

Fixed Ladder Safety – Know The Laws of Your Province



OHS requirements for fixed or permanent ladders in each part of Canada.

Falls are the leading cause of workplace injuries and OHS penalties. Over 20% of all workplace fall injuries involve ladders; that rate rises to 81% when the sample is limited to construction workers. OHS regulations require employers to take measures to ensure safe ladder use and prevent ladder falls. The rules vary depending on the type of ladder used. One of the most commonly used and thus important sets of ladder regulations addresses fixed ladders. While OHS rules overlap, there are key differences regarding:

- What construction and design standards ladders must meet;
- What safety features they must have; and
- How ladders are used.

Here's a summary of the rules that apply in each part of Canada.

OHS Fixed Ladder Safety Requirements Across Canada

FEDERAL

Design: Design, construction and installation must meet ANSI A14.3-1984, as amended from time to time (other than section 7) (*COHS Reg*, Sec. 2.9(1));

Placement: Fixed ladder must be fixed ladder shall be highly visible or its presence otherwise brought to the attention of any employee in the area (*COHS Reg*, Sec. 2.9(4));

Safe Use: Employee going up or down fixed ladder must maintain a three-point contact and carry tools, equipment or materials in a pouch, holster or other secure manner (*COHS Reg*, Sec. 2.9(3))

ALBERTA

General Design: Employer must ensure that a fixed ladder installed after April 30, 2004, meets Construction Industry Institute PIP STF05501 (February 2002), *Fixed Ladders and Cages*(*OHS Code*, Sec. 130(1)); **Exception:** OK to use applicable Canadian material and process standards if employer ensures fixed ladder is designed and installed in accordance with established engineering principles, and allow the inside diameter of a cage hoop to be as great as 760 mm (*OHS Code*, Sec. 130(2)); **Non-Steel Fixed Ladders:** A professional engineer must certify that

the fixed ladder is as strong or stronger than that required by PIP STF05501 if the fixed ladder is made of a material other than steel(*OHS Code*, Sec. 130(3)); **Barriers:** A self-closing double bar safety gate, or equally effective barrier, is provided at ladderway floor openings and platforms of fixed ladders installed on or after April 30, 2004 (other than at landings) (*OHS Code*, Sec. 130(4)); **Ladders in Manholes:** Fixed ladders used in pre-cast reinforced concrete manhole sections installed on or after July 1, 2009 meet ASTM C478-07, *Standard Specification for Reinforced Concrete Manhole Sections* (*OHS Code*, Sec. 131); **Drilling Rigs:** A fixed ladder at a drilling or service rig need not have rest platforms or side rails extending at least 1,050 mm above the point at which workers get on or off, as long as each worker working on the ladder is equipped with and wears a climb assist device meeting manufacturer's specifications or specifications certified by a professional engineer (*OHS Code*, Sec. 132)

BRITISH COLUMBIA

Design: Ladder design, installation and use meet: (a) the applicable CSA or ANSI standard in effect when the equipment or structure was manufactured; (b) another standard acceptable to the Board; (c) the requirements of a professional engineer if there's no applicable standard under paragraphs (a) or (b) (*OHS Reg*, Sec. 13.2(1)); **Inspection:** Ladder must be inspected before use on each shift, and after any modification, and any condition that might endanger workers must be remedied before the ladder is used(*OHS Reg*, Sec. 13.3); **Safe Use:** Worker may not carry heavy or bulky objects or other objects up or down a ladder if it would make ascent or descent unsafe (*OHS Reg*, Sec. 13.6(2)); Work platform must be provided if work can't be done from a ladder without hazard to a worker (*OHS Reg*, Sec. 13.6(1)); **Tower Cranes:** A tower crane must have a fixed ladder installed in or on the mast to provide access to the jib and crown of the crane that: (a) can support two 1.1 kN (250 lbs.) point loads between any two consecutive points where the ladder is attached to the crane; (b) has a minimum horizontal distance of 15 cm (6 in.) between rungs and the object to which the ladder's attached; (c) has landing platforms at least every 9 m (30 ft.) on the ladder; (d) each section of the ladder offset horizontally from adjacent sections or the landing platforms must have trap doors; (e) any section of the ladder that has a climb exceeding 6 m (20 ft.) in length must have a ladder safety cage 68 cm to 76 cm (27 in. to 30 in.) in diameter or a ladder safety device must be used (*OHS Reg*, Sec. 14.88)

