Fall Protection Systems & Equipment Requirements – Know the Laws of Your Province

Vertical falls remain a leading cause of workplace injuries and OHS penalties. The preferred method of controlling fall hazards is to eliminate them completely by either getting rid of the tasks that expose workers to falls or engineering away the hazard, e.g., by bringing the task that must be performed from a dangerous height to a lower and safer elevation. Regrettably, total elimination isn't always a "reasonably practicable" solution. In these situations, employers must implement some form of physical protection from falls.

Generally, installing guardrails or fixed barriers that keep workers from falling are the first choice. Where guardrails and other forms of passive fall protection aren't reasonably practicable, employers are required to use fall protection systems in which workers are attached to a lifeline or lanyard that's securely anchored so as to prevent or stop their falls before they hit the ground.

Fall protection systems come in different varieties and use different kinds of equipment and components. OHS regulations set out specific requirements that each of these systems and their constituent components must meet. The most common approach is requiring each component to meet the requirements created by nongovernmental organizations like the Canadian

Standards Association (CSA) for the particular type of system or equipment. Accordingly, the OHS regulations of most jurisdictions include extensive citations to these standards. The most common standards are some version of:

- CSA Z259.1-05, “Body Belts and Saddles for Work Positioning and Travel Restraint”;
- CSA Z259.2.1, “Fall Arresters, Vertical Lifelines, and Rails”;
- CSA Z259.2.2, “Self-Retracting Devices for Personal Fall Arrest Systems”;
- CSA Z259.2.3, “Descent Control Devices”;
- 2.4, “Fall Arresters and Vertical Rigid Rails”;
- 2.5, “Fall Arresters and Vertical Lifelines”;
- CSA Z259.3, “Lineman’s Body Belt and Safety Strap”;
- CSA Z259.10, “Full Body Harnesses”;
- CSA Z259.11, “Energy Absorbers and Lanyards”;
- CSA Z259.12, “Connecting Components for Personal Fall Arrest Systems”;
- CSA Z259.13, “Flexible Horizontal Lifeline Systems”;
- CSA Z259.14, “Fall Restrict Equipment for Wood Pole Climbing”;
- CSA Z259.15, “Anchorage Connectors”;
- CSA Z259.16, “Design of Active Fall Protection Systems”;
- ANSI/ASSE A10.32, “Fall Protection Systems—American National Standard for Construction and Demolition Operations”;
- ANSI/ASSE Z359.1-2007, “Safety Requirements for Personal Fall Arrest Systems, Subsystems and Components”;
- CEN EN 341, “Personal Protective Equipment against Falls from a Height—Descender Devices”;
- CEN EN 353, “Personal Protective Equipment against Falls from a Height—Part 2: Guided Type Fall Arresters including a Flexible Anchor Line”;
- CEN EN 354, “Personal Protective Equipment against Falls from a Height—Lanyards”;
- CEN EN 355, “Personal Protective Equipment against Falls

from a Height—Energy Absorbers";
- CEN EN 358, "Personal Protective Equipment against Falls from a Height—Belts for Work Positioning and Restraint and Work Positioning Lanyards";
- CEN EN 361, "Personal Protective Equipment against Falls from a Height—Full Body Harnesses";
- CEN EN 362, "Personal Protective Equipment against Falls from a Height—Connectors";
- CEN 12275, "Mountaineering Equipment—Connectors—Safety Requirements and Methods";
- CEN EN 1891, "Personal Protective Equipment against Falls from a Height—Low Stretch Kermantle Ropes";
- NFPA Standard 1983, "Standard on Life Safety Rope and Equipment for Emergency Services"

While the standards are roughly the same, they also get revised every few years. Thus, the versions of the particular standard required vary from province to province. Here's a look at the fall protection systems and equipment requirements in each part of Canada.

FEDERAL

- Fall protection system must be selected in consultation with workplace JHSC or health and safety representative, based on following order of priority: (a) passive fall-protection systems like guardrails or safety nets; (b) fall-restraint systems; (c) fall-arrest system; and (d) fall hazard zone system (*COHS Regs*., Sec. 12.06(4))
- Personal fall-protection systems must meet CSA Z259.16 and CSA Z259.17
- Components of personal fall-protection systems must meet following CSA standards: (a) Z259.1; (b) Z259.2.2; (c) Z259.2.3; (d) 2.4; (e) Z259.2.5; (f) Z259.10; (g) Z259.11; (h) Z259.12; (i) Z259.13; (j) Z259.14; and (k) Z259.15
- Components of a personal fall-protection system must be

compatible and used in accordance with manufacturer's instructions

- If more than one personal fall-protection system is secured to an anchorage, a separate anchorage connector must be used for each system; 5. Employer must ensure that person using a personal fall-protection system wears and uses a full body harness; 6. Employer must ensure that, before each work shift, every employee inspects their personal fall-protection system in accordance with the fall-protection plan
- Employer must ensure that a person working on an aerial device, boom-type elevating platform, scissor lift platform, forklift truck platform or any similar personnel lifting equipment uses a fall-restraint system connected to: (a) an anchorage specified in the instructions of the manufacturer of the lifting equipment; or (b) if no anchorage is specified by the manufacturer, an anchorage certified by a person who is authorized to exercise the profession of engineering in Canada and that meets the requirements of CSA Z259.16
- If use of a fall-restraint system would prevent the person from carrying out their work, the employer must ensure that a fall-arrest system is used.

