

PROTECTION FROM ELECTRIC ARC EXPOSURE

The intense energy and very short duration of an electric arc flash represents a very unique exposure. Everyday work clothes made from regular cotton or poly/cotton fabrics, regardless of weight, can be readily ignited at some exposure level and will continue to burn adding to the extent of injury sustained from the arc alone. NFPA 70E now requires employees to wear flame resistant (FR) protective clothing that meets the requirements of ASTM F1506 wherever there is possible exposure to an electric arc flash. **It requires employers to perform a flash hazard analysis to determine the flash protection boundary distance.**

The standard is designed to protect employees working inside these flash protection boundaries by requiring protective clothing for the corresponding Hazard/Risk Category that has an ATPV of at least the value listed in the “Protective Clothing Characteristics” section of the standard (see below). OSHA has confirmed that garments which meet the requirements of ASTM F1506 are in compliance with OSHA 29 CFR 1910.269 Electrical Power Generation, Transmission and Distribution, with regard to garments not contributing to burn severity.

NFPA 70E REQUIREMENTS

The National Fire Protection Association (NFPA) published the latest edition of the NFPA 70E Standard (Standard for Electrical Safety Requirements for Employee Workplaces) in 2012. The revised version requires employees to wear flame resistant (FR) protective clothing that meets the requirements of ASTM F1506 wherever there is possible exposure to an electric arc flash. **It requires employers to perform a flash hazard analysis to determine the flash protection boundary distance.** The standard is designed to protect employees working inside these flash protection boundaries by requiring protective clothing for corresponding Hazard/ Risk Category that has an arc thermal performance value (ATPV) of at least the value listed in the “Protective

Clothing Characteristics” section of the standard (see table to the right). The vast majority of major companies in the U.S. have some employees who work on or near energized electrical conductors or circuit parts. In addition, the Department of Energy has required that federal and contractor employees comply with NFPA 70E and the 2002 National Electric Code (NEC) references the NFPA 70E standard. Finally, OSHA considers the NFPA 70E standard a “recognized industry practice.”