

Appendix G: Personal Protective Equipment (PPE)

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

Risk Category	Min. Arc Rating of PPE	PPE Requirements – NFPA -70E 2018
1	4 cal/cm ²	<ol style="list-style-type: none"> 1. Arc-rated long-sleeve shirt and pants or arc-rated coverall 2. Arc-rated face shield^b or arc flash suit hood 3. Arc-rated jacket, parka, rainwear, or hard hat liner (AN) <p>Protective Equipment</p> <ol style="list-style-type: none"> 4. Hard hat 5. Safety glasses or safety goggles (SR) 6. Hearing protection (ear canal inserts)^c 7. Heavy-duty leather gloves^d 8. Leather footwear (AN)
2	8 cal/cm ²	<ol style="list-style-type: none"> 1. Arc-rated long-sleeve shirt and pants or Arc-rated coverall 2. Arc-rated flash suit hood or arc-rated face shield^b and arc-rated balaclava 3. Arc-rated jacket, parka, rainwear, or hard hat liner (AN) <p>Protective Equipment</p> <ol style="list-style-type: none"> 4. Hard hat 5. Safety glasses or safety goggles (SR) 6. Hearing protection (ear canal inserts)^c 7. Heavy-duty leather gloves^d 8. Leather footwear (AN)
3	25 cal/cm ²	<ol style="list-style-type: none"> 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^d 8. Arc-rated jacket, parka, rainwear, or hard hat liner (AN) <p>Protective Equipment</p> <ol style="list-style-type: none"> 9. Hard hat 10. Safety glasses or safety goggles (SR) 11. Hearing protection (ear canal inserts)^c 12. Heavy-duty leather gloves^d 13. Leather footwear (AN)
4	40 cal/cm ²	<ol style="list-style-type: none"> 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^d 8. Arc-rated jacket, parka, rainwear, or hard hat liner (AN) <p>Protective Equipment</p> <ol style="list-style-type: none"> 9. Hard hat 10. Safety glasses or safety goggles (SR) 11. Hearing protection (ear canal inserts)^c 12. Heavy-duty leather gloves^d 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.

^c 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.

^d 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





PPE CATEGORY 1	PPE CATEGORY 2	PPE CATEGORY 3	PPE CATEGORY 4
<p>Minimum Arc Rating of 4 cal/cm²</p>  <p>Arc Rated Clothing:</p> <ul style="list-style-type: none"> • AR long-sleeve shirt and pants, or AR coverall • AR face shield, or AR flash suit hood • AR jacket, parka, rainwear, or hard hat liner (as needed) <p>Protective Equipment:</p> <ul style="list-style-type: none"> • Hard hat • Safety glasses or safety goggles • Hearing protection (with inserts) • Heavy-duty leather gloves • Leather footwear (as needed) 	<p>Minimum Arc Rating of 8 cal/cm²</p>  <p>Arc Rated Clothing:</p> <ul style="list-style-type: none"> • AR long-sleeve shirt and pants, or AR coverall • AR flash suit hood, or AR face shield and AR balaclava • AR jacket, parka, rainwear, or hard hat liner (as needed) <p>Protective Equipment:</p> <ul style="list-style-type: none"> • Hard hat • Safety glasses or safety goggles • Hearing protection (with inserts) • Heavy-duty leather gloves • Leather footwear 	<p>Minimum Arc Rating of 25 cal/cm²</p>  <p>Arc Rated Clothing:</p> <ul style="list-style-type: none"> • As required: AR long-sleeve shirt, AR pants, AR coverall, AR flash suit jacket, and/or AR flash suit pants • AR flash suit hood • AR gloves • AR jacket, parka, rainwear, or hard hat liner (as needed) <p>Protective Equipment:</p> <ul style="list-style-type: none"> • Hard hat • Safety glasses or safety goggles • Hearing protection (with inserts) • Leather footwear (as needed) 	<p>Minimum Arc Rating of 40 cal/cm²</p>  <p>Arc Rated Clothing:</p> <ul style="list-style-type: none"> • As required: AR long-sleeve shirt, AR pants, AR coverall, AR flash suit jacket, and/or AR flash suit pants • AR flash suit hood • AR gloves • AR jacket, parka, rainwear, or hard hat liner (as needed) <p>Protective Equipment:</p> <ul style="list-style-type: none"> • Hard hat • Safety glasses or safety goggles • Hearing protection (with inserts) • Leather footwear (as needed)

Figure 2: Voltages for Insulated Rubber Gloves

Rubber Glove Class	Protection Against Voltage Up To:
00	500 V
0	1,000 V
1	7,500 V
2	17,000 V
3	26,500 V
4	36,000 V