

GUARDRAIL SYSTEM



User's Instruction Manual

Note : Before using this **Guardrail System** carefully read through this INSTRUCTIONS MANUAL to ensure efficient, safe operation. It is recommended that these INSTRUCTIONS be kept readily available as an important reference when using this Guardrail System.

**DO NOT THROW AWAY THESE INSTRUCTION!
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 any applicable state regulatory agency.

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

This products meet all applicable standards for guardrails systems.

GENERAL SYSTEM SELECTION CRITERIA:

1. Selection of fall protection shall be made by a competent person .all fall protection equipment shall be purchased new and unsecured.
2. The equipment is for use as a part of the personal fall protection systems components shall not be used for any other operation other than that which it has been designed and approved.
3. Fall protection system shall be designed to comply with applicable state regulatory limitation.
This is not fall arrest or fall restraint system and is not designed for use as an attachment point for a personal fall arrest system.
4. Consults 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 condition can seriously affect the worker should a fall occur. Pregnant women or minors must not use this equipment.

WARNING!

DO NOT:

- DO not alter or misuse this equipment unless approved by manufacturer
- Do not use combination of components or subsystem that may effect or interfere with the safe, compatible function of each other.
- Do not expose the equipment to chemicals which may produce o harmful affect or degrade the equipment consults manufacturer in case where doubt exist.
- Do not use the equipment around moving machinery or electrically hazards unless specifically designed for such use.
- Do not use the equipment around sharp edges or abrasive unless intended for such use.

TRAINING REQUIREMENTS:

1. The Employer should provide a training program for each employees who might be exposed to fall hazards. The program should be enable each employee to recognizes 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 requirement, procedures and standards shall also be a part of training.
2. The employer shall ensure each employee has been trained as necessary by a commitment or qualified person in the nature of fall hazards in the works area the correct erecting maintaining disassembling and inspection of the fall protection system being used and the use of personal fall arrest systems.

- At every ladder way floor opening or platform- shall be guarded by a standard railing with standards 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).
 - On a continue Run-the TOEBOARD protection shall extended one GUARD RAIL unit on either side of a work area.
 - 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 measure :
1. Erect TOEBOARDS, screens, or guardrail systems to prevent objects from higher level, or;
 2. Erect a canopy structure and keep potential fall object 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
 3. Barricade the area to which object could fall prohibited 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©)

PORTABLE GUARD RAILS TOEBOARDS: When used as falling objects protection :

- Shall be erected along the edge of the overhead walking/working surface at a distance sufficient to protect employees below.(1926.502(j)(1))
- Where tools equipments are piled higher than top edge of a Toeboard penciling or screening shall be erected from the working / walking surface or toeboard to the top of a guardrails systems top rail or midrail for a distance sufficient to protect employees below(1926.502(j)(2)
- Toeboard shall be capable of withstanding without failure , afore of at least 50 pounds (222 n) applied in any down word or outward direction at any point along with Toeboard. (1926.502(j)(2))
- Toeboard shall be minimum of 3 ½ inches (9 cm) in vertical high frontier 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 opening not over 1 inch (2.5 cm) in greatest dimension (1926.502(j)(3)

TOEBOARD INSTILLATION PROCEDURES:

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

RESCUE PLAN: The user is required to have a rescue plan and the mean at to implement it when using the equipment. The plan should 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.

IN 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 distributed or guardian about polices regarding replacement of Guardian involved in a fall

INSPECTION:

- Only the manufacturers of this equipment or person or entities authorised in the writing by the manufacturers shall make repairs fall to protection equipment
- The date of first inspection should be recorded by the employers on the equipment and any serial number shall be recorded on the inspection log.
- Formal inspection 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 of defects damage or determination.
- Any suspected defected equipment shall br removed from service.
- if the manufacturer label is not legible or is missing the equipment shall be removed from services. Fall protection equipment shall be removed from the services upon evidence of defects damage or deterioration or upon expiration of the manufactures specified service limit , which ever is comes first.

WARNING

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

MAINTENANCE, CLEANING OF PRODUCTS: Repairs to equipment can be made only Guardian representative or person or entity authorised by guardian t. 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 contentions. if the equipment where it cannot be affected by heart light excessive moisture ,oil , chemicals or other degrading elements.

DESCRIPTION OF PRODUCTS:

Guardian systems provide fall protection in the form of a guardrail for use in the lieu of or in conjunction with safety netting and or personal fall arrest systems .Components are powder coated (rails galvanized (base plates) for durability.

PRODUCTS APPLICATION INFORMATION : The Guardrail systems provide fall protection systems to protect workers from leading edge work unprotected side hazards , holes and any Guardrail systems components.

- **GUARDRAIL SYSTEMS :** Provide protection and limited access to fall hazards by creating a barriers that must be negotiated before accessing the hazard.
- **PERSONAL FALL ARREST :** Means the products is used as a components of a fall arrest systems to protect the user tin the event of fall. PFAS typically include a full body harness and a connecting component (energy absorbing lanyard). Maximum permissible free fall is six feet . Systems ARE NOT RATED FOR FALL ARREST!
- **RESTRAINS :** Means the products is used as a components of a fall restraints systems to prevent the user from reaching a fall hazards . Restraints systems typically include a full body harness and a lanyard or restraints line. no vertical free fall is permitted. Guardrail Systems **ARE NOT RATED FOR FALL RESTRAINTS !**
- **WORK POSITIONING:** Means the products is used as a components of a work positioning. Work positioning systems typically include a full body harness, positioning lanyard and a back up personal fall arrest systems. Maximum permissible free fall is two feet. **Guardrail Systems ARE NOT RATED FOR WORK POSITIONING !**
- **RESCUE:** This products **IS NOT RATED** for use as a component of a rescue systems

APPLICABLE STANDARDS : Refer to potential applicable standards. Standards might include regulation depending upon the type of work and also might include state regulation if applicable. Consult regulatory agencies for more information on personal fall arrest systems and associated components.