(*COHS Regs*, Sec. 12.09)

ALBERTA

Selection of fall protection system, in order of preference:

- Install a guardrail
- If guardrail not reasonably practicable, employer and supervisor must ensure worker uses a travel restraint system
- If use of a travel restraint system not reasonably practicable, employer and supervisor must ensure worker uses a personal fall arrest system

- If use of a personal fall arrest system not reasonably practicable, employer and supervisor must ensure worker uses equally effective controls

Employer must ensure that:

- Selection of fall protection system:
- A personal fall arrest system consists of a full body harness and a lanyard equipped with a shock absorber or similar device
- A full body harness manufactured on or after March 31, 2023, meets: (i) CSA Z259.10 18, (ii) ANSI/ASSE Z359.1 2007, or (iii) CEN EN 361:2007
- A body belt is used only as part of a travel restraint or fall restrict system and if it was manufactured on or after July 1, 2009, it must meet: (i) CSA Z259.1 05, (ii) ANSI/ASSE A10.32 2004, or (iii) CEN EN 358: 2000
- A lanyard is made of wire rope or other material appropriate to the hazard if a tool or corrosive agent that could sever, abrade or burn a lanyard is used in the work area—other form of fall protection required if work is near an energized conductor or other area where a lanyard made of conductive material can’t be used safely
- If a lanyard was manufactured on or after March 31, 2023, it meets: (i) CSA Z259.11 17, (ii) ANSI/ASSE Z359.1 2007, or (iii) CEN EN 354:2002
- If a shock absorber is used as part of a personal fall arrest system and was manufactured on or after March 31, 2023, it meets: (i) CSA Z259.11 17, (ii) ANSI/ASSE Z359.1 2007, or (iii) CEN EN 355:2002
- Connecting components of a fall arrest system consisting of carabiners, D rings, O rings, oval rings, self-locking connectors and snap hooks manufactured on or after March 31, 2023, meet: (i) CSA Z259.2.5 17, (ii) ANSI/ASSE Z359.1 2007, (iii) CEN EN 362:2004, or (iv) CEN 12275:1998

- A carabiner or snap hook: (a) is self-closing and self-locking, (b) may only be opened by at least 2 consecutive deliberate manual actions, and (c) is marked with its breaking strength in the major axis, and the name or trademark of the manufacturer
- A fall arrestor manufactured on or after March 31, 2023 meets: (i) CSA Z259.2.4 15, (ii) CSA Z259.2.5 17, (iii) ANSI/ASSE Z359.1 2007, or (iv) CEN EN 353 2:2002
- A self-retracting device manufactured on or after March 31, 2023 and used with a personal fall arrest system: (a) meets CSA Z259.2.2 17, (b) is anchored above the worker's head unless the manufacturer's specifications allow the use of a different anchor location, and (c) is used in a manner that minimizes the hazards of swinging and limits the swing drop distance to 1.2 metres if a worker falls
- An automatic or manual descent control device manufactured on or after July 1, 2009 and used with a personal fall arrest system meets: (i) CSA Z259.2.3 99 (R2004), (ii) CEN EN 341:1997, or (iii) NFPA 1983, Standard on Life Safety Rope and Equipment for Emergency Services, 2006 edition, classified as general or light duty
- A life safety rope manufactured on or after March 31, 2023 and used in a fall protection system meets EITHER: (i) CSA Z259.2.4-15, (i1) CSA Z259.2.517, or (iii) CEN EN 1891:1998, OR (i) CSA 2.4 15, (ii) CSA Z259.2.5 17, or (iii) ANSI/ASSE Z359.1 2007
- A life safety rope used in a fall protection system: (a) extends downward to within 1.2 metres of ground level or another safe lower surface, (b) is free of knots or splices throughout the travel portion except for a stopper knot at its lower end, (c) is effectively protected to prevent abrasion by sharp or rough edges, (d) is made of material appropriate to the hazard and able to withstand adverse effects, and (e) is installed and used in a manner that minimizes the hazards of

swinging and limits the swing drop distance to 1.2 metres if a worker falls

- Only one worker is attached to a life safety rope at any one time unless the manufacturer’s specifications or specifications certified by a professional engineer allow for attachment of more than one worker
- An adjustable lanyard manufactured on or after March 31, 2023 and used by a worker as part of a work positioning system meets either CSA Z259.11 17 or CEN EN 358:2000
- A rope adjustment device manufactured on or after July 1, 2009 and used by a worker as part of a work positioning meets: (i) CSA Z259.2.3 99 (R2004), (ii) CEN EN 341:1997, or (iii) NFPA 1983, Standard on Life Safety Rope and Equipment for Emergency Services, 2006 Edition, classified as general or light duty
- All components of a fall protection system are compatible with one another and with the environment in which they’re used
- The equipment and PPE used as part of a fall protection system is: (a) inspected by the worker as required by the manufacturer before being used on each work shift, (b) kept free from substances and conditions that could cause deterioration of the equipment and PPE, and

(c) recertified as specified by the manufacturer

- A personal fall arrest system is arranged so that a worker can’t hit the ground, an object posing an unusual possibility of injury or a level below the work area
- A personal fall arrest system without a shock absorber limits a worker’s free fall distance to 1.2 metres
- A personal fall arrest system limits the maximum arresting force on a worker to 6 kilonewtons (kN), unless the worker is using an E6 type shock absorber in accordance with the manufacturer’s specifications, in which case the maximum arresting force must not exceed 8 kN

