

Tying Off and Safety Nets

GENERAL DISCUSSION

How many times have you heard people make excuses for not tying off or using safety nets? Maybe you've heard comments like these:

- "Tying off is dangerous, because you can't move out from under an incoming load."
- "Nets are too expensive, and they're dangerous to install."

Tying off and nets may have their problems, but think for a minute of the alternative -- a fall without protection. It's not a risk worth taking.

You or a crewmember may want to add a personal story about tying off or safety nets.

Ask the Crew these Questions

After each question, give the crew time to suggest possible answers. Use the information following each question to add points that no one mentions.

1. When and where should you tie off?

It depends on the kind of work being done and the kind of surface. OSHA says that if there are no guardrails, you should tie off:

- When working on any structure at a height over 7½ feet, if you might fall:
 - From the perimeter
 - Through elevator shafts, other shaftways, or openings
 - From steep sloped surfaces
- When working from thrustouts, trusses, beams, purlins, and plates at a height over 15 feet.
- When working on skeleton steel of a multistory structure at a height over 15 feet.
- When working on a steep roof (1/3 pitch or steeper) while using pneumatic tools.
- When working from a boatswain chair, floating scaffold, needle-beam scaffold or suspended scaffold.

Point out locations

2. If it's not possible to tie off, what should you do?

- If tying off isn't practical for some reason, we must use safety nets instead. On this job, we'll be using nets. Point out locations:
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- Safety nets should be placed no more than 25 feet below the work area.
- Nets should extend at least 8 feet beyond the building or structure you're working on.
- No work can proceed unless the necessary fall protection is in place.

3. What if it's actually more dangerous to put up a net than to do the job without it?

That can happen. If a job is short and installation of a net would be more hazardous than the work, you can go without the net. However, OSHA says you must work under immediate and competent supervision.

Supervision will be the responsibility of

4. If you use fall protection equipment like a safety belt, harness, or lanyard, what do you need to check?

- Make sure you're using the right equipment for the job. For example, keep in mind that harnesses give better protection than safety belts.
- Be sure your equipment is safety-approved. Look for a label showing that it meets American National Standards Institute (ANSI) safety requirements.
- Use the equipment according to the manufacturer's instructions.

- Be sure everything is in good condition. Don't use the equipment if it isn't. For example, make sure that latches on belts are working properly, and that drop lines are not frayed or worn.
- Remove from service any safety belt, lanyard, or drop line that has been subjected to a load in actual use (in other words, if it has broken someone's fall).

5. Where should you place the anchor end of a lanyard?

- Anchor it at a level no lower than your waist. That way, you limit any fall to a maximum of four feet.
- Anchor it to a substantial structural member, or to a securely rigged catenary or pendant line.
- Don't anchor it to a pipe.

6. What are some of the requirements for a drop line?

- A drop line (and its anchorage) must be able to support at least 5400 lbs.
- If a drop line is subject to fraying or rock damage, it must have a wire rope center.

OSHA Regulations

Explain: OSHA requires most of the safety measures we've talked about. We have to take these precautions, it's the law. I have a Checklist of the OSHA regulations on tying off and safety nets. If you'd like to know more, see me after the meeting.

Company Rules

(Only if applicable.) Besides the OSHA regulations, we have some additional company rules about tying off and safety nets. Discuss company rules:

Comments from the Crew

Ask the following: Do you have any other concerns about tying off or safety nets? Do you see any problems on our job? What about other jobs you've worked on? Have you had any experience with tying off or safety nets that might help us work safer on this job?

GENERAL SAFETY REVIEW

This is a time to review all safety concerns, not just today's topic. Keep your notes on this page before, during and after the safety meeting.

Are you aware of any safety hazards from any other crews? Point out any hazards other crews are creating that this crew should know about. Tell the crew what you intend to do about those hazards.

Do we have any other safety business? Discuss any past issues or problems. Report any progress of investigations and action taken.

Have there been any accidents, near misses or complaints? Discuss any accidents, near misses, and complaints that have happened since the last safety meeting. Also recognize the safety contributions made by members of the crew.

