

SYSTEMSHIELD™ ARC FLASH GUIDELINES

PURPOSE

This document establishes safety procedures for identifying and avoiding arc flash hazards when installing or servicing SystemShield™ Grounding Kits. Although the kit itself is non-energized, installation frequently occurs inside or near energized electrical panels, server racks, and industrial enclosures. Compliance with arc flash protection standards is critical to reduce the risk of injury.

ARC FLASH BASICS

Arc flash is the rapid release of electrical energy caused by a fault between phase conductors or between a conductor and ground. It can result in serious injury or death from:

- Thermal burns
- Explosive pressure waves
- Shrapnel and conductor vaporization
- Sound and light blast exposure

SystemShield kits must be installed **only after confirming an electrically safe work condition**, except where field-specific protocols allow energized work.

RISK ZONES IN TYPICAL SYSTEMSHIELD INSTALLATIONS

Location	Arc Flash Risk	Required Action
Empty telecom rack	Minimal	No energized hazard
Non-energized control panel (LOTO applied)	Low	Proceed with standard PPE
Energized electrical panel (unlocked or live)	High	Stop work unless EWP issued
Industrial MCC or switchgear environment	High	Follow NFPA 70E boundaries and PPE tables

Anywhere within 18" of live conductors >240V	High	Arc flash-rated PPE and face protection required
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PRE-INSTALLATION ARC FLASH CHECKLIST

Before beginning work:

- ☐ Verify panel or rack is de-energized using calibrated meter
- ☐ Confirm Lockout/Tagout applied
- ☐ Review facility arc flash boundary signage and labels
- ☐ Identify upstream energy sources or backfeeds
- ☐ Assess if any energized equipment is within 3 feet of working area
- ☐ Stop work immediately if you are unsure of arc hazard classification

REQUIRED ARC FLASH PPE (IF ENERGIZED WORK IS AUTHORIZED)

Body Area	Required Protection
Head / Face	Arc-rated face shield or arc flash hood (Category 2 or higher)
Torso	Arc-rated long-sleeve FR shirt and pants or coverall
Hands	Rubber insulating gloves with leather protectors
Feet	EH-rated boots
Tools	Insulated hand tools and voltage-rated torque tools

Note: This level of PPE is **not required** for de-energized SystemShield installations that follow proper isolation procedures.

INSTALLATION SAFETY RULES

1. Do not open energized panels to install SystemShield kits.
2. Do not drill, torque, or contact any metal surface within 18" of live conductors.
3. Follow all posted arc flash boundaries and signage.
4. Never bypass Lockout/Tagout even for “quick” terminations.
5. Never wear synthetic clothing during install—use arc-rated fabric only.

ARC FLASH DOCUMENTATION FOR SYSTEMSHIELD PROJECTS

- PPE Installation Checklist
- Lockout/Tagout Guidelines
- Final Inspection Sign-Off Sheet
- Site-Specific EWP (if energized work was permitted by facility)

- Arc Flash Boundary Sign-In Sheet (facility dependent)
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REFERENCE STANDARDS

- **NFPA 70E – Article 130:** Work Involving Electrical Hazards
 - **OSHA 1910 Subpart S:** Electrical Safety Requirements
 - **IEEE 1584:** Arc Flash Hazard Calculation Models
 - **NEC Article 110.16:** Arc Flash Hazard Marking
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SYSTEMSHIELD POLICY

SystemShield mandates that all installations be performed under a verified **electrically safe work condition**. Energized installation of any grounding components is prohibited unless authorized by written Energized Work Permit (EWP) through the facility.

SUPPORT

For site-specific arc flash analysis, documentation assistance, or help training installers:

Email: systemshieldgrounding@gmail.com

Website: www.systemshield.tech

Secure Portal: <https://systemshield.tech/distributor-access>