- A permanent anchor is capable of safely withstanding the impact forces applied to it and has a minimum breaking strength per attached worker of 16 kN or 2 times the maximum arresting force in any direction in which the load may be applied
- An anchor rated at 2 times the maximum arresting force is designed, installed and used in accordance with the manufacturer's specifications, or specifications certified by a professional engineer
- A temporary anchor used in a travel restraint system: (a) has a minimum breaking strength in any direction in which the load may be applied of at least 3.5 kN per worker attached, (b) is installed, used and removed according to the manufacturer's specifications or specifications certified by a professional engineer, (c) is permanently marked as being for travel restraint only, and (d) is removed from use on the earliest of (i) the date on which the work project for which it's intended is completed, or (ii) the time specified by the manufacturer or professional engineer
- A temporary anchor used in a personal fall arrest system: (a) has a minimum breaking strength in any direction in which the load may be applied of at least 16 kN or 2 times the maximum arresting force per worker attached, (b) is installed, used and removed according to the manufacturer's specifications or specifications certified by a professional engineer, and (c) is removed from use on the earliest of: (i) the date on which the work project for which it's intended is completed, or (ii) the time specified by the manufacturer or professional engineer
- A worker visually inspects the anchor before attaching a fall protection system
- A worker doesn't use a damaged anchor until the anchor is repaired, replaced or recertified by the manufacturer or a professional engineer
- A worker uses an anchor connector appropriate to the

work

- An anchor to which a personal fall arrest system is attached is not part of an anchor used to support or suspend a platform
- A wire rope sling used as an anchor is terminated at both ends with a Flemish eye splice rated to at least 90 percent of the wire rope's minimum breaking strength
- If a worker is working from or on a fixed ladder or climbable structure at a height of 3 metres or more and is not protected by a guardrail, continuous protection from falling is provided by EITHER: (a) equipping the fixed ladder or climbable structure with an integral fall protection system that meets (i) CSA Z259.2.4 15, (ii) CSA Z259.2.5 17, or (iii) ANSI/ASSE Z359.1 2007, OR (b) an alternate fall protection system

(*OHS Code*, Part 9)

BRITISH COLUMBIA

- Employer must install guardrails or similar means of fall restraint, if practicable
- If use of a guardrail isn't practicable, employer must use another fall restraint system
- If use of another fall restraint system isn't practicable, employer must ensure use of a fall arrest system or a rope access system
- If use of a fall arrest system or rope access system isn't practicable or will result in a hazard greater than if the system wasn't used, employer must ensure that work procedures are followed that are acceptable to the Board and minimize the risk of injury to a worker from a fall
- Equipment used for a fall protection system must: (a) consist of compatible and suitable components, (b) be sufficient to support the fall restraint or arrest forces, and (c) meet, and be used in accordance with, an

applicable CSA or ANSI standard in effect when the equipment was manufactured

- In a temporary fall restraint system, an anchor for a personal fall protection system must have an ultimate load capacity in any direction in which a load may be applied of at least (a) 3.5 kN (800 lbs), or (b) 4 times the weight of the worker to be connected to the system
- Each personal fall protection system connected to an anchor must be secured to an independent attachment point
- In a temporary fall arrest system, an anchor for a personal fall protection system must have an ultimate load capacity in any direction required to resist a fall of at least (a) 22 kN (5 000 lbs), or (b) 2 times the maximum arrest force
- A permanent anchor for a personal fall protection system must have an ultimate load capacity in any direction required to resist a fall of at least 22 kN (5 000 lbs)
- A temporary horizontal lifeline system may be used if the system is: (a) manufactured for commercial distribution and installed and used in accordance with the written instructions from the manufacturer or authorized agent, and the instructions are readily available in the workplace, (b) installed and used in accordance with written instructions certified by a professional engineer, and the instructions are readily available in the workplace, or (c) designed, installed and used in a manner acceptable to the Board
- The following types of equipment and systems, and their installation, must be certified by a professional engineer: (a) permanent anchors, (b) anchors with multiple attachment points, (c) permanent horizontal lifeline systems, and (d) support structures for safety nets
- Equipment used in a fall protection system must be: (a) inspected by a qualified person before use on each workshift, (b) kept free from substances and conditions

that could contribute to its deterioration, and (c) maintained in good working order
- If, at any time, a permanent anchor does not meet the requirements of section 11.5 (c), the anchor must not be used until it has been inspected and recertified, by a professional engineer, as meeting the requirements of section 11.5 (c) of the OHS Regs.
- After a fall protection system has arrested the fall of a worker, it must be removed from service, and not returned to service until it's been inspected and recertified as safe for use by the manufacturer or its authorized agent, or by a professional engineer

(*OHS Regs*., Part 11)

MANITOBA

Employer must ensure that:

- If reasonably practicable, a guardrail system is used as a means of fall protection
- If use of a guardrail system is not reasonably practicable or would not be effective, that the worker is protected by at least one of the following fall protection systems: (a) a travel restraint system; (b) a fall arrest system; (c) a safety net; (d) another fall protection system approved by the director
- A fall protection system is designed and certified as safe by a professional engineer
- A fall protection system is installed, tested, used and maintained in accordance with the specifications certified by the professional engineer.
- Is designed, installed, tested, used and maintained in accordance with the applicable requirements of the following standards: (i) CSA Z259.1-05 (R2015), Body Belts and Saddles for Work Positioning and Travel Restraint, (ii) CAN/CSA-Z259.2.1-98 (R2011), Fall

Arresters, Vertical Lifelines, and Rails, (iii) CSA Z259.2.2-17, Self-retracting devices, (iv) CAN/CSA-Z259.2.3:16, Descent devices, (v) CSA Z259.10-18, Full Body Harnesses, (vi) CSA Z259.11-05 (R2015), Energy Absorbers and Lanyards, (vii) CSA Z259.12-16, Connecting Components for Personal Fall Arrest Systems (PFAS), (viii) CSA Z259.16-15, Design of Active Fall-Protection Systems, (ix) CSA Z259.13-16, Manufactured horizontal lifeline systems, (x) ANSI/ASSE A10.11-2010 (R2016), Safety Requirements for Personnel Nets – American National Standard for Construction and Demolition Operations;

