

TOOLBOX TALK

Guardrail Systems

WHY THIS MATTERS

Fall protection is the #1 most cited OSHA violation — 14 years running. Falls kill nearly 700 workers and injure tens of thousands every year. 126 workers die annually from unguarded edges, holes, and skylights alone (NIOSH). Guardrails are your first line of defense.

#1

Most cited OSHA violation (Fall Protection)

~700

Workers killed by falls per year (OSHA)

100%

Guardrails prevent falls when properly installed

5 Rules for Guardrail Safety

If there's an unprotected edge or opening — guardrails go up BEFORE work starts:

1

GUARDRAILS REQUIRED AT 6 FT IN CONSTRUCTION

Any open edge, hole, or platform 6 ft or higher needs guardrails, safety nets, or fall arrest — BEFORE work begins.

2

TOP RAIL AT 42 INCHES (±3 INCHES)

OSHA requires top rail height of 39-45 inches. Midrail at midpoint. Toeboard at floor level if needed.

3

MUST WITHSTAND 200 LBS OF FORCE

Top rails must hold 200 lbs outward/downward force. Midrails must hold 150 lbs. No deflection below 39 inches.

4

COVER ALL FLOOR HOLES AND OPENINGS

Every hole a worker could step into or fall through must be covered or guarded on all unprotected sides.

5

INSPECT DAILY — NEVER RELY ON "IT WAS THERE YESTERDAY"

Check that rails, posts, and connections are secure before every shift. Other trades may have removed them.

Guardrail Inspection Checklist

- Are guardrails installed on all open edges and platforms above 6 feet?
- Is the top rail between 39 and 45 inches above the walking surface?
- Is the midrail installed at midpoint between top rail and floor?
- Are all floor holes and wall openings covered or guarded?
- Are toeboards installed where tools or materials could fall to a lower level?

OSHA Guardrail Specifications — Know the Numbers

Top rail height: 42 inches (± 3 in)

Measured from walking/working surface. Range: 39-45 inches. Increase for stilt work by stilt height.

Midrail: halfway between top rail and floor

Prevents workers from rolling or sliding under the top rail. Max gap: 19 inches between members.

Top rail strength: 200 lbs force

Must withstand 200 lbs applied within 2 inches of top edge, outward or downward, without failure.

Midrail strength: 150 lbs force

Must resist 150 lbs in any outward or downward direction at any point along its length.

Toeboards: 3.5 inches minimum height

Required where objects could fall to a lower level. Prevents tools and materials from sliding off edges.

Smooth surfaces required

No jagged edges, splinters, or protruding nails. Must not snag clothing or cause lacerations.

Common Guardrail Mistakes That Cause Falls

- ✗ Removing guardrails and not replacing them — other trades remove rails for access and leave them off
- ✗ Using caution tape or rope instead of a guardrail — tape is NOT a guardrail and provides zero fall protection
- ✗ Building rails too low or too high — outside the 39-45 inch range fails OSHA and fails to protect you
- ✗ Not guarding floor holes and skylights — workers step into unguarded holes every year and fall to their death

Safety Tips to Remember

- ✓ Guardrails go up BEFORE work starts — not after someone almost falls. Prevention is the whole point
- ✓ If a guardrail is removed for material handling, it must be replaced IMMEDIATELY after the task is done
- ✓ Floor hole covers must be marked "HOLE" or "COVER" and secured — an unsecured cover is a trap
- ✓ 4 ft trigger in general industry, 6 ft in construction — know which standard applies to your site

Discussion Questions for Your Team

1. Are all edges and openings on our site properly guarded right now?
2. Has anyone noticed a guardrail that was removed and not replaced?
3. Are all floor holes and skylights covered and marked?
4. Do our guardrails meet the 42-inch height and 200-lb force requirements?
5. What would you do if you arrived at a work area and found guardrails missing?

TOOLBOX TALK SIGN-OFF

Date: _____ Supervisor: _____

Project: _____ Location: _____

Attendance sheet attached: Yes