



## Instructions

Use these instructions as part of a training program as required by OSHA and any applicable state agency. The user must understand how to safely use the Universal Guardrails and all safety equipment used in combination with the Universal Guardrails.

A competent person who is highly trained and experienced, assigned by the employer, must be responsible for all elements of a fall safety program, including the regulation, management, and application as it relates to the use of the Universal Guardrails and related system.

## Safety Information

Serious injury, bodily harm or death may result if there is a failure to understand and comply with safety regulations. These instructions are not all-inclusive and are for reference only and not intended to replace a competent person, knowledge or judgment of Federal and State Standards. New OSHA Rule in affect: Walking-Working Surfaces, 1910.28, please consult this as well as all local, State and Federal OSHA rules

Workplace conditions including, but not limited to weather conditions, corrosive chemicals, potential electrical hazards, sharp objects/surface, and slope of the surface must be evaluated by a competent person before equipment is selected and installed and before work begins. Do Not misuse equipment. Do Not alter equipment. Unprotected leading edges and sides that are 6 feet or more above the next lowest level require the use of these guardrails, safety nets or personal fall protection devices. Never lean or climb on a Universal Guardrail.

Inspection of the Universal Guardrail must take place routinely at intervals not to exceed 6 months. A competent person other than the end user must be responsible for the inspection of the Universal Guardrail System. All inspection must be recorded by a competent person who must sign their initials and date (month/year) in the appropriate box on the inspection grid decal for the month and year the inspection was conducted.

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**Prior to installation/set-up of the Universal Guardrail System, a competent person must develop a system layout plan.**

1. Evaluate the roof surface to confirm that the Guardrail System will not be installed on top of gravel or slippery surfaces.
2. Measure the work surface area to be protected and space the Zip base plate accordingly (10 ft. centers for long runs, 7-1/2' and or 5 ft. centers where required).
3. All Zip Base plates must be located a minimum distance of 18 in. from a "no curb"/parapet leading edge, or opening. If the work location has a curb or parapet edge, the Zip Base can be placed perpendicular against the rise of the structure.
4. Always be aware of all electrical hazards (ELECTRICITY KILLS). A minimum safe distance of 10 ft. away from power lines and other electrical hazards must be maintained at all times.
5. Zip base plates must be oriented correctly with the Universal Guardrails installed perpendicular. Toe boards are installed parallel to the guardrails. Safety clips pins must be inserted through all zip base plates and guardrails.
6. The Universal Guardrail System must be installed in a continuous run, and must completely block all applicable leading edges of potential fall hazards. Do not attempt to relocate a fully assembled system.
7. Guardrail Outriggers **MUST** be used at both ends of any interruption in continuous guardrail sections, or at both ends of a continuous guardrail section. See back for example.
8. A Guardrail Outrigger is installed perpendicular to a continuous guardrail run.

**IMPORTANT: Zip Base plate must be placed perpendicular to the orientation of the guardrails. The base can be orientated with long or short edge pointed to the direction of the leading edge. To minimize trip hazards, install short end of base away from leading edge.**

