FALL SAFE™

USER INSTRUCTIONS FOR
ARFAS ALUMINUM RAIL FALL ARREST SYSTEM

US Patent 10,646,733



SureWerx®

FALL SAFE™
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IMPORTANT INSTRUCTIONS!

These instructions must be kept on file and available for the users reference at all times. The users must read and full understand these instructions or have the instructions explained in detail before using this equipment. **Failure to observe these instructions could result in serious injury or death.**

Prior to use, all workers must be trained in the proper use of all systems and equipment.

A Training and Instruction review should be repeated at regular intervals.

A rescue plan must be prepared; the workers must be trained in its use, and rescue equipment must be on hand prior to any use of this horizontal rail system.

Any questions regarding these instructions should be directed to:

Manufacturer's Name and Address

Fall Safe™
Canada labels
SureWerx, 49 Schooner St.
Coquitlam, BC V3K 0B3

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SureWerx USA Inc.
Elgin, IL USA 60123

IMPORTANT OSHA REGULATIONS COVERING THE USE OF HORIZONTAL RIGID RAIL SYSTEMS

OSHA 1910.66 (b):

"Qualified Person" means one with a recognized degree or professional certificate and extensive knowledge and experience in the subject field who is capable of design, analysis, evaluation, and specifications in the subject work, project, or product.

OSHA 1910.66 (b):

"Competent Person" means a person who is capable of identifying hazardous or dangerous conditions in the personal fall arrest system or any component thereof, as well as in their application and use with related equipment

OSHA 1910.66:

Personal fall arrest systems shall be rigged such that an employee can neither free-fall more than 6-ft. nor contact any lower surface.

OSHA Standards, Interpretations and Compliance Letters, 02/09/1995-Criteria for personal fall arrest systems:

The free-fall distance is limited to 6 feet. The deceleration distance must not exceed 42 inches; lifeline elongation is not included in deceleration distance; and the total fall distance is unregulated except that the employee cannot make contact with a lower level...The safety factor of two should be applied based on the anticipated maximum arrest force, not the fall energy.

SYSTEM DESCRIPTION AND DESIGN PARAMETERS

The ARFAS Aluminum Rail Fall Arrest System is designed for use as a permanently installed horizontal rail system. The Rail, Splice Sections and Hangers are constructed from durable aluminum alloys. The Trolley is made from forged Stainless Steel with UHMW wheels with sealed ball bearings. The various Adapter brackets are made from Carbon Steel with corrosion resistant zinc plating. The system is designed to enable the user to attach to overhead anchor points, eliminating catenary loading of typical horizontal lifelines. The ARFAS system, in general, is designed for use by up to 2 persons at the same time, and have no limits to continuous span distances. Because the ARFAS design separates the anchor points from the rail track, the trolley is free to traverse the entire length of the system uninterrupted.

The anchor point loads require a 2 to 1 Safety Factor on the intended usage loads. Because there is no amplification of the loads, required anchor point strengths are calculated at 1,800 pounds for a single user system or 3,600 pounds for a two user system.

This system design is predicated on the use of a full-body harness for the worker, and a self-retracting lanyard (SRL) with 900 lb. maximum arrest force. Retractables that do not have “slip-clutch” type internal 900 lb. MAF shock absorbers are **NOT** allowed for use as vertical lifelines on this system. Any attachment to the ARFAS must transfer fall arrest forces to the body through the dorsal d-ring of the full body harness only. Harness side and chest d-rings are not allowable retractable connection points.

ARFAS Design parameters are as follows:

1. Maximum unsupported span:
    - Rail P/N 1700100-1, 16-ft continuous
    - Rail P/N 1700200-1, 20-ft continuous
    - Rail P/N 1700300-1, 25-ft continuous
2. Maximum Cantilever of a continuous rail is 5 feet.
3. Maximum distance from an anchorage point to a splice is 5 feet on a continuous rail with a minimum of two anchorage points.
4. Maximum arrest force per user is 900 lbf.
5. Maximum number of users is 2.

ANCHORAGE POINTS

The minimum strength of ARFAS anchorage points must be at least two times the anticipated fall arrest loads of 1,800 pounds for a single user system or 3,600 pounds for a two user system. This anchorage strength must be certified by a qualified person and must be verifiable by either calculation or testing. If in question, consult Fall Safe Engineering for proper design requirements.

