

## PPE Selection For Incident Energy Assessments (Based Upon NFPA 70E Table 130.5(G))

Incident Energy Exposure	Required Protective Clothing	Other Required PPE
$\leq 1.2 \text{ cal/cm}^2$	Nonmelting or untreated natural fiber long sleeve shirt and long pants or coverall.	Face shield for projectile protection (AN) Hard Hat Safety glasses or safety goggle (SR) Hearing protection Heavy-duty leather gloves or rubber insulating gloves with leather protectors (AN)
$\geq 1.2 \text{ to } 12 \text{ cal/cm}^2$	Arc-rated long sleeve shirt and arc-rated pants or arc-rated coverall or arc-rated flash suit (SR) (See Note 3) Arc-rated face shield and arc-rated balaclava or arc-rated flash suit hood (SR) Arc-rated jacket, parka or rainwear (AN)	Hard Hat Arc-rated hard hat liner (AN) Safety glasses or safety goggle (SR) Hearing protection Heavy-duty leather gloves or rubber insulating gloves with leather protectors (SR) (See Note 4) Leather Footwear
$\geq 12 \text{ to } 40 \text{ cal/cm}^2$	Arc-rated long sleeve shirt and arc-rated pants or arc-rated coverall and/or arc-flash suit (SR) Arc-rated face shield and arc-rated balaclava or arc-rated flash suit hood (SR) Arc-rated jacket, parka or rainwear (AN)	Hard Hat Arc-rated hard hat liner (AN) Safety glasses or safety goggle (SR) Hearing protection Heavy-duty leather gloves or rubber insulating gloves with leather protectors (SR) (See Note 4) Leather Footwear
$> 40 \text{ cal/cm}^2$	Above $40 \text{ cal/cm}^2$ , other considerations related to energy exposure during an arc flash event need to be considered when selecting the appropriate PPE, specifically regarding blast pressure that may make certain PPE ineffective in protecting personnel.	Above $40 \text{ cal/cm}^2$ , other considerations related to energy exposure during an arc flash event need to be considered when selecting the appropriate PPE, specifically regarding blast pressure that may make certain PPE ineffective in protecting personnel.

AN: As needed (in addition to the protective clothing and PPE required by 130.5(C)(1))

SR: Selection of one in group is required by 130.5(C)(1)

**Notes:**

- (1) Face Shields with wrap-around guarding to protect the face, chin, forehead, ears and neck area are required by 130.7(C)(10) C. For full head and neck protection, use a balaclava or an arc flash hood.
- (2) All items not designated "AN" are required by 130.7(C)
- (3) Arc ratings can be for a single layer, such as an arc-rated shirt and pants or a coverall, or for an arc-rated suit or a multi-layer system consisting of a combination of arc-rated shirt and pants, coverall, and arc flash suit.
- (4) Rubber insulating gloves with leather protectors provide arc flash protection in addition to shock protection. Higher class rubber insulating gloves with leather protectors, due to their increased material thickness, provide increased arc flash

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protection.

## Examples of PPE Selection when using the Incident Energy Method

### NFPA 70E® 2018 | TABLE 130.5(G) Selection of Arc-Rated Clothing and Other PPE When the Incident Energy Analysis Method Is Used



#### INCIDENT ENERGY EXPOSURES EQUAL TO 1.2 CAL/CM<sup>2</sup> UP TO 12 CAL/CM<sup>2</sup>

- Arc-rated clothing with an arc rating equal to or greater than the estimated incident energy <sup>a</sup>
- Long-sleeve shirt and pants or coverall or arc flash suit (SR)
- Arc-rated face shield and arc-rated balaclava or arc flash suit hood (SR) <sup>b</sup>
- Arc-rated outerwear (e.g., jacket, parka, rainwear, hard hat liner) (AN)
- Heavy-duty leather gloves, arc-rated gloves, or rubber insulating gloves with leather protectors (SR) <sup>c</sup>
- Hard hat
- Safety glasses or safety goggles (SR)
- Hearing protection
- Leather footwear



#### INCIDENT ENERGY EXPOSURES GREATER THAN 12 CAL/CM<sup>2</sup>

- Arc-rated clothing with an arc rating equal to or greater than the estimated incident energy <sup>a</sup>
- Long-sleeve shirt and pants or coverall or arc flash suit (SR)
- Arc-rated arc flash suit hood
- Arc-rated outerwear (e.g., jacket, parka, rainwear, hard hat liner) (AN)
- Arc-rated gloves or rubber insulating gloves with leather protectors (SR) <sup>c</sup>
- Hard hat
- Safety glasses or safety goggles (SR)
- Hearing protection
- Leather footwear



AN: AS NEEDED (OPTIONAL) | SR: SELECTION REQUIRED

- <sup>a</sup> Arc ratings can be for a single layer, such as an arc-rated shirt and pants or a coverall, or for an arc flash suit or a multi-layer system if tested as a combination consisting of an arc-rated shirt and pants, coverall, and arc flash suit.
- <sup>b</sup> Face shields with a wrap-around guarding to protect the face, chin, forehead, ears, and neck area are required by 130.7(C)(10)(c). Where the back of the head is inside the arc flash boundary, a balaclava or an arc flash hood shall be required for full head and neck protection.
- <sup>c</sup> Rubber insulating gloves with leather protectors provide arc flash protection in addition to shock protection. Higher class rubber insulating gloves with leather protectors, due to their increased material thickness, provide increased arc flash protection.