MANITOBA

General Requirements for All Ladders: Employer must: 1. Ensure that every ladder it provides for use at a workplace is designed, constructed and maintained to safely support any load that will likely to be imposed on it (*WSH Reg*, Sec. 13.7); 2. Ensure that a worker inspects a ladder for defects before each use and that ladders found to be broken or defective aren't used until they're repaired and restored to their original design specifications (*WSH Reg*, Sec. 13.8); Ensure that no worker uses a metal ladder or metal reinforced rails on a ladder near any exposed energized electrical circuits or equipment (*WSH Reg*, Sec. 13.9); 4. Not apply anything to a wood ladder, except a transparent protective coating and small identifying mark or symbol, which may be non-transparent (*WSH Reg*, Sec. 13.10)

Requirements for Fixed Ladders: Employer and owner must ensure that a ladder permanently fixed to a supporting building or structure: (a) Is designed by a

professional engineer, as is its permanent attachment system to the building or structure; (b) Is constructed, erected and installed in accordance with a professional engineer's specifications; (c) Is equipped with a suitable safety gate, or equally effective means of protection from falling, at all access openings in floors, platforms and rest platforms; (d) If in a vertical position or angle of no more than 25° to the vertical it: (i) meets the requirements of ANSI A14.3-2008 (R2018), (ii) has side rails extending at least one metre above any platform, roof or other landing on the building or structure to which it's fixed, (iii) has an opening in the platform, roof or other landing that doesn't exceed 750 mm ' 750 mm, (iv) is equipped, if it's more than 5 m high, with a ladder cage or a fall protection system that meets the requirements of Part 14 (Fall Protection) of the Reg., and (v) is equipped, if it's more than 9 m high, with one rest platform at a height of 9 m or less and additional rest platforms at intervals of no more than 5 m; and (e) Where it's fixed at an angle of more than 25° to the vertical or more than one horizontal to two vertical, it's equipped with: (i) a handrail that extends its entire length and is between 800 mm and 920 mm above the front edge of the treads, (ii) treads that are level and uniform in width and depth and in vertical distances between them throughout the length of the ladder, and (iii) on an open side, both a handrail and an intermediate rail or equivalent safeguard (*WSH Reg*, Sec. 13.20); Employer and owner must ensure that a fixed ladder that meets the above requirements of Section 13.20 is used to provide access to every level of a multi-level building that's more than 4 m above the preceding level (*WSH Reg*, Sec. 13.21)

NEW BRUNSWICK

Employer must ensure that: 1 A fixed ladder is: (a) of adequate strength and length; (b) clean and free of grease; and (c) maintained in a safe condition; (d) securely held in place at the top and bottom and at intermediate points as needed to prevent sway; (e) has a clearance of at least 165 mm maintained between the rungs and structure to which the ladder's affixed; (f) doesn't have any rungs that extend above a landing; (g) has side rails or other secure hand holds that extend at least 1.07 m above the landing and are spaced no less than 685 mm apart; and (h) is removed from service when it has loose, broken or missing rungs, split side rails or other potentially hazardous defects (*OHS General Reg*, Sec. 121(1)); 2. A fixed ladder more than 6 m in height is equipped with ladder cages, except if the employee on the ladder uses a fall arrest system (*OHS General Reg*, Secs. 121(2) and (3)); and 3. If a ladder cage is used on a fixed ladder: (a) the cage is provided with metal hoops spaced to prevent an employee from falling away from the ladder and to contain an employee who may lean or fall against the cage; (b) the cage extends no less than 685 mm and no more than 725 mm from the centre line of the rungs; (c) the cage isn't less than 685 mm wide where it attaches to the ladder; (d) the cage extends from a point 2.5 m from the base of the ladder to the top of the ladder; (e) the inside of the cage is free of projections; and (f) if the fixed ladder is more than 9 m in height, it's equipped with a rest platform at intervals of no more than 9 m (*OHS General Reg*, Sec. 121(4))

