

GUARDIAN

FALL PROTECTION

PERFORMANCE SAFETY GEAR

Guardian Fall Protection Kent, WA
800-466-6385 www.guardianfall.com

GENERAL SYSTEM SELECTION CRITERIA: Selection of fall protection shall be made by a Competent Person. All fall protection equipment shall be purchased new and unused.

The equipment is designed for use as a part of a personal fall protection system. Components shall not be used for any other operation other than that which it has been designed and approved.

Fall Protection Systems shall be designed to comply with OSHA or applicable state regulatory limitations. Systems must be used in a compliant manner.

This is not a fall arrest or fall restraint system and is not designed for use as an attachment point for a personal fall arrest system.

Consult a doctor if there is any reason to doubt a user's ability to withstand and safely absorb fall arrest forces or perform setup of equipment. Age, fitness, and health conditions can seriously affect the worker should a fall occur. Pregnant women and minors should not use this equipment.



G-Rail Guardrail System

**DO NOT THROW AWAY THESE INSTRUCTIONS!
READ AND UNDERSTAND BEFORE USING EQUIPMENT!**

This manual should be read and understood in its entirety, and used as part of a training program as required by OSHA or any applicable state regulatory agency.

This and any other included instructions must be provided to the users of the equipment. The user must understand the proper equipment use and limitations.

This product meets all applicable OSHA standards for guardrail systems.

WARNING!

DO NOT:

- Do not alter or misuse this equipment unless approved by manufacturer.
- Do not use combinations of components or subsystems that may affect or interfere with the safe, compatible function of each other.
- Do not expose the equipment to chemicals which may produce a harmful effect or degrade the equipment. Consult manufacturer in cases where doubt exists.
- Do not use the equipment around moving machinery or electrical hazards unless specifically designed for such use.
- Do not use the equipment around sharp edges or abrasive surfaces unless intended for such use.

TRAINING REQUIREMENTS: 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. Relevant Federal, State, and local regulatory requirements, procedures, and standards shall also be a part of training.

The employer shall ensure that each employee has been trained, as necessary, by a Competent or Qualified Person in the nature of fall hazards in the work area, the correct erecting, maintaining, disassembling, and inspection of the fall protection systems being used, and the use of personal fall arrest systems.

RESCUE PLAN: The user is required to have a rescue plan and the means at hand to implement it when using the equipment. The plan shall be project specific. Employees shall be trained in self-rescue or alternate means shall be provided for prompt rescue in the event of a fall.

IF EQUIPMENT IS SUBJECTED TO A FALL: Remove the equipment from service immediately if it has been subjected to the forces of a fall. Contact your distributor or Guardian about policies regarding replacement of Guardian components involved in a fall.

INSPECTION:

- Only the manufacturer of this equipment or persons or entities authorized in writing by the manufacturer shall make repairs to fall protection equipment.
- The date of first inspection should be recorded by the employer on the equipment, and any serial numbers shall be recorded on the Inspection Log.
- Formal inspections shall be made by either a Competent or Qualified Person on at least a semi-annual basis.

PRIOR TO EACH USE:

- Fall protection passive and active equipment shall be inspected by the user for defects, damage, or deterioration.
- Any suspected defective equipment shall be removed from service.
- If the manufacturer's label is not legible or is missing, the equipment shall be removed from service. Fall protection equipment shall be removed from service upon evidence of defects, damage, or deterioration, or upon expiration of the manufacturer's specified service limits, whichever comes first.

WARNING!

Consult with your doctor if there is reason to doubt your fitness to safely install and maintain this system or cause it to engage. Age, fitness, and health conditions can seriously affect a worker's ability to withstand injury. Pregnant women or minors must not use any Guardian Fall Protection equipment.

MAINTENANCE, CLEANING, AND STORAGE: Repairs to equipment can be made only by a Guardian representative or person or entity authorized by Guardian. Contact Guardian for maintenance and repair. Cleaning after use is important for maintaining the safety and life of the equipment. Cleanse the equipment of all dirt, corrosives, and contaminants. If the equipment cannot simply be wiped clean use a mild soap and water, rinse, wipe to dry. Store equipment where it cannot be affected by heat, light, excessive moisture, oil, chemicals, or other degrading elements.

