type: none"> • AR Shirt & Pants or Coverall • AR Face Shield or Hood • AR Balaclava • Hard Hat • Safety Glasses or Safety Goggles • Hearing Protection (with Inserts) • Heavy Duty Leather Gloves • Leather Work Shoes 	<ul style="list-style-type: none"> • AR Shirt & Pants or Coverall • AR Flash Suit with Hood • AR Gloves • Hard Hat • Safety Glasses or Safety Goggles • Hearing Protection (with Inserts) • Leather Work Shoes 	<ul style="list-style-type: none"> • AR Shirt & Pants or Coverall • AR Flash Suit with Hood • AR Gloves • Hard Hat • Safety Glasses or Safety Goggles • Hearing Protection (with Inserts) • Leather Work Shoes
				

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