

Oberon is an **ISO 9001** accredited manufacturing facility and is actively involved in the **ASTM and ANSI Standards** development process as participating members on several technical committees. All of Oberon's products have been manufactured in accordance with every applicable Standard. Not only does Oberon help write these Standards, we lead by example in our research, product development, laboratory testing and manufacturing processes.

### NFPA 70E and CSA Z462 Standards

The National Fire Protection Association and the Canadian Standards Association address the required elements of corporate electrical safety program, including training, engineering controls, work methods, and ultimately the personal protective apparel as the last line of defense for worker safety.

### European Standards

The European Economic Area or EEA has standards for health, safety, and environmental protection. All products sold into the EEA must meet these standards and should be CE marked by the manufacturer to signify these European Standards are met.

### ANSI Standards

The American National Standards Institute oversees the development of voluntary consensus standards for products, services, processes, systems, and personnel.

### ASTM Standards

The American Society of Testing and Materials (ASTM) F18 Committee has developed standards covering the manufacturing, testing, care and use of arc flash PPE. Oberon's products have been certified using the most current version of every applicable ASTM testing standard and are in compliance with the overarching performance standard, ASTM F1506.



**ANSI Z87.1** addresses the design and performance characteristics of eye and face protective devices such as arc flash face shields.

**ANSI Z89.1** covers the performance, selection, care and use head protective devices such as hard caps and hard hats.

**ASTM D120** addresses manufacturing and testing of rubber electrical insulating gloves from worker protection from electrical shocks.

**ASTM F2178** is the test method developed to determine the protective characteristics of arc flash face shields and hoods against the thermal energy of an electric arc.

**ASTM F696** is the standard that covers leather protectors used in conjunction with rubber electrical gloves.

**ASTM F1959** is the test method developed to determine the protective characteristics of knit and woven material against the thermal energy of an electric arc.

**ASTM F1506** covers the design characteristics of garments and the knit and woven materials of which they are constructed.

**ASTM F2676** is the test standard used to evaluate the design and protective characteristics of arc suppression blankets against the thermal and concussive energy of an electric arc.

# ARC FLASH PERSONAL PROTECTION (PPE) CATEGORIES

The National Fire Protection Association (NFPA) uses four Arc Flash PPE Categories to classify ranges of arc flash hazards, and the corresponding requirements for 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. CSA Z462 recently added an Arc Flash PPE Category 5 for equipment with potential incident energy levels up to 75 cal/cm<sup>2</sup>.

Each category includes a minimum arc rating value for the required PPE. This value is determined by the PPE manufacturer, and indicates the protection provided by the equipment (in cal/cm<sup>2</sup>) as the point where a worker would have a 50% probability of receiving a 2nd degree skin burn.

## PPE CATEGORY 1

### Arc-Rated Clothing

- AR long-sleeve shirt and pants or arc-rated coverall
- AR face shield or arc flash suit hood
- AR jacket, parka, rainwear or hard hat liner

### Protective Equipment

- Hard hat
- Safety glasses or safety goggles
- Hearing protection
- Heavy-duty leather gloves
- Leather footwear

### Minimum Arc Rating

**4 cal/cm<sup>2</sup>**



## PPE CATEGORY 2

### Arc-Rated Clothing

- AR long-sleeve shirt and pants or arc-rated coverall
- AR rated suit hood or arc rated face shield & balaclava
- AR jacket, parka, rainwear or hard hat liner

### Protective Equipment

- Hard hat
- Safety glasses or safety goggles
- Hearing protection
- Heavy-duty leather gloves
- Leather footwear

### Minimum Arc Rating

**8 cal/cm<sup>2</sup>**



## PPE CATEGORY 3

### Arc-Rated Clothing

- AR long-sleeve shirt, pants, and hood or arc rated coverall and hood
- AR suit consisting of hood, coat, bib overalls, or hood and coveralls
- AR gloves
- AR jacket, parka, rainwear or hard hat liner

### Protective Equipment

- Hard hat
- Safety glasses or safety goggles
- Hearing protection
- Heavy-duty leather gloves
- Leather footwear

### Minimum Arc Rating

**25 cal/cm<sup>2</sup>**



## PPE CATEGORY 4

### Arc-Rated Clothing

- AR long-sleeve shirt, pants, and hood or arc-rated coverall & hood
- AR suit consisting of hood, coat, bib overalls, or hood & coveralls
- AR gloves
- AR jacket, parka, rainwear or hard hat liner

### Protective Equipment

- Hard hat
- Safety glasses or safety goggles
- Hearing protection
- Heavy-duty leather gloves
- Leather footwear

### Minimum Arc Rating

**40 cal/cm<sup>2</sup>**



## PPE CATEGORY 5

### Arc-Rated Clothing

- AR long-sleeve shirt, pants, and hood or arc-rated coverall & hood
- AR suit consisting of hood, coat, bib overalls, or hood & coveralls
- AR gloves
- AR jacket, parka, rainwear or hard hat liner

### Protective Equipment

- Hard hat
- Safety glasses or safety goggles
- Hearing protection
- Heavy-duty leather gloves
- Leather footwear

### Minimum Arc Rating

**75 cal/cm<sup>2</sup>**

**100 cal/cm<sup>2</sup>**

**140 cal/cm<sup>2</sup>**



\*Energized electrical work over 40 cal/cm<sup>2</sup> requires an incident energy analysis to be performed. Once this analysis has been done the appropriate PPE can be selected from the chart above by matching the calculated incident energy level with the corresponding PPE.

\*Energized electrical work over 75 cal/cm<sup>2</sup> requires an incident energy analysis to be performed. Once this analysis has been done the appropriate PPE can be selected from the chart above by matching the calculated incident energy level with the corresponding PPE.