- A safety belt is not used as part of a fall protection system at the workplace
- Equipment used as part of a fall protection system is: (a) inspected before use on each work shift by the worker who uses the system or another competent person, (b) kept free from any substance or condition that could contribute to deterioration of the equipment, and (c) maintained in good working order in accordance with the manufacturer’s specifications
- Any safety net used is inspected by a competent person before each work shift
- After a fall protection system has arrested the fall of a worker, the system isn’t returned to service until it’s been inspected and certified as safe by the manufacturer or a professional engineer
- It doesn’t use and immediately removes from service components of a fall protection system that are defective in condition or function, an employer and that such components are destroyed, repaired or returned to the manufacturer
- If any travel restraint system is used: (a) it consists of a full body harness with adequate attachment points; (b) the full body harness is attached by a lifeline or lanyard to a fixed support that meets the requirements of section 14.14 of the Regs. (fixed support system

requirements); and (c) the length of the lifeline or lanyard is selected so that the worker can only proceed to within one metre of an opening or edge

- If a fall arrest system is used, it: (a) consists of a full body harness with adequate attachment points; (b) is attached by a lifeline or lanyard to an independent fixed support that meets the requirements of subsection 14.14(1) of the Regs; (c) is designed in accordance with CSA Z259.16-15, and CSA Z259.13-16; (d) is manufactured so that a worker's free fall distance doesn't exceed 1.2 m excluding the increase in the total fall distance resulting from the use of shock absorbers; and (e) is arranged so that a worker can't hit the ground or an object or level below the work, or swing in a way that poses a risk to the safety or health of a worker
- A lanyard equipped with a shock absorber or other similar device meets CSA Z259.11-05
- A fall arrest system doesn't include a shock absorber if wearing or using one could cause a worker to hit the ground or object or level below the work
- A fall arrest system doesn't subject a worker who falls to a peak dynamic fall arrest force greater than 8 kN
- If a permanent anchorage system can't be used at a workplace, that the temporary fixed support in a travel restraint system or fall arrest system meets the following requirements: (a) when a fall arrest system without a shock absorber is used, a support used in a fall arrest system must be capable of supporting a static force of at least 8 kN without exceeding the allowable unit stress for each material used in the fabrication of the anchor point; (b) when a shock absorber is used in a fall arrest system, the support must be capable of supporting a static force of at least 6 kN without exceeding the allowable unit stress for each material used in the fabrication of the anchor point; (c) a support used in a travel restraint system must be capable of supporting a static force of at least

2 kN without exceeding the allowable unit stress for each material used in the fabrication of the anchor point

- No component of a travel restraint system or fall arrest system comes into contact with a sharp edge that could cut, chafe or abrade any component of the system
- A fall arrest system used on powered mobile equipment is attached to an anchor in accordance with the specifications of the manufacturer of the powered mobile equipment
- A full body harness used by a worker is: (a) used, maintained, adjusted and stored in accordance with the manufacturer’s specifications; and (b) is properly fitted to the worker
- A lanyard used by a worker is: (a) as short as work conditions permit; (b) equipped with suitable snap hooks; (c) free of imperfections, knots and splices, other than end terminations; (d) protected by padding where it passes over sharp edges; (e) protected from heat, flame, abrasive or corrosive materials during use; (f) used, maintained, adjusted and stored in accordance with the manufacturer’s specifications; and (g) used by only one worker at a time
- A lifeline used by a worker is: (a) suitable for the conditions in which the lifeline is to be used, having regard to factors including strength, abrasion resistance, extensibility and chemical stability; (b) free of imperfections, knots and splices, other than end terminations; (c) protected by padding where the lifeline passes over sharp edges; (d) protected from heat, flame, abrasive or corrosive materials during use; (e) fastened to a secure anchor point or anchor points; and (f) installed, used and maintained in accordance with the manufacturer’s specifications or specifications certified by a professional engineer
- If a workers uses a vertical lifeline: (a) the lower end of the vertical lifeline extends to the ground or to a

safe landing; and(b) the vertical lifeline is protected at the lower end to ensure that the line can’t be fouled by equipment

- If a worker uses a horizontal lifeline system, the specifications for the system are kept at the worksite and are readily accessible by a worker and address the following issues: (a) the arrangement of the system, including the anchorage or fixed support system; (b) the components used; (c) the number of workers that can safely be attached to it; (d) the instructions for installation or erection; and (e) the maximum load capacity of the system
- Before a permanent horizontal lifeline system from a manufacturer installed at a workplace is used, the system is certified as being properly installed according to the manufacturer’s specifications by one of the following: (a) the manufacturer; (b) a person authorized by the manufacturer; (c) a professional engineer
- Before a permanent horizontal lifeline system designed by a professional engineer that’s installed at a workplace is used, the system is certified as being properly installed according to the engineer’s specifications by a professional engineer

(*WSH Regs*., Secs. 14.3 to 14.22)

NEW BRUNSWICK

Employer must provide and employee must continually use:

- A fall-arresting system if an employee is ascending or descending a communication or power transmission tower or other similar structure
- If an employee is required to work from a wood pole or other similar wood pole structure 3 m or more above a permanent safe level: (a) a fall-arresting system when

the employee is ascending, descending or at rest, and (b) a work positioning system in addition to the fall-arresting system when the employee is performing work at the working level

