

The Master Lock Company



ARC FLASH AND ELECTRICAL SAFETY SERVICES

Evaluation • Written Programs • Arc Flash Risk Assessments • IR Inspection • Training • Qualified Worker Program • Electrical Audit

The
**Master Lock
Company**

SAFETY IS OUR TOP PRIORITY

Nothing is more important than keeping your people safe. Challenges arise in environments and activities that include working with electricity. Successful partnerships can make all the difference when you are in the beginning stages of establishing a comprehensive and compliant electrical safe work program, or looking to improve or evolve current electrical work practices or programs.

At The Master Lock Company, we have worked with companies around the world to help them ensure the safety of their employees. Arc Flash Risk Assessments and Electrical Safety Services are the latest in our arsenal of safety services. Our goal is to help you become compliant with NFPA 70E® and OSHA 29 CFR 1910 Subpart S and make sure your organization is employing best practices to mitigate the potential of electrical-related injuries and protect your employees.

Over 100 years of keeping people safe

The Master Lock Company has focused on the safety and security of people and property for over a century. Drawing on years of experience and expertise, our team of PE-licensed electrical engineers specializing in power system studies and electrical field technicians experienced in data collection, have conducted insightful risk assessments across all industries. Through our thorough and comprehensive approach, we can help support your organization's safety efforts and ensure your plant or facility remains compliant.

Together, we make work environments safer



ARC FLASH & ELECTRICAL SAFETY SERVICES

- Evaluation
- Written Programs
- Arc Flash Risk Assessments
- IR Thermography Inspection
- Training
- Qualified Worker Program
- Electrical Audit



Evaluation

We start with a thorough 2-day evaluation of your facility and current electrical work practices to understand the working environment, your electrical safety experience level, and your initiatives to improve or create an electrical safety program at the site. This includes reviews of system and process documentation, including one-line diagrams, training programs, electrical safe work permit processes, and any related electrical assessments. Once your evaluation is complete, we will share information on what best practice electrical safety programs consist of and how they are implemented.



Written Programs

To comply with OSHA 29 CFR 1910 and meet the requirements of NFPA 70E® 110.5, employers must implement a written safety program to protect all employees, contractors and visitors from electrical hazards while on site. Through on-site or off-site consultation, our team will assess your workplace to develop plant or facility-specific topics and language that should be included in the electrical safety program. Our consultation process includes:

- Review of the current program and areas of concern or non-compliance
- Recommendations and consultation on improving the written program
- Formal documentation of new policies and procedures



Arc Flash Risk Assessments

An assessment must be completed before working on or near exposed energized circuits.

The Master Lock Arc Flash Risk Assessment offers a comprehensive understanding of the risks and hazards within your plant or facility. To help you effectively address any identified challenges, it provides the incident energy, required PPE, safe working distances and warning labels for each piece of equipment.

The process begins on-site with data collection. Our team of qualified electrical safety specialists inspect all electrical distribution equipment including transformers, motors, breakers and fuses. They also document conductor sizes, lengths and number per phase. This information is used to create an accurate one-line diagram representing the distribution system for the entire plant or facility.

Using ETAP or SKM software, a licensed professional electrical engineer follows the requirements of IEEE 1584 and NFPA 70E® to perform short circuit and protective device coordination studies, calculate the incident energy at each piece of equipment, and identify opportunities to mitigate the risk of arc flash related electrical hazards. The final deliverables include:

- One-line diagram
- Written report detailing:
 - The incident energy at each piece of equipment
 - Appropriate PPE level and minimum safe working distance
- Recommendations on reducing incident energy and the related PPE levels
- Creation and installation of NFPA 70E®-compliant arc flash labels
- Recommendations for PPE Implementation

IR Thermography Inspection

To help identify potential hazards in the workplace, infrared inspections are utilized to find areas within the electrical system with excess heat. This helps identify problems early so they can be corrected before a component fails, causing damage to the equipment as well as safety hazards and productivity loss.

Training

To maintain compliance, employee training is required initially and every three years thereafter, or when changes occur to your system. Training courses include hands-on kits and cover electrical codes and standards, electrical safe work practices, and employee responsibilities to help sustain your program. Training materials are provided and presented by our professional instructors at your facility. Available courses include:

2-day NFPA 70E® – This is a foundational course for qualified workers who work on or around energized equipment.

3-day NFPA 70E® + 1-day qualification training
– This course covers the same materials as our 2-day course but also includes the testing and assessing of electrical safety skills using live, finger-safe equipment.

1-day NFPA 70E® Refresher – This course is for employees who have already taken the 2- or 3-day course and need a refresher to meet the 3-year updates required by NFPA 70E®.

Train the trainer – This course provides instruction to develop trainer capabilities within select instructor candidates.

Qualified Worker Program

In addition to electrical safety training, a qualified person must be able to demonstrate the skills and knowledge related to the construction and operation of the electrical equipment and installations. Our program assesses the workers based on their jobs, tasks and equipment and documents their ability to safely perform their work. After completing the program, the qualified person will have demonstrated their ability to:

- Identify electrical hazards related to the job and equipment
- Establish an electrically safe work condition
- Select and use the proper PPE and tools based on the hazards
- Perform the work safely

www.masterlocksafety.com
www.masterlock.com

Master Lock Company LLC, Milwaukee, WI 53210 U.S.A. | 800-308-9244
Master Lock Canada, Mississauga, Ontario L5L 5Z9 | 800-308-9244
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Electrical Safety Audit

An electrical safety audit identifies potentially hazardous electrical situations and helps ensure compliance with NEC®, NFPA 70E® and 70B® and OSHA 1910.331-335. Arc flash and electrical safety procedures must be evaluated and validated by objective inspections at least every 3 years. Through our comprehensive 110-point investigation surrounding people, processes, equipment and safe work practices, we identify areas of improvement and provide recommendations on corrective actions.

LOCKOUT/TAGOUT MANAGEMENT SERVICES

Lockout procedures are required for all equipment with multiple energy sources within a facility.

The Master Lock Company also offers a broad range of lockout/tagout management services and can help develop industry-standard visual lockout procedures to provide workers with a reference tool for outlining:

- Shut down of machinery and control of hazardous energy
- Application and removal of lockout equipment
- Verification that machinery is in a zero-energy state



Contact us

800-308-9244 or safetyconsulting@mlock.com

to schedule your Arc Flash & Electrical Safety Evaluation or to ask about our other services.