NEWFOUNDLAND

1. Fixed ladders must meet ANSI A14.3-2002 or other standard acceptable to the minister;
- 2 Fixed ladders that pose risk of a fall longer than 7.32 metres must be provided with: (a) platforms at intervals no greater than 7.32 metres; (b) safety cages starting at 2.13 metres and a maximum of 2.44

metres from the base of the ladder; or (c) acceptable devices to prevent workers from falling; 3. Fixed ladders must be anchored at intervals of no more than 3.05 metres for the entire length of the ladder; 4. A continuous clearance of at least 17.78 cm must be provided at the back of rungs; 5. Ladder rungs shall be omitted above the landing and the side rails must extend at least 1.07 metres above the landing; 6. Where acceptable devices to prevent workers from falling are used, platforms must be provided at intervals not greater than 45.72 metres where the continuous length of climb is greater than 45.72 metres and every 45.72 metres afterward (*OHS Regs*, Sec. 155)

NOVA SCOTIA

Employer must ensure that: 1. A fixed ladder is designed, constructed, installed and maintained in accordance with the latest version of ANSI A14.3 (*Occ Safety Gen Regs*, Sec. 147); 2. A person using a ladder: (a) Faces the ladder when climbing or descending; (b) When more than 1 m above a safe surface, maintains adequate contact with the ladder, such as 3-point contact; (c) If the person is standing on a ladder, stands in the centre between the side rails; (d) Doesn't work from the top 3 rungs (*Occ Safety Gen Regs*, Sec. 148(2)); and 3. A ladder is removed from service when it has loose, broken or missing rungs, split side rails or other defects that may be hazardous to the safety of a person at the workplace (*Occ Safety Gen Regs*, Sec. 148(4))

ONTARIO (GENERAL INDUSTRY)

An access ladder fixed in position must: (a) be vertical; (b) have rest platforms at no more than 9 metre intervals; (c) be offset at each rest platform; (d) where the ladder extends over 5 metres, above grade, floor or landing, have a safety cage commencing no more than 2.2 metres above grade, floor or landing and continuing at least 90 cms above the top landing with openings to permit access by a worker to rest platforms or to the top landing; (e) have side rails that extend 90 cms above the landing; and (f) have rungs which are at least 15 cms from the wall and spaced at regular intervals.

Exception: The above requirements don't apply to an access ladder on a tower, water tank, chimney or similar structure which has a safety device which will provide protection if a worker using the ladder falls (*OHS Ind Est Regs*, Sec. 18)

ONTARIO (CONSTRUCTION)

1. A ladder must be designed, constructed and maintained so as not to endanger a worker and be capable of withstanding all loads to which it may be subjected (*OHS Const Regs*, Sec. 79); and 2. An access ladder fixed in position must: (a) be vertical; (b) have rest platforms at no more than 9 metre intervals; (c) be offset at each rest platform; (d) where the ladder extends over 5 metres, above grade, floor or landing, have a safety cage commencing no more than 2.2 metres above grade, floor or landing and continuing at least 90 cms above the top landing with openings to permit access by a worker to rest platforms or to the top landing; (e) have side rails that extend 90 cms above the landing; (f) have rungs which are at least 15 cms from the wall and spaced at regular intervals; (g) have an adequate landing surface that's clear of obstructions at the top and bottom of the ladder for access and egress; (h) be free from defective or loose

rungs; and (i) not be used in an elevator shaft or a similar hoisting area when the shaft or area is being used for hoisting; **Exception:** The above requirements don't apply to an access ladder on a tower, water tank, chimney or similar structure which has a safety device that will provide protection if a worker using the ladder falls (*OHS Const Regs*, Sec. 84)

PRINCE EDWARD ISLAND

1. Employer must ensure that fixed or permanent ladders have parallel sides of either wood or metal and are permanently and securely fastened so that the ladder: (a) is securely held in place at the top and bottom and at such intermediate points as required to prevent sway; (b) has a continuous clearance space of at least 165 mm (6 1/2 in.) back of rungs; (c) has rungs omitted above the landing and has rails or other secure hand holds which extend at least 1 067 mm (42 in.) above the landing rails (*OHS Gen Regs*, Sec. 23.6);
2. Employer must ensure that a fixed ladder more than 6 096 mm (20 ft.) in length is provided with: (a) a safety rail secured to the ladder; or (b) cage guards with offset platforms at intervals no greater than 9 144 mm (30 ft.); or (c) adequate fall arresting equipment rails (*OHS Gen Regs*, Sec. 23.7(1));
3. Employer must ensure that workers working on fixed ladders more than 6 096 mm (20 ft.) in length wear and workers must wear adequate fall arresting equipment (*OHS Gen Regs*, Sec. 23.7(2)); and
4. Where a safety rail is used, the employer must provide an approved safety belt designed to be attached to the rail and all workers must wear the safety belt and attach it to the rail (*OHS Gen Regs*, Sec. 23.7(4))