- If it’s not practical to use a fall-arresting system and a work positioning system, a fall restricting system when ascending or descending and to secure themselves to the wood pole when at rest or at the working level
- Exceptions: The above requirements don’t apply: (a) if the employee will at all times remain further than 3 m from the unguarded edge of a surface with a slope of 3 in 12 or less; (b) where a firefighter is engaged in structural fire-fighting; (c) if an employee is engaged in the installation, maintenance or removal of a fall-protection system and another form of fall-protection is not practical, provided the employee has been fully instructed in work procedures and hazards and in how to protect themselves from falling; or (d) if it’s not practical to use a fall-protection system where an employee is engaged in the weatherproofing of a roof that has a total area of less than 23 m2 or of a roof of a canopy or walkway that have slopes of 3 in 12 or less, provided the employee has been fully instructed in work procedures and hazards and in how to protect themselves from falling

Owner of a place of employment, employer and a contractor must each ensure that:

- The components of a fall-protection system: (a) are designed in accordance with good engineering practices, (b) are erected, installed, assembled, used, handled, stored, adjusted, maintained, repaired and dismantled in accordance with the manufacturer’s specifications, and (c) meet the applicable CSA standards, that is: (i) Z259.1-05, “Body Belts and Saddles for Work Positioning and Travel Restraint” or Z259.1-95, “Safety Belts and

Lanyards”; (ii) Z259.2.4:15 (R2020), “Fall arresters and vertical rigid rails”, or a standard offering equivalent or better protection; (iii) Z259.2.5-17, “Fall arresters and vertical lifelines”, or a standard offering equivalent or better protection; (iv) Z259.2.2-17 (R2022), “Self-retracting devices”, or a standard offering equivalent or better protection; (v) Z259.2.3-99, “Descent Control Devices”, or a standard offering equivalent or better protection; (vi) Z259.10-18, “Full body harnesses”, or a standard offering equivalent or better protection; (vii) Z259.11-17, “Personal energy absorbers and lanyards”, or a standard offering equivalent or better protection; (viii) Z259.12-16 (R2021), “Connecting components for personal fall-arrest systems (PFAS)”, or a standard offering equivalent or better protection; (ix) Z259.14-01, “Fall Restricting Equipment for Wood Pole Climbing”, or a standard offering equivalent or better protection; (x) Z259.13-04, “Flexible Horizontal Life Line Systems”; and (xi) Z259.16-04, “Design of Active Fall-Protection Systems”

- Any fall-arresting system consists of the following: (a) a full body harness designed and rated by the manufacturer for the employee’s body type and adjusted to fit the employee; (b) a self-retracting lanyard, an energy absorbing lanyard or a lanyard and energy absorber rated by the manufacturer for the employee; (c) unless it’s a horizontal life line, an anchor point capable of withstanding a 22 kN force or, if used under the direction of a competent person, 4 times the maximum load that may be generated in the fall-arresting system
- A fall-arresting system limits: (a) free falls to the shortest distance possible, which distance can’t exceed 1.8 m or a shock level on the body of 8 kN, and (b) the total fall distance to an amount less than the distance from the work area to any safe level, water or obstruction below

- If using an energy absorber is hazardous or not practical, that the fall-arresting system: (a) not include an energy absorber, (b) not use lanyards made of wire rope or other inelastic material, and (c) limits free falls to 1.2 m
- If a fall-arresting system arrests a fall, all components, including connecting components of a fall-arresting system are: (a) removed from service and inspected by a competent person, (b) repaired to the designer's or manufacturer's specifications, or (c) destroyed when a defect is observed
- If use of a fall-arresting system is provided, that a permanent or temporary anchor point is used

Owner of a place of employment must:

- If a permanent anchor point has been provided: (a) prepare sketches showing the anchor point, (b) provide a copy of the sketches to the employee who's using anchor points before the work begins, and (c) ensure a copy of the sketches are posted conspicuously near the entrance to the roof
- Ensure that every anchor point is inspected and certified by a competent person: (a) before being used for the first time, (b) as recommended by the manufacturer, the installer or an engineer and at least every 12 months, (c) after any event or maintenance and repairs, and (d) when the owner of a place of employment is informed of a defect or inadequacy

Employer or employee must inform the owner of a place of employment immediately if they believe that any component of the anchor point is defective or inadequate

If the inspection reveals a defect or inadequacy, no one may use the anchor point and no owner of a place of employment, employer or contractor shall permit its use until the defect or inadequacy has been eliminated.

A vertical life line in a fall-arresting system must:

- Be used for its intended purposes only
- Be used by one employee at a time
- Extend to a safe level
- Be adequately secured or weighted at the base of the life line to prevent tangling or disturbance of the life line
- Be securely attached to an anchor point
- Be free of imperfections
- Be free of knots or splices, except for those that are necessary to connect the life line to an anchor point
- Be provided with protective devices at all sharp edges or corners to protect against cuts to or chafing of the life line, and
- Be clearly identified as a life line by colour or other means

When a horizontal life line system engineered to meet CSA Z259.16-04 is used, an owner of a place of employment, an employer and a contractor must each ensure that:

- The system has been installed in accordance with the design documents
- Signed and dated drawings and instructions for the life line are readily available at the place of employment
- The above drawings and instructions contain the following information: (a) the layout in plan and elevation, including anchor point locations, strengths, installation specifications, anchor point design and detailing; and (b) the specification of the horizontal life line system, including permissible free fall, the maximum arrest force, clearance to obstructions below, cable size, breaking strength, termination details, initial sag or tension, number of permitted employees, and inspection requirements

An owner of a place of employment, an employer and a

contractor must each ensure that a competent person installs a pre-engineered horizontal life line system in accordance with the manufacturer's specifications.