ARFAS COMPONENTS

The ARFAS Aluminum Rail Fall Arrest System consists of the following standard approved and compatible components:

Part #	Description
1700100-1	16-ft (5m) Rail Segment, Standard
1700200-1	20-ft (6m) Rail Segment, Standard
1700300-1	25-ft (7.6m) Rail Segment, Standard
1700101-1	Rail Segment, Standard, per ft
1730100-1	Rigid Rail Trolley, Std., Stainless
1710200-1	Rail Splice, Standard Segment, 12-in
1710224-1	Rail Splice, Standard Segment, 24-in
1710236-1	Rail Splice, Standard Segment, 36-in
1710600-1	End Stop Assembly
1710100-1	Rail Hanger, Standard, 4 Pack
1710101-1	Hanger, Parallel Purlin Bracket
1710102-1	Hanger, I-Beam Clamp
1710103-1	Hanger, Purlin Mounting Plate
1710104-1	Hanger, Bar Joist
1710105-1	Bracket, Parallel Double Rail
1710112-1	Arm, Rail Hanger, 12"
1710124-1	Arm, Rail Hanger, 24"
1710136-1	Arm, Rail Hanger, 36"
1710113-1	Hardware Kit, Fixed Hanger Arm
1710114-1	Hardware Kit, Adjust Hanger Arm

The actual selection of components and options for the design of an ARFAS Aluminum Rail Fall Arrest System should only be performed by a Fall Safe Qualified Person, or a state registered Professional Engineer who is experienced in the design and use of safety systems.

The ARFAS Aluminum Rail Fall Arrest System is designed for use with the approved, above listed components only. Substitutions or replacements with non-approved components will endanger the system integrity and may affect the safety and reliability of the total system.

PERSONAL FALL ARREST EQUIPMENT USED WITH ARFAS

It is of utmost importance to control system input forces during a fall to ensure the system maintains a 2 to 1 safety factor. Only SRLs with 900 lb. maximum arrest force are allowed for use with this system. Install a single SRL only to the ARFAS Trolley, do not make direct connections to the Rail or any supporting brackets.

Care should also be used in selecting harnesses for use with the ARFAS. Harnesses with sewn down back pads can limit as much as 1 ft. of back pad slippage during fall arrest, giving additional clearance for safety. If the system will be used where a worker could encounter a head first free-fall, a non-secured back pad can slide down the webbing to the small of the back, allowing the worker to fall out of the harness through the top by allowing the harness straps to slip over the shoulders. For this reason, we recommend the use of full body, crossover or pullover type harness with sewn down or slip resistant back pads for all installations.

INSTALLATION LAYOUT CONSIDERATIONS

The ARFAS Aluminum Rail Fall Arrest System is designed to minimize fall clearances and protect users in areas where free fall is limited. Minimum fall clearances must be calculated based on SRL and harness type selected. The system should be located as centered above the work area as possible, to prevent swing falls and falls over edges. Consult the SRL user instructions for details on swing fall and sharp edge limitations. The system should never be located near energized lines or connections. Clearance from moving or rotating machinery and equipment must be maintained at a safe distance from all anticipated user movement. Locate the ARFAS at a level below any roof top systems such as lighting, conduit, water and utility lines, sprinkler heads and lines, ducting or HVAC systems. The ARFAS and its mounting brackets are designed to put the system at its highest level from the working surface while creating an obstacle free linear travel path for the SRL.

INSTALLATION

Installation of ARFAS should be done under the supervision of a Qualified Person trained in their function and use. Use only parts that have been qualified as compatible components by Fall Safe. Ensure that the minimum anchorage strength is at least 2 times the anticipated fall arrest loads of 1,800 pounds for a single user system or 3,600 pounds for a two user system. Have the anchorages certified by a qualified person and keep documentation on hand. Always install ARFAS horizontally where all end anchorages and bypass supports keep the Rail section level and plum.

TRAINING

It is the responsibility of the employer to train all workers prior to using this system (per OSHA 1926.503 (a)(1)). The employer shall provide a training program for each employee who might be exposed to fall hazards. The program shall enable each employee to recognize the hazards of falling and shall train each employee in the procedures to be followed in order to minimize these hazards.

The employer shall assure that, as necessary, each employee has been trained by a competent person qualified in the following areas:

a. OSHA regulations governing the use of fixed rail systems.
b. Ability to recognize potential fall and workplace hazards.
c. Method of inspection of safety equipment.
d. Rescue procedures.
e. Installation and removal techniques.

