

# Arc Flash PPE Categories from NFPA 70E (2015)

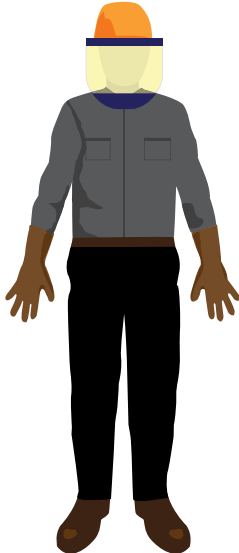



The National Fire Protection Association (NFPA) uses four Arc Flash PPE Categories to classify ranges of arc flash hazards, and the corresponding requirements for Personal Protective Equipment (PPE). The categories are one of the methods used in the current NFPA 70E standard to inform workers about the protection they need while working on energized equipment. The Arc Flash PPE Category system replaces the Hazard/Risk Category (HRC) system from the 2012 edition of the standard.

Each category includes a minimum Arc Rating (AR) value for the required PPE. This value is determined by the PPE manufacturer, and indicates the amount of heat energy (in cal/cm<sup>2</sup>) that the clothing can absorb or block before the wearer would be likely to receive a second-

degree burn. (Second-degree burns are expected when skin is exposed to 1.2 cal/cm<sup>2</sup> of incident energy.)

Category 1 and 2 requirements can often be met with a single layer of arc-rated PPE. To meet category 3 or 4 requirements, multiple layers of PPE may be required. To ensure effective protection, these layers need to be tested together to receive a complete system arc rating.

Before AR became the standard rating system for arc flash PPE, Fire Resistance (FR) was used. FR and AR are not the same: all arc rated PPE is also fire resistant, but not all fire resistant PPE is arc rated.

PPE CATEGORY <b>1</b>	PPE CATEGORY <b>2</b>	PPE CATEGORY <b>3</b>	PPE CATEGORY <b>4</b>
<p>Minimum Arc Rating of <b>4 cal/cm<sup>2</sup></b></p>  <p><b>Arc Rated Clothing:</b></p> <ul style="list-style-type: none"> <li>• AR long-sleeve shirt and pants, or AR coverall</li> <li>• AR face shield, or AR flash suit hood</li> <li>• AR jacket, parka, rainwear, or hard hat liner (as needed)</li> </ul> <p><b>Protective Equipment:</b></p> <ul style="list-style-type: none"> <li>• Hard hat</li> <li>• Safety glasses or safety goggles</li> <li>• Hearing protection (with inserts)</li> <li>• Heavy-duty leather gloves</li> <li>• Leather footwear (as needed)</li> </ul>	<p>Minimum Arc Rating of <b>8 cal/cm<sup>2</sup></b></p>  <p><b>Arc Rated Clothing:</b></p> <ul style="list-style-type: none"> <li>• AR long-sleeve shirt and pants, or AR coverall</li> <li>• AR flash suit hood, or AR face shield and AR balaclava</li> <li>• AR jacket, parka, rainwear, or hard hat liner (as needed)</li> </ul> <p><b>Protective Equipment:</b></p> <ul style="list-style-type: none"> <li>• Hard hat</li> <li>• Safety glasses or safety goggles</li> <li>• Hearing protection (with inserts)</li> <li>• Heavy-duty leather gloves</li> <li>• Leather footwear</li> </ul>	<p>Minimum Arc Rating of <b>25 cal/cm<sup>2</sup></b></p>  <p><b>Arc Rated Clothing:</b></p> <ul style="list-style-type: none"> <li>• As required: AR long-sleeve shirt, AR pants, AR coverall, AR flash suit jacket, and/or AR flash suit pants</li> <li>• AR flash suit hood</li> <li>• AR gloves</li> <li>• AR jacket, parka, rainwear, or hard hat liner (as needed)</li> </ul> <p><b>Protective Equipment:</b></p> <ul style="list-style-type: none"> <li>• Hard hat</li> <li>• Safety glasses or safety goggles</li> <li>• Hearing protection (with inserts)</li> <li>• Leather footwear (as needed)</li> </ul>	<p>Minimum Arc Rating of <b>40 cal/cm<sup>2</sup></b></p>  <p><b>Arc Rated Clothing:</b></p> <ul style="list-style-type: none"> <li>• As required: AR long-sleeve shirt, AR pants, AR coverall, AR flash suit jacket, and/or AR flash suit pants</li> <li>• AR flash suit hood</li> <li>• AR gloves</li> <li>• AR jacket, parka, rainwear, or hard hat liner (as needed)</li> </ul> <p><b>Protective Equipment:</b></p> <ul style="list-style-type: none"> <li>• Hard hat</li> <li>• Safety glasses or safety goggles</li> <li>• Hearing protection (with inserts)</li> <li>• Leather footwear (as needed)</li> </ul>

*This guide is for general information purposes only. It is not a substitute for review of applicable standards.*



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