When a horizontal life line system is used which is neither designed nor certified by an engineer and is not a pre-engineered system, an owner of a place of employment, an employer and a contractor must each ensure that:

- The wire rope must has a diameter of a minimum of 13 mm with a breaking strength specified by the manufacturer of at least 89 kN
- Connecting hardware such as shackles and turnbuckles have an ultimate load capacity of at least 71 kN
- End anchor points have a load capacity of at least 71 kN
- The horizontal life line is free of splices except at the termination
- The span of the horizontal life line is at least 6 m and not more than 18 m
- The horizontal life line has an unloaded sag no greater than 1 in 60
- Free falls are limited to 1.2 m, and
- A minimum of 5.5 m of unobstructed clearance is available below the horizontal life line.

When a horizontal life line system is used, no more than 3 employees may be secured to the horizontal life line and the horizontal life line must be positioned so it doesn't impede the safe movement of employees

(*OHS Gen. Reg.*, Secs. 49 to 49.7)

NEWFOUNDLAND

Employer must ensure that a worker at risk of falling from a work area that's: (a) 3 metres or more above the nearest safe surface or water, (b) above a surface or thing that could cause injury to the worker if the worker were to fall on the

surface or thing; or (c) above an open tank, pit or vat containing hazardous material is provided with a proper:

- Fall arrest system
- Guardrail
- Personnel safety net
- Temporary flooring
- Another means of fall protection that provides a level of safety equal to or greater than a fall arrest system

Where used, a fall arrest system must:

- Be adequately secured to: (i) an anchorage point, or (ii) a lifeline that’s (A) securely fastened to anchor points, or (B) attached to a static line that is securely fastened to anchorage points and that’s capable of withstanding either the maximum load likely to be imposed on the anchorage point or a load of 22.2 kN, whichever is greater
- Include a lanyard that: (i) is attached to an anchorage point or lifeline, where practicable, above the shoulder of the worker, and (ii) meets CSA Z259.11 or CSA Z259.2.2
- Prevent a free fall greater than 1.22 metres where: (i) the fall arrest system isn’t equipped with a shock absorption system that meets CSA Z259.11 and that reduces the shock level of a fall to less than 4 kN, or (ii) the combined free fall and shock absorbed deceleration distance exceeds the distance between the work area and a safe surface
- Include a full body harness that: (i) is attached to a lanyard, (ii) is adjusted to fit the user of the harness, and (iii) meets CSA Z259.10
- Include connecting components that meet CSA Z259.12

Where a fall arrest system includes a lifeline, the lifeline must:

- Meet CSA Z259.2.5
- Extend to a safe surface below the work area
- Be securely attached to an anchorage point
- Be secured at the bottom of the lifeline to prevent tangling or disturbance of the line
- Be free of knots, lubricants and imperfections
- Be free of splices, except where they're necessary to connect the lifeline to an anchorage point
- Be provided with softeners at all sharp edges or corners to protect against cuts or chafing
- Be clearly identified as a lifeline by colour or by another means that provides an equivalent level of safety.

No worker may:

- Use a lifeline in a fall arrest system while that fall arrest system is being used by another worker
- Provide a rope for use, or permit a rope to be used, as a lifeline in a fall arrest system where the rope has been used for another purpose.

A ropegrab in a fall arrest system provided to a worker must meet both CSA Z259.2.4 and CSA Z259.2.5

An employer who provides a worker with a fall arrest system must ensure the fall arrest system is inspected by a qualified person before each work shift undertaken

A qualified person who carries out an inspection of a fall arrest system must advise the employer if a component of the system is defective in condition or function and the employer must ensure that the system isn't used until the defective component is replaced or repaired

Employer must ensure that a fall arrest system which has arrested the fall of a worker: (a) is removed from service and inspected by a qualified person; and (b) is repaired, before it is reused, to the original manufacturer's specifications,

where the inspection reveals that a component of the system is defective

A static line in a fall arrest system must:

- Have a nominal diameter of at least 12.7 millimetres
- Be made of improved plow wire rope
- Be equipped with vertical supports at least every 9 metres and have a maximum deflection, when taut, of no greater than 381 millimetres for a 9 metre span
- Be equipped with turnbuckles or other comparable tightening devices that provide an equivalent level of protection, at the ends of the static line
- Be equipped with softeners at all sharp edges or corners to protect against cuts or chafing
- Be made only of components able to withstand either the maximum load likely to be imposed on the components or a load of 8 kN, whichever is greater
- Meet both CSA Z259.13 and CSA Standard Z259.16 “

Special requirements apply to a fall arrest system provided to an arborist

(*OHS Regs.,* Part X)

NOVA SCOTIA

Employer must ensure that:

- If fall protection is required, that at least 1 of the following means of fall protection is used, as appropriate in the circumstances: (a) a guardrail; (b) temporary flooring; (c) a personnel safety net; (d) a travel restraint system; or (e) a fall-arrest system
- A personal travel restraint system used as a means of fall protection to restrict movement meets the latest version of CSA Z259.16
- A fall-arrest system is erected, installed, assembled,

used, handled, stored, adjusted, maintained, repaired, inspected, serviced, tested, cleaned and dismantled in accordance with manufacturer’s specifications and designed in accordance with the latest version of CSA Z259.16

