



SEPARATING PEOPLE FROM HAZARDS

# CONSTRUCTION SITE FALL PROTECTION

The role employers play in preventing construction site fatalities and injuries.



# The Continuing need for Fall Protection in Construction

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## Why are there standards for fall protection?

A high percentage of workplace fatalities occur in the construction industry, and many of the deaths are due to falls. For instance, out of the 921 deaths recorded overall in 2020, the National Work Injury/Disease Statistics Program (NWISP) reported 193 fatalities in construction. (Manufacturing had the second-most fatalities at 162.)

The Canadian Centre for Occupational Health & Safety (CCOHS) and provincial and territorial bodies know that accidents involving falls are usually complicated occurrences involving several variables. These fall protection standards address equipment-related and human-related accidents to safeguard employees from fall dangers. This document aims to provide employees and employers with a better understanding of the standards and rationale for the fall protection standards in construction.



# OHSA Applications to Fall Protection for Construction

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## OH&S Applications to Fall Protection for Construction

The Occupational Health and Safety Act (OH&S) provides a legal framework with the goal of protecting workers on the job. It defines the duties and rights of workers, owners, constructors, and suppliers of equipment and materials; it establishes measures and procedures to deal with workplace hazards; it provides for enforcement. The list below highlights aspects of OH&S that pertain to fall protection for construction projects.



### Roofing

207. (1) If a built-up roof is being constructed, repaired, or resurfaced, a barrier shall be placed in the immediate work area at least two metres from the perimeter of the roof. O. Reg. 213/91, s. 207 (1).



### Ladders

79. A ladder shall be designed, constructed, and maintained so as not to endanger a worker and shall be capable of withstanding all loads to which it may be subjected. O. Reg. 345/15, s. 13.



### Scaffolds

133. (2) A scaffold shall be provided for a worker who is working more than 3.7 metres above the ground or a floor. O. Reg. 213/91, s. 133 (2).

# OHSA Applications to Fall Protection for Construction

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## Guardrails

26.1 (1) A worker shall be adequately protected by a guardrail system that meets the requirements of subsections 26.3 (2) to (8). O. Reg. 145/00, s. 12. This applies where a worker may be exposed to:

1. Falling more than 3 metres.
2. Falling more than 1.2 metres, if the work area is used as a path for a wheelbarrow or similar equipment.
3. Falling into operating machinery.
4. Falling into water or another liquid.
5. Falling into or onto a hazardous substance or object.
6. Falling through an opening on a work surface.



## Personal Fall Arrest System (PFAS)

If it is not practicable to install a guardrail system, a worker shall be adequately protected by the highest-ranked method that is practicable from the following ranking of fall protection methods:

1. A travel restraint system consisting of a full body harness with adequate attachment points or a safety belt (O. Reg. 145/00, s. 14), the belt attached by a lifeline or lanyard to an anchor system that meets the requirements of section 26.7. O. Reg. 145/00, s. 14.
2. A fall-restricting system attached to an anchor system so that a worker's free fall distance does not exceed 0.6 metres. O. Reg. 85/04, s. 6.
3. A fall arrest system consisting of a full body harness with adequate attachment points and a lanyard equipped with a shock absorber or similar device attached to an anchorage system so that a worker cannot hit the ground or an object or level below the work. (O. Reg. 145/00, s. 14).
4. A safety net that meets the requirements of section 26.8. O. Reg. 145/00, s. 12; O. Reg. 85/04, s. 5 (1); O. Reg. 345/15, s. 5 (1).