- Guardrail Systems, when installed property, meet 29 CFR_-1910.23 & 1926.502 requirements for guardrails systems.
1. Exceeds top rail loading of 200 lbs any downward or outward direction.
 2. Exceeds mid rail loading of 150 lbs in any downward or outward direction.
 3. 3-6" high, 1.66" outside diameter round pipe guard rail.
 4. Mid rail 1"-9" between base and top rail.

SYSTEM REQUIREMENTS:

- **Compatibility of components:** Guardian Fall Protection 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 safety and reliability of the complete systems.

WARNING!

INSTALL THE GUARDRAIL SYSTEMS ACCORDING TO MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATION IN OSHA COMPLAINTS MANNER. SERIOUS INJURY OR DEATH CAN OCCUR IF INSTRUCTIONS ARE NOT FOLLOWED.

WARNING !

FAILURE TO INSTALL AND USE IN A COMPLAINT MANNER, OR VIOLATION OF MANUFACTURERS RECOMMENDATION . CAN RESULT IN SERIOUS INJURY OR DEATH. INSTALLATION 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 instruction, 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 hazards. Training should be repeated of on a periodic basis in accordance with your organization policy and compliance with regulations.

SYSTEM INSTALLATION PROCEDURES:

- 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 hazards or opening. Failure to properly measure and plan ahead will results in default in moving the assembled systems to another location. Consult the fall protection plan specific to the job to determine hazards areas and methods.
- Be sure the base plates are in the correct orientation. Install the base plates with the long side perpendicular or 90 degree to the guardrail as described on the previous page.
- 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 .
- Use the correct allen wrench (one is provided with each system and should be kept in the instruction tube along with instruction) to tighten the set screws of the fitting mounted on the base plates.(recommanded Set screw torque 29 lbs/foot)check tension twice on set screws to make sure they all have tighten properly. when uninstalling the systems, reverse the process.
- Toeboards are on optional accessory provided upon request and sold separately from the G Rail Guardrails.

TOEBOARD ACCESSORY: A Toeboard is a low protective barriers that will prevent the fall of materials and equipment to lower level and provide protection from falls for personnel (on non- portable systems mounted on sloped roofs).(OSHA1926.500).

WHEN TO USE TOEBOARDS: Guardrail Systems Should be used with a toeboard:

- When the unprotected edge does not have a substantial barrier (such as parapet wall on a roof)
AND
The fall of materials and equipments are a potential at a work area(such as at 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 hazards (1910.23(c)(1))

- If it is necessary to remove the Guard Rail Systems during a portion of particular job, make sure to re-secure the unit before resuming work.
- if the Guard Rail Systems is impacted, loosen all screws on the BASE PLATE fittings, Realign the Guardrailing and BASE PLATE, and then secure all screws, If damaged parts are found, replace with new ones.

WARNING!

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

BEFORE INSTALLING GUARDRAIL SYSTEMS:

- The structure and surface that the Guardrail Systems is intended to be used with must be a capable of supporting the products and personnel installing it. A complete assessment by competent or qualified person must be made to determine if the walking and working surfaces have the strength and structural integrity to support the systems and the users.
- Install Guardrail Systems on stable, flat, dry, clean, surface under condition where adequate illumination is provided. if there is a danger in installing Guardrail Systems, determine how to eliminate that danger before proceeding.
- Never install or use Guardrail Systems on top of gravel or on slippery surface. The weight of the base plates require 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 the power lines to prevent injury or damage inherent with electrical hazards.
- Care should be taken when transporting systems components to ensure that they are secure and do not cause damage to other components or personnel.

INSTALL REQUIREMENTS : The following requirements outline the proper installation procedure 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 degree to the guardrails.
- Position **BASE PLATE** bases at least 24" from an unprotective 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 section and at both ends of continuous rail section .
An Outrigger is either a guard railing installed at 90 degree angle to a continuous run with a **BASE PLATE** connected to it.
- The guardrail system is designed to meet regulation. Guardrail Systems are not designed for hoisting or tie off of any other equipment or persons.

CONSULT APPLICABLE STATE REGULATION BEFORE USING!

Users and installers must be familiar with applicable guidelines before erecting the Guardrail Systems.

DEFINITIONS:

- **CONTINUOUS RUN :** A single or series of G-Rail guardrail section in a continuous uninterrupted straight line.
- **OUTRIGGER:** Either a 6 foot , 8 foot or 10 foot long guard railing installed at 90 degree angle to a continuous run with a base plate connected to it. Provides stability for the systems and side fall protection.
- **TOEBOARD:** A near ground level protective barrier that will prevent materials and equipments from falling or rolling to lower levels.
- **GUARDRAIL:** A barriers secured to upright and erected along the exposed sides and ends of plate forms to prevent fall of persons.
- **LEADING EDGE:** The edge of a floor., roof, or form work for a floor or other walking/ working surface (such as the deck) which changes location as additional floor, roof or deck, or form work section 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 walking/ working surface . for example but not limited to ; floors, roofs, ramps, or runways where there is no wall or guardrail systems.
- **COMPETENT PERSONS:** 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 the employees, and who has authorizations to take prompt corrective measures to eliminate them."
- **QUALIFIED PERSON:** Defined by 29 CFR 1926.32(m) as someone"... who, by possession of 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!

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- **A FORMAL INSPECTION of products/components must be performed at least every six months by a competent persons. The frequency of formal inspection should be based on the conditions of use of exposure. Record the inspection results in a maintenance log.**
- **All application of the Guard Rail Systems should be verified and approved by competent, trained safety personnel.**