QUÉBEC (GENERAL)

Permanent ladders used to replace service stairs must: (a) be of safe construction and solidly anchored to withstand a mass of 90 kg at the centre of the rungs with a safety factor of 4; (b) for ladders exceeding 9 m, have rest platforms equipped with guardrails, at least at 6 m intervals fixed ladders servicing elevated towers, water reservoirs or other elevated constructions to which workers only occasionally have access (except for fixed ladders servicing elevated towers, water reservoirs or other elevated constructions to which workers only occasionally have access); (c) have a free space behind the rungs of at least 150 mm; (d) have a free space on each side of at least 375 mm and forward of at least 800 mm, measured from the centre of a rung; (e) extend 900 mm beyond the top storey; (f) be provided with guardrails surrounding the floor opening with a removable gate for access to the ladder; (g) have a fall arrestor that meets CSA Z259.2.5 *Fall Arresters and Vertical Lifelines*, or CSA Z259.2.4 *Fall Arresters and Vertical Rigid Rails* where there's danger of a fall greater than 6 m (except for permanent ladders installed before January 3, 2019, which may, until they're modified, be provided with crinolines, cages or a fall arrestor meeting CSA Z259.2.1-98 *Fall Arresters, Vertical Lifelines and Rails*, where there's danger of a fall greater than 6 m (*OHS Reg*, Sec. 23))

SASKATCHEWAN

General: Employer, contractor or supplier must ensure that every ladder is designed, constructed, used and maintained to perform its function safely (*OHS Regs*, Sec. 252(1))

Fixed Ladders: 'Fixed ladder' defined as a ladder that's fixed to a structure in

a vertical position or at an angle that's between vertical and 25° to the vertical (not including a ladder used in underground mining operations)' a ladder fixed to a structure at an angle of more than 25° to the vertical, or more than 1 horizontal to 2 vertical, is considered a stairway subject to the requirements of Sections 9.10 and 16.4 of the Reg.; **Design and Use:** Employer, contractor or owner must ensure that: (a) the rungs on a fixed ladder are uniformly spaced with centres that are no less than 250 and no more than 300 mm apart; (b) a clearance of at least 150 mm is maintained between the rungs on a fixed ladder and the structure to which it's affixed; (c) a fixed ladder is securely held in place at the top and bottom and at any intermediate points that are necessary to prevent sway; (d) the side rails of a fixed ladder extend no less than 1 metre above any platform, roof or other landing on the structure to which the ladder is fixed; (e) a ladder opening in a platform, roof or other landing doesn't exceed 750 mm by 750 mm; (f) a fixed ladder more than 6 metres high: (i) is equipped with: (A) platforms at intervals of no more than 6 metres or ladder cages, in the case of ladders installed on or before March 11, 1986; or (B) platforms at intervals of no more than 6 metres and ladder cages, in the case of ladders installed on or after March 12, 1986; or (ii) is equipped with a personal fall arrest system that meets the requirements of Part 7 of the Regs.; and (g) a fixed ladder in an excavated shaft is installed in a compartment that's separated from the hoist compartment by a substantial partition; **Ladder Cages:** If a ladder cage is required, employer, contractor or owner must ensure that: (a) the ladder cage is constructed of hoops that are no more than 1.8 metres apart, joined by vertical members no more than 300 mm apart around the circumference of the hoop; (b) no point on a hoop of the ladder cage is more than 750 mm from the ladder; and (c) the ladder cage is of sufficient strength and is designed to contain any worker who may lean or fall against a hoop; If a ladder cage constructed on or after July 1, 1997, employer, contractor or owner must ensure that: (a) the lowest hoop of the ladder cage is no more than 2.2 metres from a platform, landing or the ground; and (b) the uppermost hoop of the ladder cage extends at least 1 metre above the level of a platform, landing or roof (*OHS Regs*, Sec. 16.8)

