

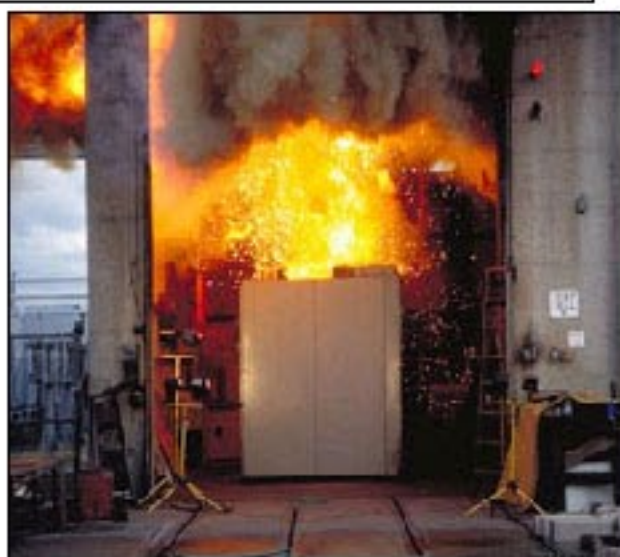


Improved Safety During Infrared Inspections of Electrical Equipment *White Paper Download*

There are 5-10 serious arc flash incidents every day in North America. These incidents result in approximately 2000 workers being treated in burn centers annually. It is estimated that arc flash incidents cost organizations hundreds of millions of dollars. In response to this problem, NFPA (National Fire Protection Agency) and OSHA (Occupational Safety and Health Administration) have created guidelines for operating around energized electrical circuits and following proper safety practices. Updated just this year, NFPA 70E now includes specific references to thermal imaging and makes a number of important clarifications on electrical safety.

Introduction

There are many risks associated with the infrared inspection of electrical equipment. Those risks include not only shock, but burn injuries from arc blasts. Arc flash accidents can cause serious burns and in some cases death. The risks associated with an arc flash were first introduced to the industry by Ralph Lee in the early 1980's with his publication of, "The Other Electrical Hazard: Electric Arc Blast Burns." The risk of an arc flash occurring is real and statistics show that there are 5 to 10 serious arc flash incidents everyday in North America. These incidents result in approximately 2,000 workers being treated in burn centers annually. Many more workers suffer less severe injuries resulting in only emergency room treatment. It is estimated that these incidents cost organizations hundreds of millions of dollars annually.



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Safety standards adopted by the NFPA and OSHA provide workers with guidelines for reducing risk while inspecting electrical equipment. At the heart of these guidelines is the NFPA 70E, which is a standard that outlines electrical safety requirements that are necessary for safeguarding employees during various workplace activities, including not only safe practices, but proper protective equipment based on risk. The 2009 edition of this standard includes new information intended to further improve workplace safety.

The Hazards of Electrical Inspection

Electrical inspectors face many hazards. Hazards can occur from shock, electrocution, arc flash, arc blast, and more. These dangers are very real. In fact, every day in the US one person dies from shock, electrocution, arc flash, and arc blast. Additionally, some 8,000 workers are treated each year in emergency rooms for electrical contact injuries.



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Of these injuries, burns are the most common. Burns can result from a variety of reasons including electrical burn, arc burn, or thermal contact burn. Of these, electrical burns are the most serious in nature and

require immediate medical attention.

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Electrical burns result from the flow of electric current through tissue and/or bone. The flow generates heat that damages tissue. Arc flash burns result from the intense heat generated from the flash occurring near the victim's body. Thermal contact burns occur from contact with heated components.



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