Please remember, we want to hear from you about any health and safety issues that come up. If we don't know about problems, we can't take action to fix them.

ENDING THE MEETING

Circulate Sign-Off Form.

Assign one or more crew member(s) to help with next safety meeting.

Refer action items for follow-up.

Do you have any Safety Recommendations?

Do you have any Job Specific Topics you would like us to discuss?

Comments

SAFETY TALKS REVIEW

Hazard Identification:

The company has a written Safety and Health Program that meets all OSHA requirements. It includes identification of hazards on the site that could cause falls, as well as regular inspections, accident investigation, and correction of hazardous conditions.

Safety Belts and Lifelines:

Whenever guardrails are not practical, employees tie off using safety belts with lifelines, or harnesses with lifelines, when working:

- On any structure at heights over 7½ feet (if there is danger of falling from the perimeter; through elevator shafts, other shaft ways, or openings; or from steep sloped surfaces).
- From thrustouts, trusses, beams, purlins, and plates at heights over 15 feet.
- On skeleton steel of a multistory structure at heights over 15 feet. (Not required when connecting beams.)
- On a steep roof (1/3 pitch or steeper) while using tools such as pneumatic nailers and staplers.
- From a boatswain chair, floating scaffold, needle-beam scaffold, or suspended scaffold

Although jobs on this site meet some of the criteria above, workers do not tie off because: (1) the job is of limited duration, (2) the hazard involved in setting up the safety device is equal to or greater than the hazard of the job, and (3) immediate competent supervision is provided.

Selection and Inspection of Safety Belts and Lifelines:

- Belts, harnesses, and lanyards are labeled as meeting American National Standards Institute (ANSI) standard A 10.14 1975, Requirements for

Safety Belts, Harnesses, Lifelines and Drop Lines for Construction and Industrial Use.

- Belts are made of reinforced mylar, not leather.
- All hardware is made of dropforged steel or its equivalent, with a corrosion-resistant finish and surfaces that are smooth and free of sharp projections.
- Fall arresting, descent control, and rescue equipment is of an approved type, and used only according to the manufacturer's instructions.
- Drop lines and anchorage's can support a dead weight of at least 5400 pounds.
- Lines and belts exposed to potential fraying or rope damage are protected and have wire rope centers.
- Lines and belts are inspected for signs of wear. All seriously frayed, worn, or damaged equipment is removed from service.
- Safety hooks and belt clasps are of an approved type and functioning properly.
- Lanyards, safety belts, and drop lines are removed from service if they have been subjected to in-service loading (i.e. if they have broken someone's fall).

Correct use of Safety Belts and Lifelines:

- The anchor end of a lifeline is secured to a substantial structural member or to securely rigged lines (nylon is recommended), with a positive descent-control device.
- The line is secured at a point higher than the waist, so that the fall distance will not be more than 4 feet.
- If horizontal movement is required, the rigging allows an attached lifeline to slide along (for example, on staging, advertising signs, floats, catwalks, or walkways more than 7½ feet above the ground).
- Workers tie off before they get on a floating scaffold.

Safety Net:

- Nets are used when safety belts or harnesses are clearly impractical, if employees are working:
 - 25' or higher generally.
 - 15' or higher when on thrustouts, trusses, beams, or similar locations.
- Nets are labeled as meeting the requirements of American National Standards Institute (ANSI) standard A 10.11 1979, Safety Nets Used During: Construction, Repair, and Demolition Operations.
- The integrity of the net is checked on a regular basis.

- Nets at exterior or interior perimeters hang no more than 10 feet below the work surface and extend at least 8 feet horizontally from the perimeter.
- Nets are hung with enough clearance to prevent a falling person from hitting the surface or structure below (as determined by impact load testing).
- Workers using fall protection are also protected from the hazard of loads coming in overhead.
- Temporary floors and guardrails are used whenever possible, instead of relying on tying off and nets for fall protection.
- No work proceeds unless the necessary fall protection is in place.