NORTHWEST TERRITORIES & NUNAVUT

General: Employer or supplier must ensure that a ladder at a work site is designed, constructed and used to safely perform its function and is maintained (*OHS Regs*, Sec. 258)

Fixed Ladders: 'Fixed ladder' defined as a ladder that's fixed to a structure in a vertical position or at an angle that's between vertical and 25° to the vertical' a ladder fixed to a structure at an angle of more than 25° to the vertical, or more than 1 horizontal to 2 vertical, is considered a stairway subject to the requirements of Sections 127 and 257 of the Reg.; **Design and Use:** Employer must ensure that: (a) the rungs on a fixed ladder are uniformly spaced with centres that are no less than 250 mm and no more than 300 mm apart; (b) a clearance of at least 150 mm is maintained between the rungs on a fixed ladder and the structure to which it's affixed; (c) a fixed ladder is securely held in place at the top and bottom and at any intermediate points that are necessary to prevent sway; (d) the side rails of a fixed ladder extend no less than 1 metre above any platform, roof or other landing on the structure to which the ladder is fixed; (e) a ladder opening in a platform, roof or other landing doesn't exceed 750 mm by 750 mm; (f) a fixed ladder more than 6 metres high is equipped with: (i) platforms at intervals of no more than 6 metres or ladder cages, in

the case of ladders installed on or before March 11, 1986; or (B) platforms at intervals of no more than 6 metres and ladder cages, or (ii) a personal fall arrest system; and (g) a fixed ladder in an excavated shaft is installed in a compartment that's separated from the hoist compartment by a substantial partition; **Ladder Cages:** If a ladder cage is required, employer, must ensure that: (a) the ladder cage is constructed of hoops that are no more than 1.8 metres apart, joined by vertical members no more than 300 mm apart around the circumference of the hoop; (b) any point on a hoop of the ladder cage is no more than 750 mm from the ladder; and (c) the ladder cage is of sufficient strength and is designed to contain any worker who may lean or fall against a hoop; If a ladder cage is constructed, employer must ensure that: (a) the lowest hoop of the ladder cage is no more than 2.2 metres from a platform, landing or the ground; and (b) the uppermost hoop of the ladder cage extends at least 1 metre above the level of a platform, landing or roof (*OHS Regs*, Sec. 261)

YUKON

General: Any ladder must be: (a) Of adequate strength and length for the work being done; (b) Clean and free from grease, oil or other slippery substance; (c) Maintained in safe condition; and (d) Removed from service or repaired immediately when it has loose, broken or missing rungs, split side rails or other defects that may be hazardous to a worker (*OHS Regs*, Sec. 10.21)

Fixed Ladder Design: 1. Fixed ladders must meet ANSI A14.3-2002, or other similar standard acceptable to the director; fixed ladders existing before the effective date of the OHS Regulations that don't meet the requirements of the current or earlier edition of the ANSI Standard A14.3-2002 or other similar standard acceptable to the director must be inspected by a competent person (*OHS Regs*, Sec. 10.22); **Fixed Ladder Use:** A fixed ladder must: (a) be securely held in place at the top and bottom and at such intermediate points as required to prevent sway; (b) have a clearance of at least 0.165 m (6 in.) maintained between the rungs and structure to which the ladder is affixed; (c) not have any rungs that extend above a landing; and (d) have side rails or other secure handholds that extend at least 1 m (3 ft.) above the landing and spaced not less than 0.3 m (12 in.) apart (*OHS Regs*, Sec. 10.23); **Ladder Cages:** A fixed ladder more than 5 m (16 ft.) in height must: (a) be equipped with ladder cages or a safety device designed and constructed to lock and suspend a worker using the device if the worker loses hold of the ladder; (b) have a rest platform at no more than 9 m (30 ft.) intervals, and be offset at each rest platform; and (c) when fitted with a ladder cage, the cage must: i. be provided with metal hoops spaced to prevent a worker from falling away from the ladder and contain a worker who may lean or fall against the cage, ii. extend 0.68 m to 0.76 m (27 in. to 30 in.) from the centreline of the rungs of the ladder, iii. extend from a point 2.5 m (8 ft.) from the base of the ladder to the top of the ladder, and iv. be free of projections on the inside (*OHS Regs*, Sec. 10.24)