DESCRIPTION OF PRODUCT:

G-Rail Guardrail System provides fall protection in the form of a guardrail for use in lieu of or in conjunction with safety netting and or personal fall arrest systems. Components are powder coated (rails), or galvanized (base plates) for durability.

PRODUCT APPLICATION INFORMATION:

The G-Rail Guardrail system is designed to be used as a fall protection system to protect workers from leading edge work, unprotected side hazards, holes, and any applicable other fall through or fall hazard where a passive guardrail system can perform properly. Do not hang, lift or support tools or equipment from any G-Rail Guardrail System components.

- **GUARDRAIL SYSTEMS:** Provide protection and limited access to fall hazards by creating a barrier that must be negotiated before accessing the hazard.
- **PERSONAL FALL ARREST:** Means the product is used as a component of a personal fall arrest system to protect the user in the event of a fall. PFAS typically include a full body harness and a connecting component (energy absorbing lanyard). Maximum permissible free fall is six feet. **G-Rail Systems ARE NOT RATED FOR FALL ARREST!**
- **RESTRAINT:** Means the product is used as a component of a restraint system to prevent the user from reaching a fall hazard. Restraint systems typically include a full body harness and a lanyard or restraint line. No vertical free fall is permitted. **G-Rail Systems ARE NOT RATED FOR FALL RESTRAINT!**
- **WORK POSITIONING:** Means the product is used as a component of a work positioning system to support the user at a work position. Work positioning systems typically include a full body harness, positioning lanyard, and a back-up personal fall arrest system. Maximum permissible free fall is two feet. **G-Rail Systems ARE NOT RATED FOR WORK POSITIONING!**
- **RESCUE:** This product **IS NOT RATED for use as a component of a rescue system.**

APPLICABLE STANDARDS:

Refer to potential applicable standards. Standards might include OSHA regulations depending on the type of work, and also might include state regulations if applicable. Consult regulatory agencies for more information on personal fall arrest systems and associated components.

- **G-Rail Guardrail Systems, when installed properly, meet OSHA 29 CFR-1910.23 & 1926.502 requirements for guardrail systems.**
 - Exceeds top rail loading of 200 lbs in any downward or outward direction.
 - Exceeds mid rail loading of 150 lbs in any downward or outward direction.
 - 3'-6" high, 1.66" outside diameter round pipe guard rail.
 - Mid rail 1'-9" between base and top rail.

SYSTEM REQUIREMENTS:

- **Compatibility of Components:** Guardian Fall Protection equipment is designed to be used with Guardian approved components. Please contact Guardian if you have a question regarding compatibility. Making substitutions without approval from Guardian Fall Protection may lead to injuries and or death by compromising the safety and reliability of the complete system.

WARNING!

INSTALL THE GUARDRAIL SYSTEM ACCORDING TO MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS IN AN OSHA COMPLIANT MANNER. SERIOUS INJURY OR DEATH CAN OCCUR IF INSTRUCTIONS ARE NOT FOLLOWED.

CONSULT APPLICABLE OSHA and STATE REGULATIONS BEFORE USING!

Users and installers must be familiar with applicable guidelines before erecting the G-Rail System.

DEFINITIONS:

- **CONTINUOUS RUN:** A single or series of G-Rail guardrail sections installed in a continuous uninterrupted straight line.
- **OUTRIGGER:** Either a 6 foot, 8 foot or 10 foot long guard railing installed at a 90 degree angle to a continuous run with a base plate connected to it. Provides stability for the system and side fall protection.
- **TOEBOARD:** A near ground level protective barrier that will prevent materials and equipment from falling or rolling to lower levels.
- **GUARDRAIL:** A barrier secured to uprights and erected along the exposed sides and ends of platforms to prevent falls of persons.
- **LEADING EDGE:** The edge of a floor, roof, or formwork for a floor or other walking / working surface (such as the deck) which changes location as additional floor, roof or deck, or formwork sections are placed or constructed. A leading edge is considered to be an unprotected side and edge.
- **UNPROTECTED SIDE AND EDGE:** Any side or edge (except at entrance points of access) of a walking / working surface. For example but not limited to: Floors, roof, ramps, or runways where there is no wall or guardrail system.
- **COMPETENT PERSON:** Defined by 29 CFR 1926.32 (f) as someone "...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."
- **QUALIFIED PERSON:** Defined by 29 CFR 1926.32 (m) as someone "... who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated his ability to solve or resolve problems relating to the subject matter, work, or the project."