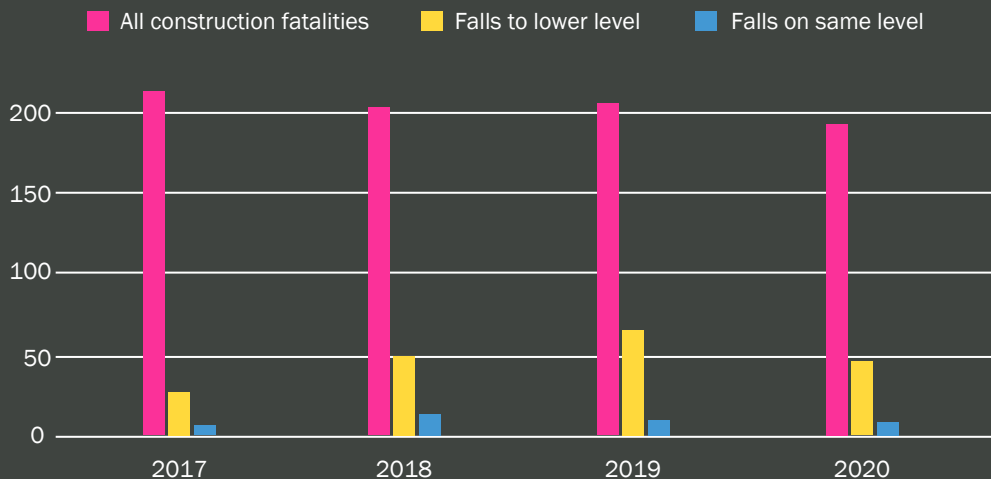
# Fatal and Nonfatal Falls, Slips and Trips in the Construction Industry

The latest data reveal that the highest percentage of fatalities by industry is in the construction business. 2020 saw 193 fatal injuries in construction, accounting for 21% of the total 921 occupational fatalities in Canada. Within the construction industry, falls to a lower level were responsible for 83% of deaths from falls compared to falls at the same level in 2020.

Although the graphs show a decrease in fatalities and injuries related to lost time claims, there was a concomitant decrease in construction activity in 2020 due to the COVID-19 pandemic. Furthermore, there has been a decrease in the number of construction deaths but an increase in the percentage of construction deaths due to falls.

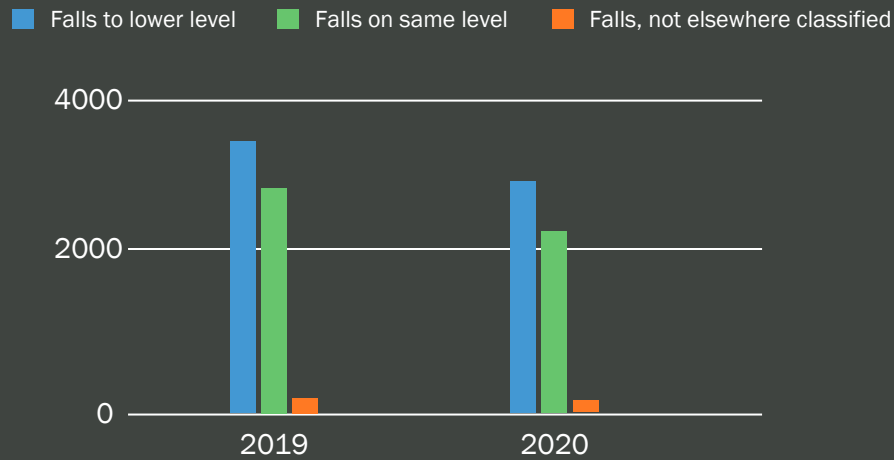


## Number of fatal work injuries in the construction industry by selected events or exposures, all ownerships, 2017-2020\*

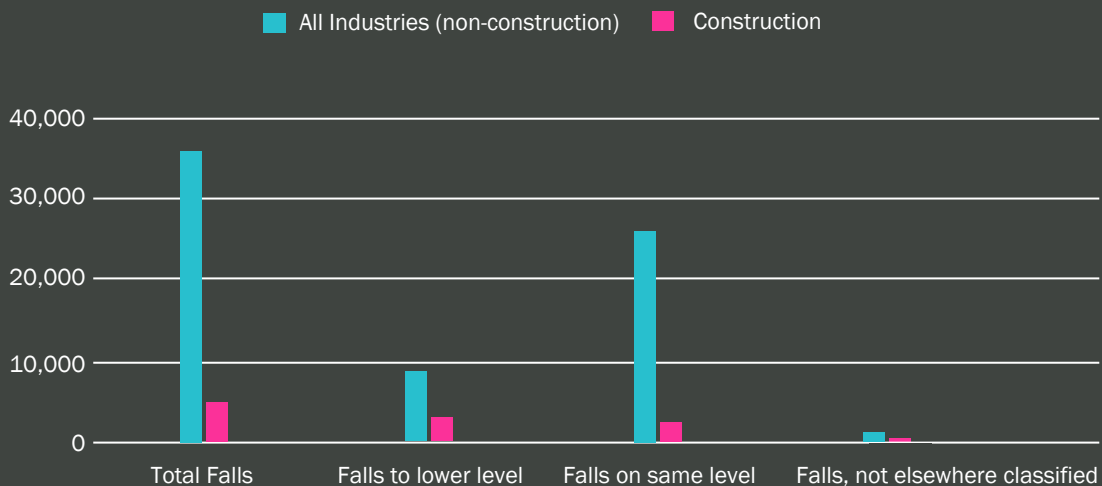


# Fatal and Nonfatal Falls, Slips and Trips in the Construction Industry

## Number of nonfatal injuries and illnesses involving accepted lost time claims by selected event or exposure, private construction industry, 2019-2020\*



