

FALL PROTECTION || Guardrails

Volume 1 Issue 47



Fall hazards are recognized as one of the “OSHA Big Four” which account for the majority of fatalities in the construction industry. This topic is focused the proper use and set up of guardrails for fall protection.

- Guardrails must be constructed properly.
- Guardrails must be able to stand up to construction use and prevent someone from falling!
- Damaged or broken guardrails must be repaired or replaced immediately upon discovery.

OSHA Standard 1926.501(b)(1) *Each employee on a walking/working surface (horizontal and vertical surface) with an unprotected side or edge which is 6 feet (1.8 m) or more above a lower level shall be protected from falling by the use of guardrail systems, safety net systems, or personal fall arrest systems.*

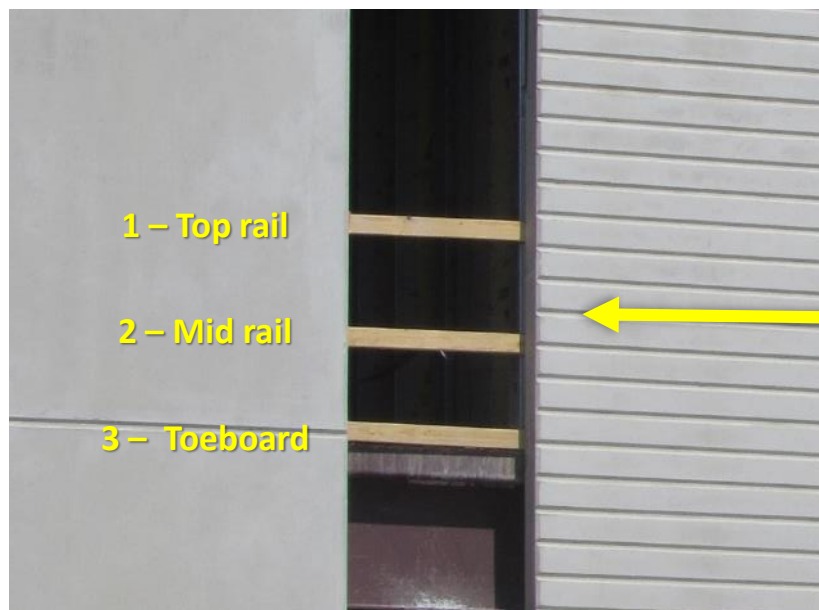
Serious fall hazards exist in this photo!

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Guardrails typically consist of the following three items:

- ✓ 1 – Top rail
- ✓ 2 – Mid rail
- ✓ 3 – Toeboard



OSHA Standard 1926.502(b) states that *guardrails must have a top rail of 42" high and strong enough to withstand 200lbs of force, mid rails must be 21" high and strong enough to withstand 150lbs of force.*



Proper guardrails are an essential requirement for safety on many job sites.

- Top rails must be constructed at a height of 42" (plus or minus 3") and must be able to withstand 200 lbs of force downward and outward in the direction of the hazard or fall area.
- Mid rails must be installed at a height of 21" or mid-way between the surface and the top rail and must be able to withstand 150 lbs of force.



- Toeboards must be at least 3.5" high and designed to withstand 50 lbs of force.
- Toeboards are an important part of falling object protection for workers on the lower levels of the construction site.

OSHA Standard 1926.502(j)(1) Toeboards, when used as falling object protection, shall be erected along the edge of the overhead walking/working surface... **1926.502(j)(2)** Toeboards shall be capable of withstanding, without failure, a force of at least 50 pounds... **1926.502(j)(3)** 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.

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- Guardrails must be maintained throughout all phases of work on the site.



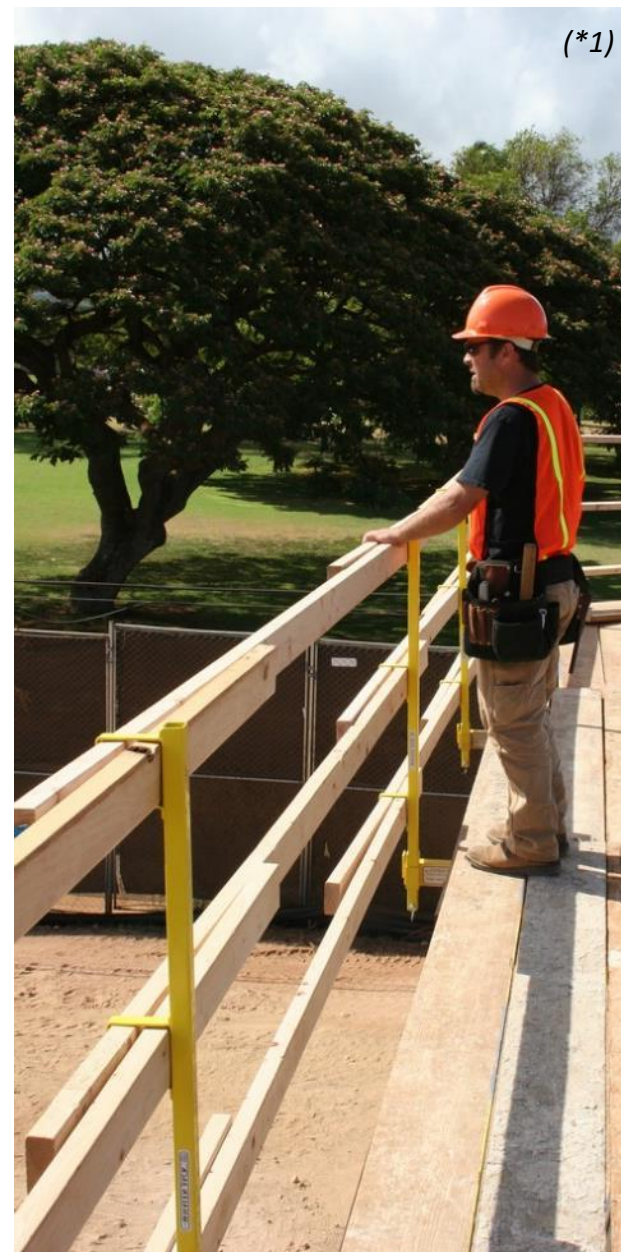
Guardrails installed and maintained.



Although guardrails have been installed in some areas at this job site notice the broken or missing sections both on the open edges and at windows.

Remember these important factors when guardrails are used for fall protection at the site:

- Workers must have fall protection, such as guardrails, whenever they are exposed to hazards at 6' or more above a lower level.
- Guardrails must be constructed properly according to specific OSHA rules.
- Top rails must be constructed at a height of 42" (plus or minus 3") and must be able to withstand 200 lbs of force downward and outward in the direction of the hazard or fall area.
- Mid rails must be installed at a height of 21" or mid-way between the surface and the top rail and must be able to withstand 150 lbs of force.
- Toeboards are an important part of falling object protection for workers on the lower levels of the construction site.
- Toeboards must be at least 3.5" high and designed to withstand 50 lbs of force.
- Damaged or broken guardrails must be repaired or replaced immediately upon discovery.



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