WARNING!

INSTALL THE GUARDRAIL SYSTEM ACCORDING TO MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS IN AN OSHA COMPLIANT MANNER. SERIOUS INJURY OR DEATH CAN OCCUR IF INSTRUCTIONS ARE NOT FOLLOWED.

- **A FORMAL INSPECTION of products/components must be performed at least every six months by a competent person. The frequency of formal inspections should be based on conditions of use or exposure. Record the inspection results in a maintenance log.**
- **All applications of the Guard Rail System should be verified and approved by competent, trained safety personnel.**
- **If it is necessary to remove the Guard Rail System during a portion of a particular job, make sure to re-secure the unit before resuming work.**
- **If the Guard Rail System is impacted, loosen all screws on the BASE PLATE fittings. Realign the guard railings and BASE PLATES, and then secure all screws. If damaged parts are found, replace with new ones.**

WARNING!

MAKE SURE YOU HAVE READ AND UNDERSTAND THIS INSTRUCTION PACKET BEFORE ATTEMPTING TO INSTALL GUARDRAIL SYSTEMS!

BEFORE INSTALLING GUARDRAIL SYSTEMS:

- The structure and surface that the G-Rail Guardrail System is intended to be used with must be capable of supporting the product and personnel installing it. A complete assessment by a competent or qualified person must be made to determine if the walking and working surfaces have the strength and structural integrity to support the system and the users.
- Install Guardrail Systems on stable, flat, dry, clean surfaces under conditions where adequate illumination is provided. If there is a danger in installing the Guardrail System, determine how to eliminate that danger before proceeding.
- Never install or use Guardrail Systems on top of gravel or on slippery surfaces. The weight of the base plates requires that the material underneath does not have the capability to shift or slide.
- Never erect Guardrail Systems near electrical wires. Keep systems a minimum of ten (10) feet from power lines to prevent injury or damage inherent with electrical hazards.
- Care should be taken when transporting system components to ensure that they are secure and do not cause damage to other components or personnel.

INSTALLATION REQUIREMENTS:

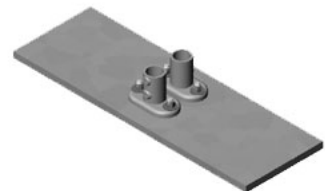
The following requirements outline the proper installation procedures to be followed.

WARNING!

EACH RECTANGULAR BASE PLATE MUST BE INSTALLED IN THE CORRECT ORIENTATION!

BASE PLATE INSTALLATION:

- Install the BASE PLATE with the long side perpendicular or 90 degrees to the guardrails.
- Position BASE PLATE bases at least 24" from an unprotected edge.
- DO NOT LEAN on any portion of the Guard Rail Systems AT ANY TIME.
- ALWAYS use Outriggers at *both* ends of any interruption in continuous rail sections and at *both* ends of a continuous rail section. An Outrigger is either a guard railing installed at a 90 degree angle to a continuous run with a BASE PLATE connected to it.
- The Guard Rail System is designed to meet OSHA regulations. Guard Rail Systems are not designed for hoisting or tie off of any other equipment or persons.



WARNING!

Failure to install and use in a compliant manner, or violation of manufacturer's recommendations, can result in serious injury or death. Installations should be verified by a qualified person for strength by calculation in the intended direction(s) or intended use.

TRAINING:

It is the responsibility of the user and the purchaser of this equipment to assure that they are familiar with these instructions, trained in the correct care and use of, and are aware of the operating characteristics, application limits, and the consequences of improper use of this equipment.

DANGER!

Training should be conducted without exposing anyone to a fall hazard. Training should be repeated on a periodic basis in accordance with your organizations policy and compliance with OSHA regulations.

SYSTEM INSTALLATION PROCEDURES:

- 1) Lay out the job first by measuring and spacing the base plates. Locate bases at least 24" from the edge of any surface, leading edge hazard, or opening. Failure to properly measure and plan ahead will result in difficulty in moving the assembled system to another location. Consult the fall protection plan specific to the job to determine hazard areas and methods.
- 2) Be sure the base plates are in the correct orientation. Install the base plate with the long side perpendicular or 90 degrees to the guardrails as described on the previous page.
- 3) With the layout determined and base plates positioned, insert the G-Rail guardrails into the base plate receiver fitting which is mounted on the base plate.
- 4) Use the correct allen wrench (one is provided with each system and should be kept in the instruction tube along with instructions) to tighten the set screws of the fittings mounted on the base plate. (Recommended set screw torque 29 lbs/foot) Check tension twice on set screws to make sure they all have been tightened properly. When uninstalling the system, reverse the process.
- 5) Toeboards are an optional accessory provided upon request and sold separately from the G-Rail Guardrails.

