# Appendix G: Personal Protective Equipment (PPE)

## NFPA 70E 2018 Table 130.7 (C)(15)(c) – Arc-Flash PPE Category

<table>
<thead>
<tr>
<th>Risk Category</th>
<th>Min. Arc Rating of PPE</th>
<th>PPE Requirements – NFPA -70E 2018</th>
</tr>
</thead>
</table>
| 1             | 4 cal/cm²              | 1. Arc-rated long-sleeve shirt and pants or arc-rated coverall  
2. Arc-rated face shield or arc flash suit hood  
3. Arc-rated jacket, parka, rainwear, or hard hat liner (AN)  
**Protective Equipment**  
4. Hard hat  
5. Safety glasses or safety goggles (SR)  
6. Hearing protection (ear canal inserts)  
7. Heavy-duty leather gloves  
8. Leather footwear (AN) |
| 2             | 8 cal/cm²              | 1. Arc-rated long-sleeve shirt and pants or arc-rated coverall  
2. Arc-rated flash suit hood or arc-rated face shield and arc-rated balaclava  
3. Arc-rated jacket, parka, rainwear, or hard hat liner (AN)  
**Protective Equipment**  
4. Hard hat  
5. Safety glasses or safety goggles (SR)  
6. Hearing protection (ear canal inserts)  
7. Heavy-duty leather gloves  
8. Leather footwear (AN) |
| 3             | 25 cal/cm²             | 1. Arc-rated long-sleeve shirt (AR)  
2. Arc-rated pants (AR)  
3. Arc-rated coverall (AR)  
4. Arc-rated flash suit jacket (AR)  
5. Arc-rated flash suit pants (AR)  
6. Arc-rated flash suit hood  
7. Arc-rated gloves  
8. Arc-rated jacket, parka, rainwear, or hard hat liner (AN)  
**Protective Equipment**  
9. Hard hat  
10. Safety glasses or safety goggles (SR)  
11. Hearing protection (ear canal inserts)  
12. Heavy-duty leather gloves  
13. Leather footwear (AN) |
| 4             | 40 cal/cm²             | 1. Arc-rated long-sleeve shirt (AR)  
2. Arc-rated pants (AR)  
3. Arc-rated coverall (AR)  
4. Arc-rated flash suit jacket (AR)  
5. Arc-rated flash suit pants (AR)  
6. Arc-rated flash suit hood  
7. Arc-rated gloves  
8. Arc-rated jacket, parka, rainwear, or hard hat liner (AN)  
**Protective Equipment**  
9. Hard hat  
10. Safety glasses or safety goggles (SR)  
11. Hearing protection (ear canal inserts)  
12. Heavy-duty leather gloves  
13. Leather footwear (AN) |

AN: As needed (optional). AR: As required. SR: Selection required  

*a* Arc rating is defined in Article 100.  

*b* Face shields are to have wrap-around guarding to protect not only the face but also the forehead, ears,
and neck, or, alternatively, an arc-rated arc flash suit hood is required to be worn. 

Other types of hearing protection are permitted to be used in lieu of or in addition to ear canal inserts provided they are worn under an arc-rated arc flash suit hood.

If rubber insulating gloves with leather protectors are used, additional leather or arc-rated gloves are not required. The combination of rubber insulated gloves with leather protectors satisfies the arc flash protection requirement.

Figure 1: PPE Clothing Based on Hazard Risk Levels

<table>
<thead>
<tr>
<th>PPE CATEGORY 1</th>
<th>PPE CATEGORY 2</th>
<th>PPE CATEGORY 3</th>
<th>PPE CATEGORY 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Arc Rating of 4 cal/cm²</td>
<td>Minimum Arc Rating of 8 cal/cm²</td>
<td>Minimum Arc Rating of 25 cal/cm²</td>
<td>Minimum Arc Rating of 40 cal/cm²</td>
</tr>
<tr>
<td>Arc Rated Clothing:</td>
<td>Arc Rated Clothing:</td>
<td>Arc Rated Clothing:</td>
<td>Arc Rated Clothing:</td>
</tr>
<tr>
<td>• AR long-sleeve shirt and pants, or AR coverall</td>
<td>• AR long-sleeve shirt and pants, or AR coverall</td>
<td>• AR flash suit hood, or AR face shield and AR headcover</td>
<td>• Arc Rated Clothing:</td>
</tr>
<tr>
<td>• AR face shield, or AR flash suit hood</td>
<td>• AR face shield, or AR flash suit hood</td>
<td>• AR flash suit hood, or AR face shield and AR headcover</td>
<td>• As required:</td>
</tr>
<tr>
<td>• AR jacket, parka, rainwear, or hard hat liner (as needed)</td>
<td>• AR jacket, parka, rainwear, or hard hat liner (as needed)</td>
<td>• AR jacket, parka, rainwear, or hard hat liner (as needed)</td>
<td>• AR long-sleeve shirt, AR pant, AR coverall, AR flash suit jacket, and/or AR flash suit pants</td>
</tr>
<tr>
<td>Protective Equipment:</td>
<td>Protective Equipment:</td>
<td>Protective Equipment:</td>
<td>Protective Equipment:</td>
</tr>
<tr>
<td>• Hard hat</td>
<td>• Hard hat</td>
<td>• Hard hat</td>
<td>• Hard hat</td>
</tr>
<tr>
<td>• Safety glasses or safety goggles</td>
<td>• Safety glasses or safety goggles</td>
<td>• Safety glasses or safety goggles</td>
<td>• Safety glasses or safety goggles</td>
</tr>
<tr>
<td>• Hearing protection (with inserts)</td>
<td>• Hearing protection (with inserts)</td>
<td>• Hearing protection (with inserts)</td>
<td>• Hearing protection (with inserts)</td>
</tr>
<tr>
<td>• Heavy-duty leather gloves</td>
<td>• Heavy-duty leather gloves</td>
<td>• Leatherfootwear (as needed)</td>
<td>• Heavy-duty leather gloves</td>
</tr>
<tr>
<td>• Leatherfootwear (as needed)</td>
<td>• Leatherfootwear (as needed)</td>
<td>• Leatherfootwear (as needed)</td>
<td>• Leatherfootwear (as needed)</td>
</tr>
</tbody>
</table>

Figure 2: Voltages for Insulated Rubber Gloves

<table>
<thead>
<tr>
<th>Rubber Glove Class</th>
<th>Protection Against Voltage Up To:</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>500 V</td>
</tr>
<tr>
<td>0</td>
<td>1,000 V</td>
</tr>
<tr>
<td>1</td>
<td>7,500 V</td>
</tr>
<tr>
<td>2</td>
<td>17,000 V</td>
</tr>
<tr>
<td>3</td>
<td>26,500 V</td>
</tr>
<tr>
<td>4</td>
<td>36,000 V</td>
</tr>
</tbody>
</table>