



## Arc Flash Lanyard Manual



### APPLICABLE SAFETY STANDARDS

When used according to instructions, Safewaze Arc Flash Lanyards meet **ANSI Z359.13-2013, OSHA 1926.502, 1910.140, 1910.66, and ASTM F887**. Applicable standards and regulations depend on the type of work being done and may include state-specific regulations. Refer to local, state, and federal requirements for additional information on the governing of occupational safety regarding Personal Fall Arrest Systems (PFAS).

### WARNING:

The manufacturer's instructions must be provided to users of this equipment. The user must follow the manufacturer's instructions for each component of the system. The user must read and understand these instructions before using this equipment. Manufacturer's instructions must be followed for proper use and maintenance of this equipment. The user must understand how to safely and effectively use the Arc Flash Lanyard and all equipment used in conjunction with the Arc Flash Lanyard. Alterations to this product, misuse of this product, or failure to follow instructions may result in serious injury or death. Avoid moving machinery, sharp and/or abrasive edges, and any other hazard that could damage or degrade the component.

**Do not throw away instructions!**  
Read and understand instructions before using equipment!

### IMPORTANT:

- Please refer to this manual for essential instruction on the use, care, or suitability of this equipment for your application. Contact Safewaze for any additional questions.
- Only Safewaze, or entities authorized in writing by Safewaze, may make repairs to Safewaze fall protection equipment.
- Record all important product information below prior to use. Documentation of all Competent Person annual inspections is required in the Inspection Log.
- Always verify the latest revision of the Safewaze Manual is being utilized. Visit the Safewaze website, or contact Customer Service, for updated manuals.

### INTRODUCTION

Thank you for purchasing a Safewaze Arc Flash Lanyard. An Arc Flash occurs when an electric current leaves its intended path. When a human is in close proximity to an Arc Flash, serious injury or death can occur. Safewaze Arc Flash Lanyards are engineered to withstand an Arc Flash event and continue to provide Fall Protection for the user. This manual must be read and understood in its entirety and used as part of an employee training program as required by OSHA or any applicable state agency. This manual and any other instructional material must be available to the user of the equipment. Every user must be trained in the inspection, installation, operation, and proper usage of the anchor.

### SPECIFICATIONS

Safewaze Arc Flash Lanyards are designed to be used as part of a Personal Fall Arrest System (PFAS).

- For use in high heat environments where an Arc Flash (Electrical Explosion) could occur.
- Capacity: **ANSI 130 to 310 lbs. (59-141 kg)** \*including any tools, clothing, accessories, etc.
- Offered in a variety of configurations: nylon or aramid web material; single leg or dual leg; internal energy absorber or external energy absorber; steel, aluminum, or dielectric hardware, etc.

### USER INFORMATION

Date of First Use: \_\_\_\_\_  
Serial Number: \_\_\_\_\_  
Trainer: \_\_\_\_\_  
User: \_\_\_\_\_

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### WORKER CLASSIFICATIONS

Read and understand the definitions of those who work in proximity of, or may be exposed to, fall hazards:

**Qualified Engineer:** "Qualified Engineer" means a person with a Bachelor of Science in Engineering degree from an accredited college or university. They are able to assume personal responsibility for the development and application of engineering science and knowledge in the design, construction, use, and maintenance of their projects.

**Qualified Person:** "Qualified Person" means one who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated their ability to solve or resolve problems relating to the subject matter, the work, or the project.

**Competent Person:** "Competent Person" means one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

**Authorized Person:** "Authorized Person" means a person approved or assigned by the employer to perform a specific type of duty or duties, or to be at a specific location or locations, at the jobsite.

It is the responsibility of a **Qualified Person or Engineer to supervise the jobsite and ensure safety regulations are complied with.**

### LIMITATIONS

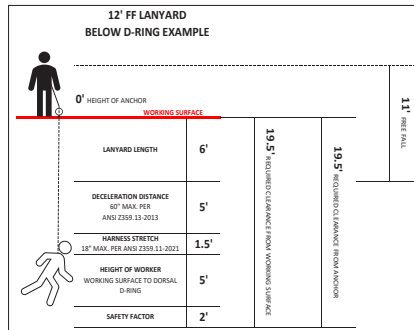
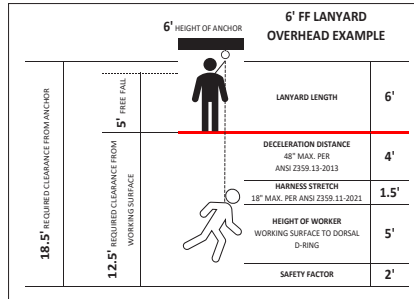
Always select a lanyard and anchor point location that limits free fall and swing fall as much as possible. A free fall of more than 6 ft. could cause excessive arrest forces that could result in serious injury or death.

Structures for the attachment of an Arc Flash Lanyard shall support a minimum 5,000 lbs. (22 kN) or be designed with a safety factor of two to one by a Qualified Person.

**Fall Clearance:** There must be sufficient clearance below the anchorage connector to arrest a fall before the user strikes the ground or an obstruction. When calculating fall clearance, account for all applicable factors (Figure 1). A Competent Person must reference the entire system's components to calculate Fall Clearance.

**FIGURE 1: FALL CLEARANCE DIAGRAMS**

\*These diagrams are examples of fall clearance calculations ONLY.