## Rate of nonfatal injuries and illnesses involving accepted lost time claims by event and industry division, 2020\*

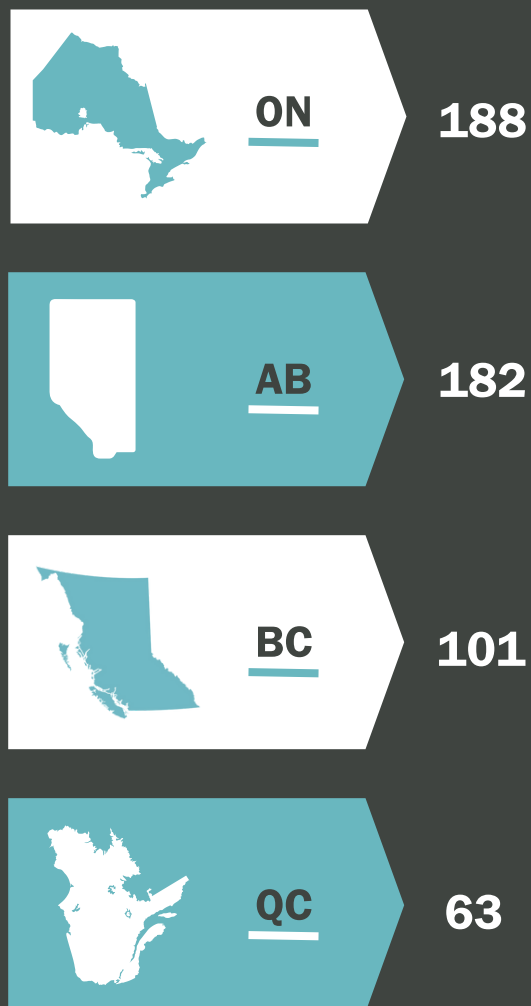


\* Source: Association of Workers' Compensation Boards of Canada (AWCBC).

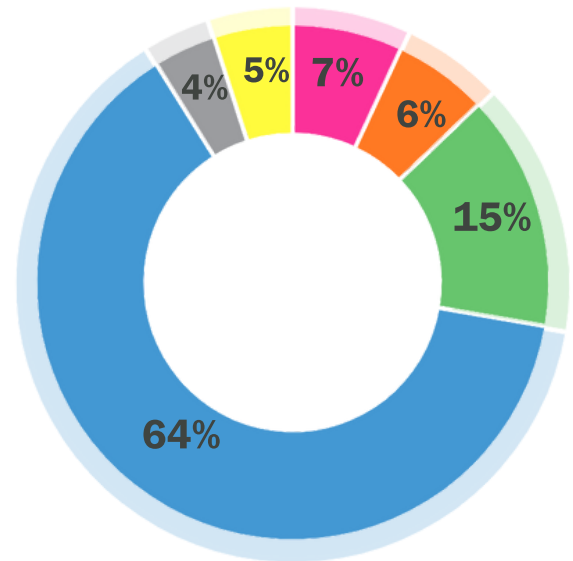
# Construction Fatalities in Canada

On the job site, construction workers encounter a variety of dangers daily. From 2018-2020, the Association of Workers' Compensation boards of Canada (AWCBC) reports that 600 people have suffered a fatal injury on the job, with falls to a lower level accounting for more than 10% of these fatalities, despite continued attempts to increase safety.

## Number of fatal injuries by top four provinces, 2018-2020



## Share of fatal injuries in construction by injury type, 2022



- Falls, Slips, Trips
- Contact with objects and equipment
- Transportation incidents
- Exposure to harmful substances or environments
- Bodily reaction or exertion
- Other

Source: National Work Injury/Disease Statistics Program (NWISP)

# National, Provincial and Territorial Fall Protection Standards

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The specific fall protection standards and regulations cited have their own variations but are consistent with one another regarding essential requirements to protect workers.

