Preventing Falls Through Openings Compliance Game Plan

A 5-phase strategy to stop falls through holes and openings in floors, roofs, walls and work surfaces.

Fall protection involves more than just preventing workers from falling off ladders, scaffolding, roofs and other elevated surfaces. Workers can also be injured or even killed if they fall through openings in floors, roofs, walls and other work surfaces. The OHS laws spell out how employers must protect workers from falling through such openings. Here's how to comply with these requirements.

Defining Our Terms

This article covers the fall protection requirements for openings in general rather than the specific requirements that apply to preventing falls through particular kinds of openings, such as vehicle service pits and trapdoors on stages.

How to Comply with Falls thru Opening Prevention Rules

Every jurisdiction's OHS laws require employers to take precautions to protect workers from falls through openings. The laws follow the same basic approach, with some small differences. You must do 5 basic things to comply.

1. Hazard Identification and Assessment

First, identify any openings in your workplace that are covered by the fall protection requirements. For example, openings in floors and roofs that workers could fall through are obvious hazards covered by the law. But you also have to protect workers from falling through openings in 'work surfaces,' such as walls, platforms, etc.

Note that generally, fall protection requirements apply only to openings big enough that a worker could fall all or partly through them. For example, the guide to the Alberta *OHS Code* explains that although the law doesn't specify dimensions for an opening, if a worker's foot could fall through it, it's a hazard requiring protection. But federal fall protection requirements *do* specify the size of openings that must be guarded or covered:

- **Floor openings:** 300 mm or more in their smallest dimension; and
- **Wall openings:** at least 750 mm high and 300 mm wide.

2. Implement Reasonably Practicable Guardrails or Coverings

The preferred solution for falls through opening is to use engineering controls to make a fall impossible, or at least physically difficult. There are 2 basic measures you can use to accomplish that objective:

Guardrails. Guardrails are generally the first choice because they're obvious, fixed and harder to remove. That's why the OHS laws typically require use of guardrails if they're reasonably practicable. The regulations of most jurisdictions also set out detailed requirements for guardrails around openings. In some cases, the requirements vary depending on the type of material the guardrail is made of, such as wood or wire rope. The guardrail requirements typically cover:

- Components of a guardrail system must include a top rail, intermediate rail and toe board, which keeps tools, materials and other items from being kicked into the opening and endangering workers below;
- The minimum height of the top rail generally has to be 900-920 mm (the intermediate rail may also be subject to specific height requirements as well); and
- Spacing between posts, which is usually no more than 2.4 metres apart.

Covers. If you can't use a guardrail around an opening, you must cover it. Under OHS laws, covers must be:

- Big enough to cover the whole opening;
- Securely fastened to prevent workers from easily removing them;
- Strong enough to bear weight. Some jurisdictions simply say the material used must be capable of supporting any loads it might be expected to bear; others spell out specific weight requirements. For example, in Nova Scotia, covers must be capable of supporting 4 times the maximum load that may be imposed on it; in Saskatchewan, Northwest Territories and Nunavut, they must be able to support a load of 360 kg per square metre; and in Ontario and Yukon, they must be able to support a live load of 2.4kN per square metre; and
- Marked as covering an opening. You don't want workers to think that a piece of plywood covering a hole is simply material laying around the workplace. It's critical to warn them that the material is serving an important safety purpose so they don't remove it or walk on it unnecessarily. You can do so with a warning sign on or near the cover.

If the guardrail or cover for an opening must be removed to accommodate work in the area or opening, you *must* provide another type of protection for workers. For example, require workers in the area to use fall arrest systems until the

guardrail or cover is back in place. Or assign a worker to stand guard at the opening until the physical protection is restored.

3. Implement Fall Protection Systems

If guardrails and coverings aren't reasonably practicable, implement a fall protection system that uses harnesses attaching workers to a line secured to a stable anchor point to prevent or arrest falls. Systems that prevent falls from happening are generally preferable to systems that stop a fall once it occurs. In either event, the fall protection system and its components must meet CSA, ANSI or other specific standards spelled out in the regulations and undergo proper cleaning, inspection and maintenance. Fall arrest systems must also be accompanied by procedures to rescue workers after their fall is stopped.

4. Implement a Policy on Hazardous Openings

Create and implement a policy on hazardous openings, either as a stand-alone document or as part of your company's overall fall protection program. In either case, this policy should cover at a minimum:

- Identification of hazardous openings;
- Determination of the type of protection to be used for such openings;
- Requirements for guardrails and covers; and
- Procedures to be used when an opening's protection must be removed.

5. Train Workers on Policy

Your general fall protection training for workers should cover the hazards of falling through openings and include:

- General safe work procedures for working around openings;
- Installation and use of guardrails and covers; and
- Procedures to follow when a guardrail or covering must be removed.

As with all safety training, be sure to document the training you provide to workers on hazardous openings. You should also take steps to verify that this training was effective, such as by quizzing workers. In addition, reinforce their training with toolbox talks and monitor their compliance by observing whether they’re applying their training in actual operations after the training ends. And retrain them on a regular basis and whenever new information or hazards come to light that weren’t adequately addressed in previous training.