Labour and Workforce Development

OCCUPATIONAL HEALTH AND SAFETY DIVISION

Premises and Building Safety,

Construction and Demolition

A guide to Part 13 of the

Occupational Safety General Regulations

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A GUIDE TO PART 13 – PREMISES AND BUILDING SAFETY, CONSTRUCTION AND DEMOLITION - of the OCCUPATIONAL SAFETY GENERAL REGULATIONS

The information contained in this publication is a guide only and should be read with the *Occupational Safety General Regulations* for specific requirements. The Regulations are available through our web site at http://www.gov.ns.ca/lwd/healthandsafety/pubs.asp or copies may be requested by calling the Information Specialist at 902-424-5400 or toll-free 1-800-952-2687. For your reference and convenience the section of the Regulation has been included where possible

Part 13-Premise and Building Safety, Construction and Demolition

Walking surfaces (sections 138-139)

What are my duties towards walking surfaces?

The employer must insure that any floor, stairway, passageway or similar surface is designed and maintained to prevent a hazard to a person.
i.e. eliminate potholes, wobbly stairs etc.

The walkway at my workplace is slippery. What are my employer's duties?

Where any walking surface is slippery for any reason except weather conditions, the employer must ensure that matting, grating or similar devices are used. If this is not enough to prevent slipping, the employee must wear non-slip footwear.
Where any walking surface at or near the workplace become slippery because of weather, the employer must ensure the walking surface is kept free of falling or slipping hazards. Removing ice, snow or water and using materials like ash, sand or salt can prevent slipping.

Access and exit (section 140)

What is my duty regarding ice falling from the roof?

The employer must provide overhead protection at every entrance and exit from the building, structure or project where there any material falling could injure a person.

During the construction process knowing where to exit in an emergency can become complicated. Who is responsible for informing me of the appropriate emergency exits?

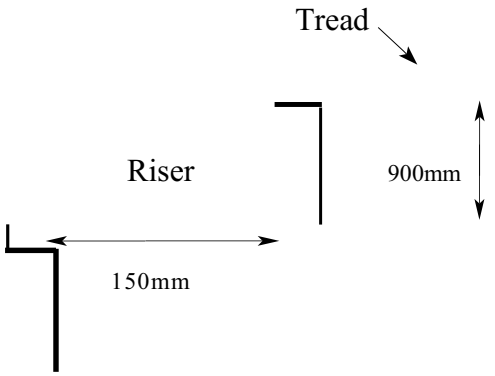
The employer must provide information, such as direction to the appropriate emergency exits and any other information needed to allow a person to exit the building safely in the case of an emergency.

Stairways (section 141)

What is a temporary stairway?

A temporary stairway is a stairway installed during construction and that will be removed before the construction is completed.

Sample Stairs:



What are my duties regarding stairways?

The employer must ensure the stairway:

- Can hold 4 times the maximum load likely to be imposed
- Has treads that are a minimum of 900mm in length (900mm 3ft)
- Cannot have a pitch more than 60 from the horizontal
- Has risers constant in height and that are between 125mm and 260mm in height (125mm 5in; 260mm 10in)
- Has a maximum height of 4m between landings (4m 13ft)
- Has landings, if any, with a minimum clearance of 900mm
- Has a vertical clearance of at least 2m (2m 6.5ft)
- Has treads constant in width and a minimum of 230mm (230 9in)

When does an engineer need to certify a stairway?

A stairway must meet or exceed the requirements above. If a permanent stairway does not meet these requirements or if there is doubt the permanent stairway is adequate, then it must be certified by an engineer.

When are guardrails needed?

A temporary stairway having 4 or more risers must:

- Have a guardrail on any open side and a railing on any enclosed side, where the risers are more then 2.2m or less and;
- Have a guardrail on any open side, in the centre and a railing on any enclosed side, where the risers are greater than 2.2m in length (2.2m 7ft)

What guidelines must be used to install guardrails?

The employer must ensure that guardrails are installed:

- With posts that are spaced at intervals less the 2.4m and secured against movement

- With a top railing that is between 0.9m and 1.06m above the stairway (.9m to 1.06m 3ft to 3.5ft)
- With a second railing placed between the top rail and the stairway

If the temporary stairway has a wooden supporting structure or a wooden railing are there any extra requirements?

The wooden supporting structure or wooden railing:

- Is at least 50mm thick and 100 mm wide (50mm 2in; 100mm 4in)
- Is made of No.1 grade spruce or equivalent lumber

If the temporary stairway has a guardrail consisting of wire rope is there extra requirements?