- A work-positioning system is used in combination with a fall-arrest system in all of the following circumstances: (a) the centre of gravity of the person using the work-positioning system extends beyond the edge from which a person could fall; (b) the state or condition of the work surface creates a slipping or tripping hazard
- A work-positioning system isn’t used as a means of fall arrest
- A person using a personal fall-arrest system wears a full-body harness that’s used and certified in compliance with latest version of CSA Z259.10
- The design, markings and instructions of body belts used meet the latest version of CSA Z259.1
- Body belts aren’t used as a component of a fall-arrest system
- A lanyard or energy absorber used in a fall-arrest system is used and certified in compliance with the latest version of CSA Z259.11
- A lanyard used in a fall-arrest system is equipped with an energy absorber, unless all of the following conditions are met: (a) the combined free-fall distance and energy absorber deceleration distance exceed the distance between the work area and a safe surface or hazard; (b) the fall-arrest system is designed by a competent person to limit the free fall to less than 1.22 m and 8 kN arresting force; and (c) the fall-arrest system doesn’t permit the user to contact an unsafe surface
- All anchorages used as components of a fall-protection system are capable of withstanding the following forces in any direction in which the force may be applied: (a)

22 kN, for non-engineered anchorage; (b) 2 times the maximum arresting force anticipated, for an engineered anchorage

- A horizontal lifeline used as a component of a fall-protection system is: (a) designed and installed in compliance with the latest version of CSA Z259.16; and (b) used, certified and made of material in compliance with the latest version of CSA Z259.13
- A vertical lifeline used as a component of a fall-protection system is used and certified in accordance with latest version of CSA Z259.2.1
- The design, markings and instructions for a self-retracting device used as a component of a personal fall-arrest system meet the latest version of CSA Z259.2.2
- A self-retracting device used as a component of a fall-protection system is: (a) anchored above the user's head unless the manufacturer's specifications allow using a different anchorage location; and (b) used in a manner that (i) minimizes the hazards of swinging, and (ii) if the user falls, limits the distance they drop during the swing to 1.2 m
- All connecting components for a fall-arrest system are used and certified in compliance with the latest version of CSA Z259.12
- Any carabiners and snap hooks used as components of a fall-arrest system are: (a) self-closing and self-locking; and (b) only capable of being opened by a minimum of 2 consecutive and deliberate manual actions
- Each component of a fall-protection system is compatible with all of the following, as indicated in the manufacturer's specifications and instructions for use of their equipment: (a) each other component and that the safe function of any component doesn't interfere with the safe function of another component; and (b) the work conditions and conditions of the physical environment under which the equipment is to be used

(*Workplace Health and Safety Regs*., Part 21)

ONTARIO

Industrial Establishments

A worker at risk of falling onto a surface more than 3 metres below the worker's position must wear a serviceable safety belt or harness and lifeline that's adequately secured to a fixed support and so arranged that the worker can't fall freely for a vertical distance of more than 1.5 metres; and the required fall arrest system must: (a) have sufficient capacity to absorb twice the energy and twice the load that under the circumstances of its use may be transmitted to it, and (ii) be equipped with a shock absorber or other devices to limit the maximum arresting force to 8.0 kN to the worker (OHS Regs. for *Industrial Estabs.,* Sec. 85)

Construction Projects

- A worker requiring fall protection must be adequately protected by a guardrail system
- If it's not practicable to install a guardrail system, a worker must be adequately protected by the highest ranked method practicable from the following ranking of fall protection methods: 1. A travel restraint system; 2. A fall restricting system; 3. A fall arrest system, other than a fall restricting system designed for use in wood pole climbing; 4. A safety net
- Components of a required fall protection system must be designed by an engineer in accordance with good engineering practice, and meet any of the CSA standards that are applicable: (i) CSA-Z259.1-05: Body Belts and Saddles for Work Positioning and Travel Restraint; (ii) CSA-Z259.2.5-12: Fall Arresters and Vertical Lifelines; (iii) CSA-Z259.2.2-98 (R2004): Self-Retracting Devices for Personal Fall-Arrest Systems; (iv) CSA-Z259.2.3-99

(R2004): Descent Control Devices; (v) CSA-Z259.10-06: Full Body Harnesses; (vi) CSA-Z259.11-05: Energy Absorbers and Lanyards; (vii) CSA-Z259.12-01 (R2006): Connecting Components for Personal Fall Arrest Systems; (viii) CSA-Z259.14-01 (R2007): Fall Restrict Equipment for Wood Pole Climbing

- A travel restraint system must consist of a full body harness with adequate attachment points or a safety belt attached by a lifeline or lanyard to a fixed support
- A fall restricting system not designed for use in wood pole climbing must consist of an assembly of components: (a) attached to an independent fixed support; (b) designed and arranged in accordance with the manufacturer's instructions and so that a worker's free fall distance doesn't exceed 0.6 metres
- A fall restricting system designed for use in wood pole climbing must, (a) consist of an assembly of components designed and arranged in accordance with the manufacturer's instructions; and (b) not allow pole slippage in excess of the distances set out in the applicable National Standards of Canada standard
- A fall restricting system must be inspected by a competent worker before each use and any component found to be defective must be taken out of service immediately
- If a worker using the fall restricting system falls or slips more than the distance determined under the Regs., the system must be taken out of service immediately and not used again by a worker unless all components of the system have been certified by the manufacturer as being safe for re-use
- A fall arrest system must consist of a full body harness with adequate attachment points and a lanyard equipped with a shock absorber or similar device with the system attached by a lifeline or by the lanyard to an independent fixed support and arranged so that a worker can't hit the ground or an object or level below the work

