



# TWO ARC-RATED LEVEL ARC FLASH PPE SYSTEM

RELEASE DATE: February 7, 2024



**TW BECKER**  
ELECTRICAL SAFETY CONSULTING



## ELECTRICAL SAFETY BULLETIN

Aligned with both NFPA 70E and CSA Z462 it is recommended that an employer specify and procure two separate arc-rated levels (ATPVs) of arc flash PPE to make available to Qualified Persons. Table 1 below provides a detailed list of a two arc-rated level arc flash PPE system, everyday/task wear or an arc flash suit.

It is noted that with respect to arc flash protection for the hands:

1. Rubber insulating gloves with “leather” protectors provide arc flash protection for the hands.
2. Leather work gloves provide arc flash protection for the hands.
3. An arc-rated glove (oven mitten style) provides arc flash protection for the hands.
4. A leather, leather/cloth (with rubber finger protectors), cloth glove with rubberized surface on the palm can be formally tested as per ASTM F2675 Test Method for Determining Arc Ratings of Hand Protective Products Developed and Used for Electrical Arc Flash Protection to provide an ATPV and arc flash protection for the hands.
5. Protector gloves to be worn over rubber insulating gloves can also be designed and tested to ASTM F2675 and provided a formal ATPV value.

**Table 1 Two Arc-Rated Level Arc Flash PPE System when Incident Energy Analysis, Estimation using NESC Tables or the Arc Flash PPE Category Method (NFPA 70E) or the Arc Flash PPE Selection Table Method (CSA Z462) is used.**

Arc-Rating Level # (cal/cm <sup>2</sup> ATPV)	Arc Flash PPE Minimum Requirements
<p><b>Level 1</b></p> <p><b>8.0-12.0 cal/cm<sup>2</sup></b></p> <p><b>ATPV or E<sub>BT</sub></b></p> 	<p><b>Body:</b> Everyday/task wear long sleeved shirt/pant or coverall (with storage bag). 100% natural fibre clothing to be worn underneath. "Escape Strap" vest available for use.</p> <p><b>Head &amp; Face:</b> Approved eyewear, clear lens. Arc-rated balaclava and arc-rated face shield (with storage bag) with true colour grey lens, approved Class E hard hat and LED lamp.</p> <p><b>Hearing:</b> Minimum approved ear canal insert ear plugs.</p> <p><b>Hands:</b> Appropriate Class # of rubber insulating gloves with protectors (with storage bag sized to the Class #).</p> <p><b>Footwear:</b> Approved EH or Ohm rated leather footwear.</p> <p><u>Note:</u> Rubber insulating gloves with protectors provide arc flash protection for the hands. Where there is no electric shock hazard exposure heavy duty leather work gloves or specifically arc-rated tested gloves provide arc flash protection for the hands.</p>
<p><b>Level 2</b></p> <p><b>Minimum</b></p> <p><b>75, 100 or</b></p> <p><b>140 cal/cm<sup>2</sup></b></p> <p><b>ATPV</b></p> 	<p><b>Body:</b> Arc flash suit: bib overalls, and jacket with "Escape Strap." 100% natural fibre clothing to be worn underneath. Manufacturer's storage bag.</p> <p><b>Head &amp; Face:</b> Approved eyewear, clear lens. Arc flash suit hood with true colour grey lens, approved Class E hard hat, arc flash suit hood ventilation system and LED lamp.</p> <p><b>Hearing:</b> Minimum approved ear canal insert ear plugs.</p> <p><b>Hands:</b> Appropriate Class # of rubber insulating gloves with protectors (with storage bag sized to Class #).</p> <p><b>Footwear:</b> Approved EH or Ohm rated leather footwear.</p> <p><u>Note:</u> Rubber insulating gloves with protectors provide arc flash protection for the hands. Where there is no electric shock hazard exposure heavy duty leather work gloves or specifically arc-rated tested gloves provide arc flash protection for the hands.</p> <p>Arc flash suits are available with an ATPV of up to 140.0 cal/cm<sup>2</sup> and can be procured for use.</p>

**RELEVANT RESOURCES**

**FREE DOWNLOADS**

<https://twbesc.ca/esp-free-tools>

**CONTACT**



**Terry W. Becker, P.Eng.,**  
**CESCP, IEEE Senior Member**  
terry.becker@twbesc.ca  
1-587-433-3777  
LinkedIn.com/in/twbecker

[www.twbesc.ca](http://www.twbesc.ca)