The wire rope railing:

- Has to be at least 8mm thick (8mm 0.3in)
- Has to have high visibility markings placed at least every 1.5m along the top railing (1.5m 5ft)
- Has to have railings with turnbuckles or equivalent means to provide adequate tension

During the construction process, can I use a ladder to get between levels in a building?

No, the employer must ensure that temporary stairs are installed between floors as the building is constructed.

Ramps (sections 143-145)

What are my duties towards ramps?

The employer must ensure a ramp:

- Has a maximum slope of 1/6
- Has a non-slip surface or cleats
- Where the ramp is higher than 1.8m, has a guardrail or supporting structure on any open side (1.8m 6ft)
- Where planks are used, that the planks are secured
- Has a minimum width of 450mm
- Is able to withstand 4x times the likely load to be imposed

When does an engineer need to certify ramp?

A ramp must meet or exceed the requirements above. If the permanent ramp does not meet these requirements or if there is doubt that the ramp is adequate the ramp must then be certified by an engineer.

Catwalk (section 146)

What is a catwalk?

A catwalk is a walkway that is 1.8m or more above the ground or floor level.

What are my duties towards catwalks?

The employer must ensure that a catwalk:

- Has a minimum width of 450mm
- Is equipped with guardrails
- Is able to withstand 4 times the maximum load likely to be imposed

Note if a permanent catwalk did not meet or exceed the listed requirements or there was doubt to whether the catwalk was adequate, then the catwalk would have to be certified by an engineer.

Ladders (sections 147-152)

What are my duties regarding fixed ladders?

The employer must ensure that a fixed ladder:

- Has a safety cage whenever the safe surfaces joined by the ladder are more than 7.3m apart (24 ft)
- the cage must extend 1.07 meters above the highest safe surface and end 2.1m-2.4m from the lowest safe surface (1.07m 3.6ft; 2.1m 7ft; 2.4m 8ft)
- Has rungs 0.3m apart and each rung must be at least 0.41m wide (0.3m»12in; 0.41»16in)

What are my duties regarding portable ladders?

The employer must ensure that a portable ladder used in the workplace is:

- Able to withstand 4 times the likely load to be imposed
- Clean and free of grease, oil or other substance that ma cause slipping
- Maintained
- Inspected before each use to ensure the ladder is in adequate condition

What is a Class 1 ladder?

Class 1 ladders are tested to 1000lbs, which mean the maximum likely load to be imposed is 250lbs. 4 x 250lbs = 1000lbs

What is a Class 2 ladder?

Class 2 ladders are tested to 900lbs, which mean the maximum likely load to be imposed is 225lbs. 4 x 225lbs = 900lbs

Can a Class 3 ladder be used at the workplace?

No, a Class 3 ladder cannot be used at the workplace. Class 3 ladders are intended for home use only.

What safety requirements should be considered when using a ladder?

The person using the ladder must:

- Face the ladder when climbing up or down
- Use 3 points of contact when more then 1m above a safe surface
- Stand in the centre of the ladder
- Not stand on the material shelf, or the top step of the ladder, if the ladder is a step ladder
- Not work from the top 3 rungs of the ladder, if the ladder is not a step ladder

The bottom rung is broken, but the remainder of the ladder is intact. Can I still use the ladder?

No, the ladder must be removed from service if it has a loose, broken or missing rung, split side rails or any other defects.

Can I make my own portable wooden ladder?

Any ladder not commercially manufactured must meet the following requirements:

- Is made of No.1 or No.2 spruce or equivalent
- Is not painted, unless it is a clear protective coating
- Cannot exceed 9m in length (9m 30ft)
- Has rungs that are:
    - Free of knots
    - Designed to carry a load of 200kg (200kg 440lbs)
    - Uniformly spaced with a maximum of 300mm apart (300mm 1ft)
    - Secured to each side of the side rail with at least 3 screws or spiral nails of adequate length
- Has side rails that:
    - Are smooth with no sharp edges
    - Are 50mm thick and 100mm wide, when the ladder is less than 5.7m (5.7m 18.5ft; 100mm 4in; 50mm 2in)
    - Are 50mm thick and 130mm wide, when the ladder is 5.7m or greater

What are the CSA standards for a portable ladder that is commercially manufactured?

A ladder meeting the CSA standard will have a marking indicating:

- Manufacturer's name or trademark
- Date of manufacture
- Length
- Maximum extended length (where applicable)

- Grade
- A series of safety cautions, such as “Do Not Over Reach”

What precautions should I take with a portable ladder?

An employer must ensure a portable ladder:

- Maintains an adequate overlap between the sections of the ladder, if the ladder is extendable
- Has the locks engaged before a person climbs the ladder, if the ladder is extendable
- Is non-conductive, if there is a risk of contact with a live electrical conductors
- Is placed on firm footing
- Is secured against movement
- If used as a step ladder, has legs securely held in position by means of a metal bracer or equivalent support

Can I use the ladder as a ramp or tie it to another ladder to increase the length?