PLANNING FOR RESCUE

Prior to system use, a rescue plan must be prepared, the workers must be trained in its use, and the rescue equipment must be on hand to implement it in case of a fall.

Typical rescue plans include (but are not limited to) the following items:

1. List of equipment that must be readily accessible in the event of an emergency and the names of those workers certified to use or operate that equipment.
2. Emergency contact phone numbers (ambulance, hospital, fire department...) and a means to contact them (cell phone, emergency radio).
3. List of employees on the site, and the specific tasks they will perform to effect the rescue.

The equipment that will be used to aid in the rescue of any worker must be attached to structural anchorages independent of those used for the horizontal lifeline system. During installation of horizontal lifeline anchorages, tie-off and equipment attachment hardpoints should be attached, and also clearly marked in such a manner as to provide a means to rescue a worker in any position along the lifeline system.

INSPECTION

Prior to each use, the worker must inspect the system for any physical damage, wear, corrosion, or malfunctioning parts. Check the rail section for deformation or evidence of fall arrest loading. Check that the end stops are in place and end stop labels are installed and visible from the working surface. Check that the trolley rolls smoothly in the rail and shows no deformation of the connection hole. All mounting brackets and hardware should be tight and free of corrosion. If an inspection reveals a problem or unsafe condition, remove the entire system from service until it can be re-certified by a competent person.

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The worker should verify the presence of the ARFAS ID End Stop Label attached to the end stop. A formal inspection must be carried out a minimum of once each year, and be formally documented and kept on file with the system installation documents.

After each inspection the end stop label shall be punched indicating date of last inspection by the competent person.

SERVICING

A qualified person trained in the inspection and servicing of system components must carry out servicing of this system. The company's safety officer should maintain a record log of all servicing and inspection dates. The system and all components must be withdrawn from service if subjected to fall arrest forces. Those components may be returned to service only after being certified by a qualified person. Only original Fall Safe equipment and replacement parts are approved for use in this system. Contact Fall Safe with questions and when in need of assistance.

WARNINGS AND LIMITATIONS

Proper care should always be taken to visually scan the work area prior to use. Remove any obstruction, debris, and other materials from, and beneath the work area that could cause injuries or interfere with the operation of this system. Be cautious of swing fall hazards if working horizontally to the side of the ARFAS. Be cautious of energized sources that the SRL could contact in the intended path of usage. Keep away from rotating or moving machines or vehicles in and around the work area.

Users should be familiar with pertinent regulations governing the use of this system and its components. Only trained and competent personnel should install and supervise the use of this system.

Do not exceed manufacturers' maximum number of people on the ARFAS.

Use only Fall Safe supplied or qualified compatible components.

INSPECTION LOG FOR HLL SYSTEMS

Company: _____ Location:_____ Date:_____

Job Site: _____ ARFAS Log No.: _____ System No.: _____

Describe non-conforming conditions in the boxes below:

Inspection Criteria	Missing Parts	Labels Readable	Corrosion	Deformed Parts	Cracked Parts/ Broken wires	Excessive Loading
ARFAS ID End Stop Label?						
Trolley Label?						
SRL Connector?						
Trolley?						
End Stops?						
Splice(s) Screws?						
Rail Sections?						
Mounting Brackets and Hardware?						
Hanger Brackets and Screws?						

Has a Rescue Plan been prepared?_____

Is Rescue Equipment on hand?_____

Have workers been trained in the Rescue Procedures and been given a copy of the Rescue Plan? _____

_____

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WARRANTY: • Warranty policy is that of an implied manufacturer warranty and covers manufacturer's defects and workmanship. This warranty is valid for one year from date of purchase unless otherwise stated • Warranties are limited to the replacement of defective parts. Parts damaged from misuse will not be replaced under the warranty program. SureWerx USA shall be the sole judge of part condition • Warranty does not apply to: (i) cosmetic damage, such as scratches, nicks and dents; (ii) consumable parts, such as batteries, unless product damage has occurred due to a defect in materials or workmanship; (iii) damage caused by accident, abuse, misuse, water, flood, fire, or other acts of nature or external causes; (iv) anticipated wear or damage due to use of the product in the application for which it is marketed; (v) damage to a product that has been modified or altered without the written permission of SureWerx. • Warranty varies by brand and product category. Please contact customer service for specific warranty policies

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