In summary, an employer must provide a fall-protection system (e.g., guardrails, PFAS) if work is to be performed at a height of three (3) metres or more, or if the surface onto

which the person might fall would present a greater risk of injury than a solid, flat surface.

A greater risk of an injury is typically defined as falling into (a) operating machinery or its moving parts; (b) water or another liquid; (c) a hazardous substance or object; (d) through an opening on a work surface; (e) a vertical distance of more than 1.2 metres from an area used as a path for a wheelbarrow or similar equipment.



## National

Canada Occupational Safety and Health Regulations, SOR/86-304, Section 12.07.

## Alberta

Occupational Health and Safety Code, 191/2021, Part 9, Fall Protection, Section 139.

## British Columbia

Occupational Health and Safety Regulations, B.C. Reg. 296/97, Part 11, Fall Protection, Sections 11.2.

## Manitoba

Workplace Safety and Health Regulation, Man. Reg. 217/2006 Part 14, Fall Protection, Sections 14.1.



# National, Provincial and Territorial Fall Protection Standards

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## Quebec

Regulation respecting occupational health and safety, O.C. 885-2001 Division XXX, Means and Equipment for Individual and Group Protection Sections 347 - 354.1 and Safety Code for the construction industry R.R.Q. 1981, c. S-2.1, r. 6, Division II, General Provisions, Section 2.9.1.

## Ontario

Construction Projects, O. Reg. 213/91, Sections 26 - 26.9 and Industrial Establishments, R.R.O. 1990, Reg. 851, Section 85, Construction Regulations, Section 26.

## Northwest Territories

Occupational Health and Safety Regulations, R-039-2015, Section 119.

## Nova Scotia

Workplace Health and Safety Regulations, N.S. Reg. 52/2013 Part 21, Fall Protection, Section 21.2.

## New Brunswick

General Regulation -N.B., Reg. 91-191, Part VII, Protective Equipment, Sections 49.

## Newfoundland and Labrador

Occupational Health and Safety Regulations, 2012, N.L.R. 5/12 Part X, Fall Protection, Section 141.

## Prince Edward Island

Fall Protection Regulations, EC2004-633.

## Nova Scotia

Workplace Health and Safety Regulations, N.S. Reg. 52/2013 Part 21, Fall Protection, Section 21.2.

# National, Provincial and Territorial Fall Protection Standards

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## Yukon

Occupational Health and Safety Regulation, O.I.C. 2006/178, Section 1.37.

## Saskatchewan

Occupational Health and Safety Regulations, 2020, Section 9-3.

## Nunavut

Occupational Health and Safety Regulations. R-039-2015, Part 7, Sections 104 to 109, and Part 9, Section 119.

## Falls in Construction Are a Leading but Avoidable Cause of Death

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Out of 193 construction fatalities in 2020, the AWCBC reports that 27 were fatal falls to a lower level. (This was surpassed only by 106 deaths due to exposure to caustic, noxious, or allergenic substances.) Government agencies and the construction industry know how important it is to raise awareness among workers and employers about common fall hazards in construction and how falls from ladders, scaffolds, and roofs can be avoided.

# Falls in Construction Are a Leading but Avoidable Cause of Death

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## **DESIGNATE** “Competent” and “Qualified” persons/workers

To help ensure the safest possible construction worksites, employers should rely on “competent” and “qualified” personnel, including supervisors or third-party consultants. A competent person has the knowledge, training, and experience to recognize, evaluate and control the hazards and risks and knowledge of the laws and regulations that apply to the work being done. A qualified person has the credentials or professional standing and extensive knowledge, training, and experience to solve problems relating to the work being done.

## **PLAN** ahead to complete the job safely

Employers must plan projects to ensure that employees work safely from heights. Begin by determining how the job will be completed, what tasks will be involved, and what safety equipment may be required for each task. Employers should include safety equipment and plan to have all necessary tools and equipment on hand at the construction site when estimating the cost of a job. Consider all of the different fall hazards, such as holes or skylights and leading edges, when planning and selecting fall protection for a roofing job, and then plan and select fall protection appropriate for that work, such as personal fall arrest systems (PFAS).