TOEBOARD ACCESSORY:

A Toeboard is a low protective barrier that will prevent the fall of materials and equipment to lower levels and provide protection from falls for personnel (on non-portable systems mounted on sloped roofs). (OSHA 1926.500).

WHEN TO USE TOEBOARDS:

G-Rail Guardrail Systems should be used with a Toeboard:

1. When the unprotected edge does not have a substantial barrier (such as a parapet wall on a roof).

AND

The fall of materials and equipment are a potential at a work area (such as at a mechanical unit near the edge of a roof).

AND

Wherever, beneath the open sides,

- Persons can pass,
- There is moving machinery, or
- There is equipment with which falling materials could create a hazard. (OSHA 1910.23 (c)(1))

2. At every ladder-way, floor opening or platform - shall be guarded by a standard railing with standard TOEBOARD on all exposed sides (except at entrance to opening), with the passage through the railing either provided with a swinging gate or so offset that a person cannot walk directly into the opening (OSHA 1910.23(a)(2)).

3. On a Continuous Run - the TOEBOARD protection shall extend one GUARD RAIL unit on either side of a work area.

4. In the "Protection from falling objects." When an employee is exposed to falling objects, the employer shall have each employee wear a hard hat and shall implement one of the following measures:

- Erect TOEBOARDS, screens, or guardrail systems to prevent objects from falling from higher levels; or,
- Erect a canopy structure and keep potential fall objects far enough from the edge of the higher level so that those objects would not go over the edge if they were accidentally displaced; or,
- Barricade the area to which objects could fall, prohibit employees from entering the barricaded area, and keep objects that may fall far enough away from the edge of a higher level so that those objects would not go over the edge if they were accidentally displaced. (OSHA 1926.501(c))

PORTABLE GUARD RAIL TOEBOARDS:

When used as falling object protection:

- Shall be erected along the edge of the overhead walking/working surface at a distance sufficient to protect employees below. (OSHA 1926.502(j)(1)).

AND

- Where tools, equipment, or materials are piled higher than the top edge of a Toeboard, paneling or screening shall be erected from the walking/working surface or Toeboard to the top of a guardrail system's top rail or midrail, for a distance sufficient to protect employees below. (OSHA 1926.502(j)(4)).

- Toeboards shall be capable of withstanding, without failure, a force of at least 50 pounds (222 N) applied in any downward or outward direction at any point along the Toeboard. (OSHA 1926.502(j)(2)).

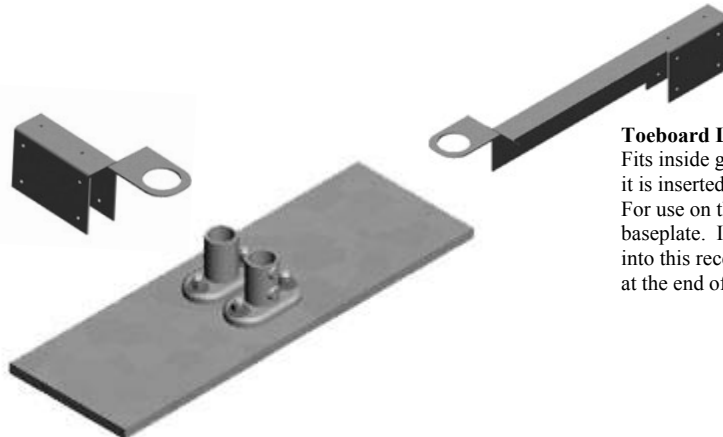
- Toeboards shall be a minimum of 3 1/2 inches (9 cm) in vertical height from their top edge to the level of the walking/working surface. They shall have not more than 1/4 inch (0.6 cm) clearance above the walking/working surface. They shall be solid or have openings not over 1 inch (2.5 cm) in greatest dimension. (OSHA 1926.502(j)(3)).