**Swing Falls:** Prior to installation or use, make considerations for eliminating or minimizing all swing fall hazards. Swing falls occur when the anchor is not directly above the location where a fall occurs. Always work as close to, or in line with, the anchor point as possible. Swing falls significantly increase the likelihood of serious injury or death in the event of a fall (Figure 2).

**FIGURE 2: SWING FALL**



### ANCHORAGE INSTALLATION LOCATION

A Qualified Person or Engineer must conduct an analysis of the workplace and ensure the anchorage location is capable of withstanding loads from a fall. An anchorage location selected for a Personal Fall Arrest System (PFAS) must have a strength capable of sustaining a static load applied in the direction permitted by the PFAS of at least:

- 5,000 lbs. (2267.9 kg) for non-certified anchorages, or
- Two times the maximum arresting force for certified anchorages, or
- 3,100 lbs. for Rescue applications.

When more than one fall arrest system is attached to an anchorage, the strengths set forth in one of the above shall be multiplied by the number of systems attached to the anchorage.

### ALLOWED ANCHOR APPLICATIONS

**Personal Fall Arrest:** Safewaze Anchors are designed as an anchor point to support a maximum of 1 PFAS when utilized for fall protection applications. The structure to which the anchor is attached must withstand loads applied in the directions permitted by the system of at least 5,000 lbs. (22 kN) or be designed with a safety factor of two to one. Maximum allowable freefall is based on the connector used.

**Restraint:** Safewaze Anchors are authorized for use in Restraint applications. The structure to which the anchor is attached must withstand loads applied in the directions permitted by the system of at least 1,000 lbs. NO free fall is permitted. Restraint systems may only be used on surfaces with slopes up to 4/12 (vertical/horizontal). For Restraint applications, the allowable attachment points to the harness are Dorsal, Front/Sternal, Side, and Shoulder D-rings.

**Work Positioning:** Safewaze Anchors are authorized for use in Work Positioning applications. Work Positioning allows a worker to be supported during suspension while freeing both hands to conduct work operations. The structure to which the Anchor is attached must withstand loads applied in the directions permitted by the system of at least 3,000 lbs. Maximum allowable free fall is 2' ft. For positioning applications, the allowable attachment points to the harness are the Side D-rings.

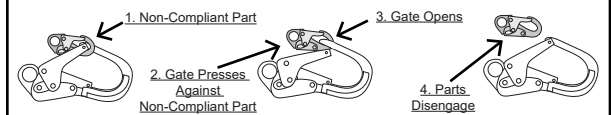
**Rescue/Confined Space:** Safewaze Anchors are authorized for use in Rescue/Confined Space applications. Rescue systems are utilized to safely recover a worker from a confined location or after exposure to a fall. Composition of rescue systems can vary based upon the type of rescue involved. The structure to which the Anchor is attached must withstand loads applied in the directions permitted by the system of at least 3,100 lbs. NO free fall is permitted. For rescue applications, the allowable attachment points to the harness are Dorsal, Front/Sternal, and Shoulder D-rings.



### COMPATIBILITY OF COMPONENTS/CONNECTORS

- Safewaze equipment is designed for, and tested with, associated Safewaze components or systems. If substitutions or replacements are made, ensure all components meet the applicable ANSI requirements. Read and follow manufacturer's instructions for all components and subsystems in your PFAS. Not following this guidance may jeopardize compatibility of equipment and possibly affect the safety and reliability of the system.
- Connectors are compatible with connecting elements when they have been designed to work together in such a way that their sizes and shapes do not cause their gate mechanisms to inadvertently open regardless of how they become oriented.
- Connectors (hooks, carabiners, and D-rings) must be capable of supporting at least 5,000 lbs. (22 kN).
- Connectors must be compatible with the anchorage or other system components.
- Do not use equipment that is not compatible. Non-compatible connectors may unintentionally disengage (Figure 3).
- Connectors must be compatible in size, shape, and strength.
- Self-locking snap hooks and carabiners are required by OSHA guidelines.
- Some specialty connectors have additional requirements. Contact Safewaze if you have any questions about compatibility.

**FIGURE 3: UNINTENTIONAL DISENGAGEMENT**



Using a connector that is undersized or irregular in shape (1) to connect a snap hook or carabiner could allow the connector to force open the gate of the snap hook or carabiner. When force is applied, the gate of the hook or carabiner presses against the non-compliant part (2) and forces open the gate (3). This allows the snap hook or carabiner to disengage (4) from the connection point.

### MAKING CONNECTIONS

Snap hooks and carabiners used with this equipment must be double locking and/or twist lock. Ensure all connections are compatible in size, shape, and strength. Do not use equipment that is not compatible. Ensure all connectors are fully closed and locked.

Safewaze connectors (hooks, carabiners, and D-rings) are designed to be used only as specified in each product's manual. See Figure 4 for examples of inappropriate connections. Do not connect snap hooks and carabiners:

- To a D-ring to which another connector is attached.
- In a manner that would result in a load on the gate (with the exception of tie-back hooks).
- In a false engagement, where features that protrude from the snap hook or carabiner catch on the anchor, and without visual confirmation seems to be fully engaged to the anchor point.
- To each other.
- By wrapping the web lifeline around an anchor and securing to lifeline, except as allowed for tie-back models.
- To any object which is shaped or sized in a way that the snap hook or carabiner will not close and lock, or that roll-out could occur.