## **PROVIDE** the necessary equipment

Workers three (3) metres or more above lower levels are at risk of serious injury or death if they fall. Employers must provide fall protection and the appropriate equipment for the job, such as ladders, scaffolds, and safety gear, to protect these workers. To complete the job safely, use the appropriate ladder or scaffold. If workers are using personal fall arrest systems (PFAS) on the roof, provide a harness for each worker who needs to tie off to the anchor. Check that PFAS fits properly and that it is used safely on a regular basis.

## **TRAIN** everyone to safely use the equipment

Each employee should receive training on how to set up and operate the tools they use at work safely. Employers are required to provide workers with safety awareness training.

# The State of Construction Safety in 2023

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The industry is moving forward thanks to advancements in wearable technology and equipment as construction safety continues to change. Nevertheless, considering the number of avoidable accidents and fatalities that occur in the industry each year, a renewed dedication to safety and training is critical in 2023.

Due to the pandemic, attention to protective gear has increased dramatically during the last few years. Construction workers encounter a variety of risks, and the best response is ongoing awareness, education, regulation, and equipment.

Putting safety first is essential in lowering the high injury rate in the construction industry, and businesses that prioritize safety over other priorities can be more profitable in the long run. Don't wait to evaluate your safety procedures; everyone on the building site benefits from promoting a culture of safety.

**Preventable injuries cost the Canadian economy**

**\$29.4 Billion**

**in 2018**

(Report by Parachute for the Government of Canada)

**Falls are the leading cause of injury accounting for**

**\$10.3 Billion**

**or 35% of the total cost in 2018**

(Report by Parachute for the Government of Canada)

**Occupational Health and Safety Act penalties can cost up to \$1,500,000 for a corporation, up to**

**\$1.5 Million**

**for directors and officers (and/or up to 12 months imprisonment), and up to \$1/2 Million for all other persons and/or up to 12 months imprisonment.**

(Government of Ontario)

# What Kinds of Fall Protection Should Employers Use?



**The Employer Must Determine Whether Fall Protection Is Required**

## The responsibility for determining if fall protection is necessary falls upon the employer

In general, guardrail systems, lifeline systems, or personal fall arrest devices can be used to offer fall protection. These devices are considered conventional means of fall protection. When doing specific tasks, several fall safety technologies and techniques could be applied. For instance, a positioning device system might be employed when working on formwork. In general, fall-protection measures like guardrails protect employees from going over the side of a structure.

### Kee Guard®

Offers the best stability for all standard rooftop fall protection systems, including membrane, metal profile, and standing seam roofs. It's also very flexible and can be used on everything from complex roof shapes to those that change with elevation. Rooftop guardrail protection from Kee Guard separates your people from hazards.



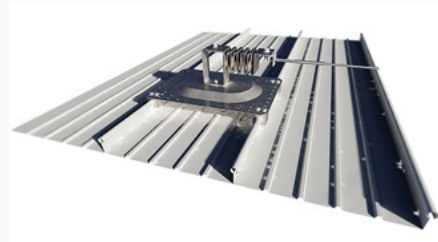
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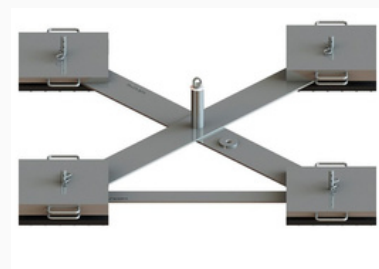
## Kee Line®

Freedom to Work. Securely Attached. The Kee Line horizontal lifeline system is designed to provide workers with freedom of movement on the rooftop while securely attached to the lifeline at all times.



## Kee Anchor®

Kee Anchor is a mobile, deadweight anchor device for use on roofs up to 5 degrees pitch, where the installation of collective protection or permanent anchor devices is not viable. Kee Anchor uses a central pedestal that allows the attachment of a safety harness and lanyard and raises the height at which the arrest force is applied.





S E P A R A T I N G   P E O P L E   F R O M   H A Z A R D S

## Safety At The Highest Level

Kee Safety is a leading manufacturer of fall prevention and safety equipment with a global focus on separating people from hazards.

Since its founding in 1934, Kee Safety has a long history of building solid partnerships, providing top-notch customer service, and pioneering innovative product development. You already know Kee Safety as your trustworthy material supplier; therefore, we ask that you also think of us as your business partner, totally dedicated to the success of your company.