

Talks **ZONE**

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T4311

Deadly falls can be prevented

There was a time when items of equipment used to prevent falls while working at heights were referred to as “sissy belts.” Today, only a fool would use that term.

Even so, falls are still among the leading causes of workplace injury and death. Lack of adequate fall protection is usually the reason. The construction industry is particularly notorious. Even though construction workers comprise a small portion of the total workforce, the industry accounts for a major percentage of fatalities due to falls.

Many other job environments involve working at heights, though, and anyone at risk of falling three meters (10 feet) or more should wear the appropriate equipment.

Statistics show that the majority (about 60 percent) of falls happen on the same level resulting from slips and trips. The rest are falls from a height.

On many sites, guardrails are the most common and convenient means of protection. Where guardrails cannot be installed or are impractical, the two basic types of fall protection are travel restraint and fall arrest.

Travel Restraint

This will allow a worker to go far enough to reach an unprotected edge, but not far enough to fall over.

A basic travel-restraint system consists of:

- Approved full-body harness.
- Lanyard.
- Lifeline.
- Rope grab to attach harness or lanyard to lifeline.
- Anchorage capable of supporting 204 kilograms (450 pounds) with a recommended safety factor of at least



two—408 kilograms or 900 pounds.

Fall Arrest

This is a system that backs up the main form of fall protection. By definition, it stops a worker in a fall, and must be capable of withstanding the tremendous impact forces involved. It follows the “ABC Rule” (as does travel restraint), meaning it must have the following components:

Anchorage — The secure point where the forces of a fall are absorbed and to which the fall arrest system is attached. Permanent anchors for fall arrest must be certified by an engineer, or have the capability of sustaining a static load of 2,268 kg (5,000 pounds).

Body Harness — A device with straps that is secured to distribute the fall arrest forces over at least the thighs, shoulders, pelvis, waist and chest. It also can be attached to a lanyard, lifeline or deceleration device.

Connecting Components — The variety of lanyards and devices that connect the body harness to the anchorage. Never simply wrap a lanyard around an

anchor and clip the snap hook back onto the lanyard. This leads to the possibility of the lanyard being cut or the snap hook failing from cross loading. Instead, use a properly engineered anchoring sling to connect the lanyard to the anchor.

Fall protection lanyards are only to be used for their designed purpose. Lanyards that have been subjected to the forces of a fall must be removed from service immediately. Snap hooks on

connecting systems must be the dual action locking type.

Shock absorbers are deceleration devices used in conjunction with lanyards to dissipate kinetic energy during fall arrest. When designing a fall arrest system, remember that shock absorbers will extend the total fall distance by 1.2 meters (four feet). As is the case with lanyards, shock absorbers that are subjected to the forces of a fall are immediately removed from service.

Distance above another level is not the only factor that determines if fall arrest equipment is needed. For example, it must be worn if there is a risk of falling into operating machinery, water, a hazardous substance or object.

Those who require fall protection should not just be trained how to use the equipment, but also how to inspect and maintain it properly.

The gear is often restrictive and uncomfortable, but given the option, would you rather be a live sissy or a dead fool?

The material contained in this document has been prepared from sources believed to be accurate and reliable. Application of this information to a specific worksite should be reviewed by a safety professional. Anyone making use of the information set forth herein does so at their own risk and assumes any and all liability arising therefrom. Specific medical advice should be obtained through consultation with a physician or other trained health care practitioner.

The Quiz

These questions are meant to help you remember what was discussed today — not to test your patience or challenge your intelligence. The answers are at the bottom of the page. Cover them up, and complete the quiz as quickly as you can.

1. Falls are among the leading causes of workplace injury and death.
TRUE ____ FALSE ____
2. Should fall protection equipment be worn by anyone working at heights above three meters (10 feet)?
YES ____ NO ____
3. Which of these items is NOT part of a basic travel restraint or fall arrest system:
 - A. Full-body harness
 - B. Hard hat
 - C. Lanyard
 - D. Lifeline
 - E. Anchorage
4. The “A” in the fall protection ABC Rule stands for Arrest.
TRUE ____ FALSE ____
5. Lanyards that have been subjected to the forces of a fall must be:
 - A. Inspected
 - B. Repaired
 - C. Removed from service
 - D. None of the above
6. Shock absorbers used in conjunction with lanyards will extend the total fall distance.
TRUE ____ FALSE ____
7. Under which of these conditions should a fall arrest system be used:
 - A. Over water or other liquid.
 - B. Over operating machinery.
 - C. Over a hazardous object.
 - D. All of the above.
8. Does your workplace have conditions under which travel arrest or fall restraint may be necessary?
YES ____ NO ____ DON'T KNOW ____

ANSWERS: 1. True, 2. True, 3. Yes, 4. False, 5. C., 6. True, 7. D., 8. Your answer

Hold These Thoughts

Fall protection equipment should be inspected daily and replaced if it is defective. Any equipment involved in a fall, including ropes, must be replaced.

A trained inspector should examine fall protection equipment at least yearly. Here are some tips for regular inspection:

Webbing

Inspect the entire webbing surface (body of belt, harness or lanyard) for damage. Beginning at one end, bend the webbing in an inverted ‘U,’ holding the body side of the belt toward you, grasp the belt with your hands six to eight inches apart. Watch for frayed edges, broken fibers, pulled stitches, cuts or chemical damage.

Buckle

Inspect for loose, distorted or broken grommets. Do not punch or cut additional holes in waist straps or strength members.

Check belt without grommets for torn or elongated holes that could cause the buckle tongue to slip. Inspect the buckle for distortion and sharp edges. The outer and centre bars must be straight.

Carefully check corners and attachment points of the centre bar. They should overlap the frame and move freely in their sockets.

Check that rivets cannot be moved. Inspect for pitted or cracked rivets that show signs of corrosion.

Rope

Rotate the rope lanyard and inspect from end to end for fuzzy, worn, broken or cut fibers. Replace when the rope diameter is not uniform throughout.

Hardware

Inspect forged steel snaps and D rings for cracks and other defects. Inspect tool loops and belt sewing for broken or stretched loops. Check bag rings and knife snaps to make sure they are secure and working properly. Check tool loop rivets. Inspect snaps for hook and eye distortions, cracks, corrosion or pitted surfaces.



For the Record

Date of Meeting: _____

Topic: _____

Location: _____

Department: _____

Start Time: _____ Finish Time: _____

Meeting Leader: _____

In Attendance:

It really happened...

Roofing companies appear frequently on lists of those who have violated fall protection regulations. It's not always just the company that gets penalized.

Several years ago, two Ontario firms were fined heavily, and so were two supervisors, after a young worker was killed on the job. Investigation had found that the worker fell 42 meters (140 feet) while clearing snow and ice from roof canopies that were being restored. Although wearing a full body harness, he was not connected to any anchor or fixed support at the time of the incident.

The victim worked for a roofing and general contracting firm, which was fined \$115,000 to failing, as

an employer, to ensure that a worker was adequately protected by a method of fall protection. The two supervisors were fined \$20,000 and \$12,000 respectively for violating the fall protection requirement.

The roofing company had been subcontracted by another company, which pleaded guilty to failing, as a constructor, to ensure that every employer and every worker on the project complied with the fall protection measures set out in Ontario Regulation 213/91.

It was fined \$150,000 for the offense.

Note: TalksZone safety meetings are not intended to take the place of your own safety procedures. Always consult and/or review your procedures before attempting any work.