No, a portable ladder is not to be:

- Spliced together with another ladder
- In front of or against a door that can open in that direction
- Used as scaffold, ramp or support for such flooring
- Placed on a box, barrel or other unstable base
- Lashed to another ladder to increase the length

We are using a ladder for entering and exiting a high work area , is one ladder enough?

Where a portable ladder is used as means of access or exit for a height greater than 6m, a second ladder must be provided if 7 or more people need access. (6m 20ft)

Bracing and supports (section 154)

What are the duties at a project regarding braces and supports?

At a project the employer must ensure that:

- Work is completed on any component designed to support or give added support before proceeding
- A freestanding wall of brick, concrete or similar materials greater than 2m in height is braced from both sides, until attached to a rigid structure and the mortar had dried
- A free standing wall or structure designed to support roof components or any load is braced to prevent collapsing
- A column is built in an adequate manner to prevent collapsing

I am pouring a cement floor on the second level. Do I need bracing or shoring under the floor I am about to pour?

Yes, where concrete is being poured bracing or shoring must be used underneath the floor.

What load requirements must be put in place for bracing or shoring?

Footing for shoring and bracing must be designed to support the maximum load likely to be imposed, without excessive settlement or deformation.

By-stander safety (section 155)

Who is responsible for the safety of pedestrians?

The employer must take precautions to ensure the safety of pedestrians or other persons at or near the workplace.

Construction work in compressed air (section 156)

What are my duties regarding construction work in compressed air?

The employer must ensure that the construction work in compressed air is conducted in accordance with the "Occupational Safety Code for Construction Work in Compresses Air".

Demolition (sections 157-165)

What is required before starting or continuing a demolition project?

The employer must ensure:

- Steps have been taken to prevent injury to any person at or near the project or adjoining property; and
- Existing gas, water, electrical and other services to the project have been disconnected or isolated

Do hazardous products need to be removed from a building before demolishing?

Yes, a hazardous substance identification assessment of the building or structure to be demolished has to be conducted, and all hazardous substances are then to be removed before demolition.

Do windows have to be removed from buildings before they are demolished?

If a person may be endangered near the demolition project from broken glass, then the glass must be removed from the windows.

I am worried about an accidental collapse of the structure. What requirements are necessary?

If an accidental collapse could endanger a person, measures must be taken to support the structure in question.

If I am using a hoist or mobile equipment at a demolition project, what precautions do I need to take?

If a hoist or mobile equipment is being used during a demolition, the employer must ensure adequate supports are provided to ensure the stability of the equipment.

What precautions need to be considered when using scaffolding at a demolition site?

Scaffolds must be set up independent of the portion of the project that is being demolished.

Can I knock out the bottom layer of the structure first?

No, the employer must ensure that demolition proceeds from the highest to the lowest part of the project.

What needs to happen after the completion of a demolition project?

The employer must ensure that:

- The demolition area is fenced or barricaded
- An excavation is backfilled to grade level; or
- An excavation is sloped to its angle of response

Can I disconnect a truss before it has been relieved of its load?

No, a truss, girder or other member cannot be disconnected until it has been relieved of all loads, and given temporary support for lowering .

What precautions need to be made with masonry walls during demolition?

The employer must ensure that masonry walls or any part of them are removed:

- In level courses in any one story
- Not to endanger any person on the project

Note the employer must ensure that the masonry is not loosened or permitted to fall in such amounts as to endanger the structural stability of a floor or other support of the project.

What is a demolition zone?

A demolition zone is:

- The area designated in writing by an engineer; or
- The area at the centre point of the demolition and the horizontal radius 11/2 times the initial height of the project

Can I bring my sister in the demolition zone to watch?

No person other than persons directly engaged in the demolition, may enter or remain within the demolition zone while the project is being demolished.

I am using a swinging weight for a demolition project. What needs to be considered?

If a swinging weight is being used for a demolition, the support cable must be such a length or restrained in a way that the weight will not swing against any other object other than the project to be demolished.

How do I know what components are structural on the object to be demolished?

Where it is required to prevent the uncontrolled collapse of a project, the employer must ensure that all structural components are identified.

I am a crane operator and I cannot see where the material is falling. What should I do?

If the operator of equipment cannot see where the material from the demolition will fall, the employer must ensure a signaller guides the operator.

The demolition involves undercutting structural supports is a written procedure required?

Yes, if the demolition involves undercutting structural supports, the employer must develop a written procedure certified by an engineer.