



## **THREE STEPS TO COMPLY WITH NFPA 70E**

### **1. Conduct a Shock and Flash Hazard Analysis**

Under NFPA 70E, employers are required to conduct a hazard analysis to determine the “flash protection boundary.” This boundary is defined as the area where exposure to an electric arc is predicted to cause a second-degree burn injury and FR clothing and/or PPE is required for worker safety. The requirements for FR clothing and other PPE is determined on a case-by-case basis depending on the specific hazard present.

To determine the severity of the arc hazard, in-depth calculations are made to gauge the level of risk at each potential source of ignition. This incident energy is defined in calories per centimeter squared ( $\text{cal}/\text{cm}^2$ ). There are three basic methods to determine this ratio. The first method estimates the incident energy based on knowledge of the electrical systems and work practices. The second method estimates the incident energy by determining hazard risk category classifications from tables of common work tasks. The third method lays out a simplified FR clothing program that provides two PPE clothing categories– “everyday work clothing” and “electrical switching clothing.” This categorization assures adequate PPE in facilities with large and diverse electrical systems.

### **2. Determine PPE Clothing Needs Based on Degree of Hazard**

The industry-wide method for determining the appropriate type of FR clothing an employer needs is with the Hazard/Risk Chart. Table 130.7 is used to determine the arc rating that corresponds to each Hazard/Risk category, required to meet NFPA 70E specifications.

### **3. Select Protective Clothing that Matches the Hazard Category**

All garments are rated based on their ability to protect against electric arcs (which is expressed as  $\text{cal}/\text{cm}^2$ ). NFPA 70E requires that all garments have a minimum arc rating, which may be either ATPV or  $E_{BT}$ . You should keep in mind that certain tasks may require additional PPE, such as hard hats, face shields, double-layer FR flash hoods, safety glasses/safety goggles, leather gloves, voltage-rated gloves, and voltage-rated tools. The most effective way to comply with NFPA 70E is to choose protective clothing made from FR fabrics. Untreated cotton and wool and the fabrics made from these fibers do not provide FR protection against the range of hazardous conditions that can occur in the workplace environments faced with ignition hazards.

**Safety Training & Environmental Protection, LLC**  
**PO Box 1402**  
**Murray, KY 42071**  
**270-753-6529 [www.stepky.com](http://www.stepky.com)**