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## Assembly and Use

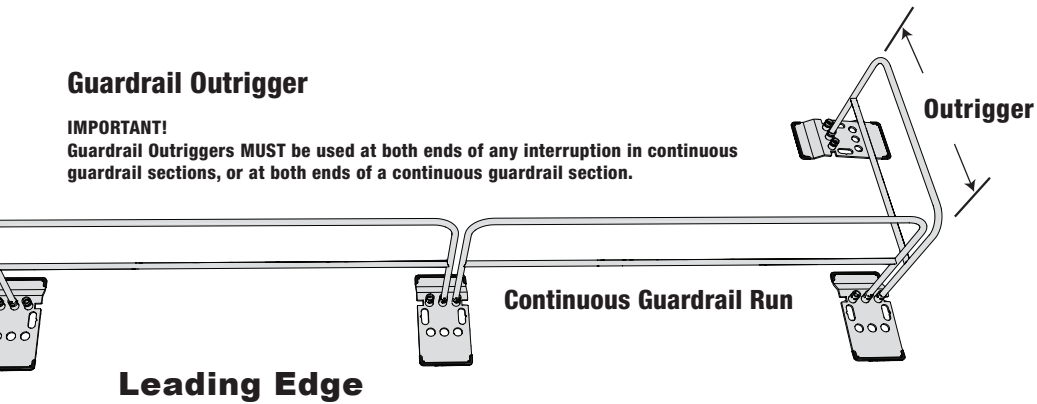
1. Place all Zip Rail Baseplate's around the leading edge of the fall hazard area, space the Zip Rail Baseplate's at approximate lengths of the corresponding length of guardrail (10', 7.5' and 5').
2. When assembling the guardrails into the Zip Rail Baseplate, position the guardrails between the fall hazard and the installers work area. Position one leg of each guardrail into the outermost Zip Rail Baseplate retaining tube. Maintaining the guardrail positions between the installers body and the fall hazard edge, position the tube into the adjacent Zip Rail Baseplate retaining tube.
3. Once each guardrail tube has been inserted into the Zip Rail Baseplate retaining tube, install the retaining pins.
4. Install toe-boards if and whenever required.

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## Guardrail Outrigger

### IMPORTANT!

Guardrail Outriggers **MUST** be used at both ends of any interruption in continuous guardrail sections, or at both ends of a continuous guardrail section.



## Use on Low Slopped Roofs

The Universal Guardrail by Frontline can be used on a low slopped roof up to a 2/12 pitch. An additional 5 ft. rail and guardrail base, outrigger, must be placed every 20 ft. Follow all other installation instructions of the Universal Guardrail System. If you have questions, please contact Frontline.

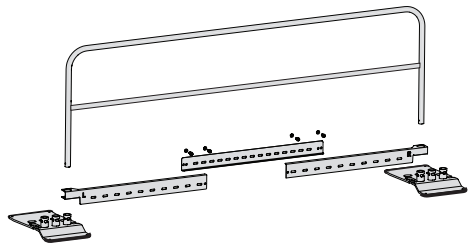
## Toe Boards

### Zip Rail Base

Use toe board slots on both sides of the zip base plate for toe board insertion. Use only 2"x 4"s for toe boards when required. Toe boards must not exceed 1/4" clearance above the roofs surface.

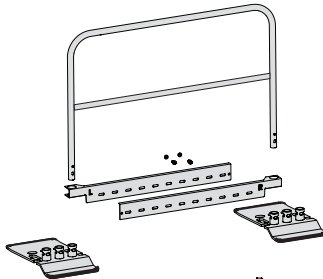
### 10 ft. Permanent Toe Board Assembly

1. Slide the Left/Right Toe Board over the outside Zip Base guardrail holder and repeat for the opposite side guardrail. See right illustration.
2. Install the 10 ft guardrail into the Zip Base and secure with safety pins.
3. Align the center toe board so that it will extend between the left and right toe boards.
4. Place two nuts per side (4 per section) through the center and left/right toe boards. Fasten with flange nuts.



### 7.5 ft. and 5 ft. Permanent Toe Board Assembly

1. Slide the Left/Right Toe Board over the outside Zip Base guardrail holder and repeat for the opposite side guardrail. See right illustration.
2. Install the 7.5/5 ft. guardrail into the Zip Base and secure with safety pins.
3. Align two nuts through the left/right toe boards. Fasten with flange nuts.



### Permanent Corner Toe Board Assembly

1. Slide the Left or Right Corner Toe Board over the outside Zip Base guardrail holder. Toe Boards must be at a 90° angle to the Zip Base. Only one corner bracket is needed for each corner.
2. Install guardrail into the Zip Base and secure with safety pins.
3. Complete assembly by following instructions above for 10, 7.5 or 5 feet guardrails.