TOEBOARD INSTALLATION PROCEDURES:

- 1) After laying out the job and placing baseplates, slide the Toeboard into the baseplate fitting which is mounted on the baseplate.
- 2) Be sure the proper Toeboard model is used with the proper corresponding baseplate orientation (long or short direction).
- 3) Insert the Guardrail sections into the baseplate fitting which is mounted on the baseplate.
- 4) It may be necessary to lift up the Toeboard assembly at this point to tighten the set screws for the fittings mounted on the baseplate.

Toeboard Short:

Fits inside guardrail post as it is inserted into baseplate. For use along short width of baseplate. Insert Toeboard into this receiver.



Toeboard Long:

Fits inside guardrail post as it is inserted into baseplate. For use on the long length of baseplate. Insert Toeboard into this receiver beginning at the end of the baseplate.

Components:



Guardrail Materials:
Steel Construction
Powder Coated Finish
10ft. length



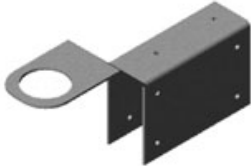
Guardrail Materials:
Steel Construction
Powder Coated Finish
8ft. length



Guardrail Materials:
Steel Construction
Powder Coated Finish
6ft. length



Toeboard Long Materials:
Steel Construction
Galvanized Finish

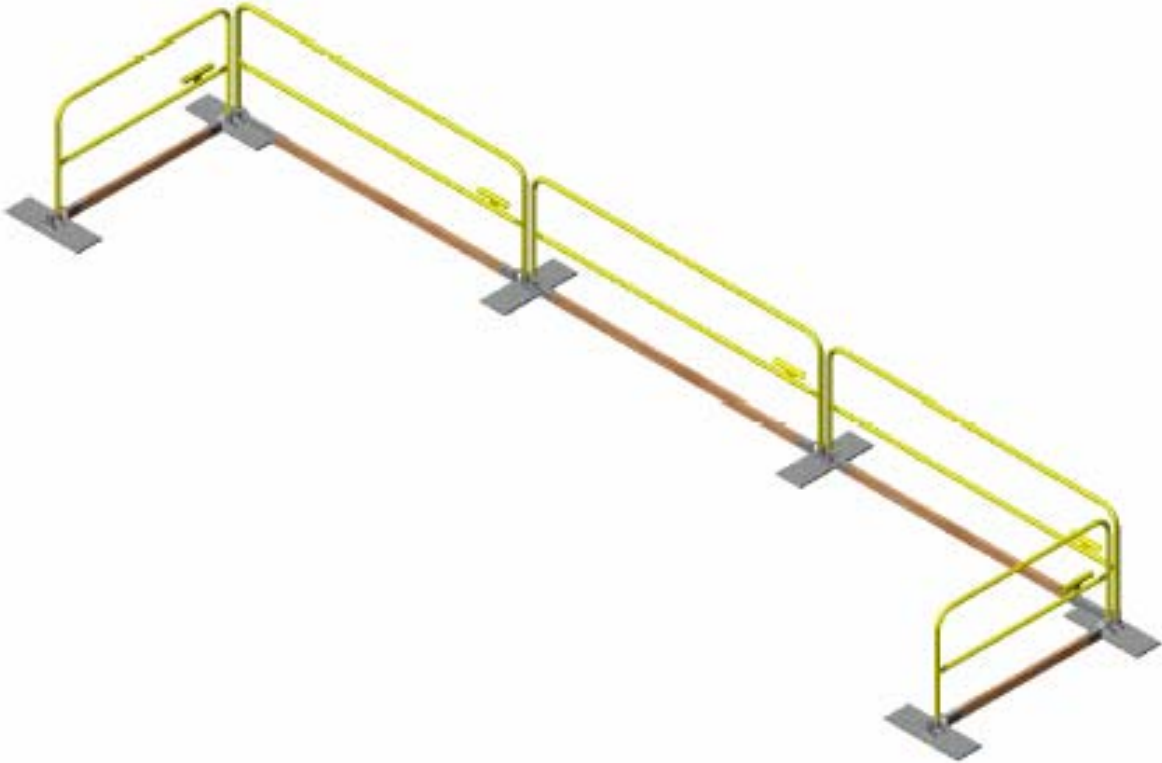


Toeboard Short Materials:
Steel Construction
Galvanized Finish



Guardrail Materials:
Steel Construction
Galvanized Finish
3ft. length

Completed System with Toeboards



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