- Exception: A fall arrest system must not include a shock absorber if wearing or using one could cause a worker to hit the ground or an object or level below the work
- The fall arrest system must not subject a worker who falls to a peak fall arrest force greater than 8 kN
- The fall arrest system must be inspected by a competent worker before each use with any component found to be defective taken immediately out of service
- If a worker using the fall arrest system falls, the system must be immediately removed from service and not used again by a worker unless all components of the system have been certified by the manufacturer as being safe for re-use
- A permanent anchor system must be used as the fixed support in a fall arrest system, fall restricting system or travel restraint system if (a) the anchor system has been installed according to the Building Code; and (b) It's safe and practical to use the anchor system as the fixed support
- If the conditions set out in subsection (a) above aren't met, a temporary fixed support must be used that meets the following requirements: (i) the support must be capable of supporting a static force of at least 8 kN without exceeding the allowable unit stress for each material used; and (ii) If a shock absorber is also used in the fall arrest system, the support must be capable of supporting a static force of at least 6 kN without exceeding the allowable unit stress for each material used
- A support used in a fall restricting system must be capable of supporting a static force of at least 6 kN without exceeding the allowable unit stress for each material used (unless the support is used in accordance with the manufacturer's written instructions and adequate to protect a worker
- A support used in a travel restraint system must be capable of supporting a static force of at least 2 kN

without exceeding the allowable unit stress for each material used

- The support capacity of a temporary fixed support used in a fall protection system may be determined by dynamic testing in accordance with good engineering practice to ensure that the temporary fixed support has adequate capacity to arrest a worker’s fall
- A fixed support must not have any sharp edges that could cut, chafe or abrade the connection between it and another component of the system
- Special rules apply to fall restricting systems designed for use in wood pole climbing
- A lanyard or a lifeline: (a) must not be used in such a way that it is likely to be cut, chafed or abraded; and (b) must not be subjected to extreme temperature, flame, abrasive or corrosive materials or other hazards that may damage it
- The free end of the lanyard or lifeline must be kept clear of equipment and machinery
- Only one person at a time may use a lanyard
- The connecting ends of a lanyard must be wrapped around a protective thimble and adequately fastened with a swaged fitting or eye splice supplied by the lanyard’s manufacturer
- A horizontal or vertical lifeline must be kept free from splices or knots, except knots used to connect it to a fixed support
- A vertical lifeline may be used only one worker at a time and must: (a) extend to the ground; or (b) have a positive stop that prevents the rope grab or other similar device from running off the end of the lifeline
- A horizontal lifeline system must be designed by an engineer in accordance with good engineering practice and the design, whether standard or custom, must: (a) show the arrangement of the system including the anchorage or fixed support system, (b) indicate the components used, (c) state the number of workers that

can safely be attached to it, (d) set out instructions for installation or erection, (e) show the design loads for the system, and (f) kept at the project by the constructor while the system is in use
- The horizontal lifeline system must be installed or erected, and maintained, in accordance with the engineer's design and inspected by an engineer or competent worker designated by a supervisor before each use

(*OHS Const. Projects Regs.*, Secs. 26 to 26.9)

PRINCE EDWARD ISLAND

If employer is required to provide fall protection for a worker, it must ensure that the worker is provided with:

- A fall arrest system
- A guardrail that's constructed or installed at the work area
- A personnel safety net that's installed at the work area
- Temporary flooring that's constructed or installed at the work area
- Another means of fall protection that provides a level of safety equal to or greater than a fall arrest system

If used, a fall arrest system must:

- Be adequately secured to an anchor point, or lifeline that's (A) securely fastened to an anchor point, or (B) attached to a static line securely fastened to an anchor point capable of withstanding either the maximum load likely to be imposed on the anchor point or a load of 17.8 kN, whichever is greater
- Include a lanyard (i) attached to an anchor point or lifeline, where practicable, above the shoulder of the worker, and (ii) that meets CSA Z259.11-17
- Prevent a free fall greater than 1.22 m where: (i) the

fall arrest system is not equipped with a shock absorption system that meets CSA Z259.11-17 and that reduces the shock level of any fall to less than 4 kN, or (ii) the combined free fall and shock absorbed deceleration distance exceeds the distance between the work area and a safe surface
- Include a full body harness that (i) is attached to a lanyard, (ii) is adjusted to fit the user of the harness, and (iii) meets CSA Standard Z259.10-18

Where a fall arrest system provided to a worker includes a lifeline, the lifeline must:

- Meet CSA Z259.2.4-15, or CSA Z259.2.5-17
- Extend to a safe surface below the work area
- Be secured at the bottom of the lifeline to prevent tangling or disturbance of the line
- Be securely attached to an anchor point
- Be free of knots, lubricants and imperfections
- Be free of splices, except as are necessary to connect the lifeline to an anchor point
- Be provided with softeners at all sharp edges or corners to protect against cuts or chafing
- Be clearly identified as a lifeline by colour or by another means that provides an equivalent level of safety.

No worker may (a) use a lifeline in a fall arrest system while that fall arrest system is being used by another worker; or (b) provide a rope for use, or permit a rope to be used, as a lifeline in a fall arrest system if the rope has been used for another purpose

- A ropegrab used in a fall arrest system must meet CSA Z259.2.5-17
- A self-retracting device is used as a component of a fall arrest system must meet CSA Z259.2.2-17
- The components of a fall arrest system must meet CSA

Z259.12-16

- Employer must ensure the fall arrest system is inspected by a competent person before each work shift undertaken by the worker
- The competent person who inspects a fall arrest system must advise the employer if any of the components are defective in condition or function and upon being so advised, employer must ensure that the system isn't used until every defective component is replaced or repaired
- Where a fall arrest system has arrested the fall of a worker, employer must ensure that the fall arrest system: (a) is removed from service and inspected by a competent person; and (b) is repaired, before it's reused, to the original manufacturer's specifications, if the inspection of the competent person reveals that any component of the fall arrest system is defective
- A static line included in a fall arrest system must: (a) have a nominal diameter of at least 12.7 mm; (b) be equipped with vertical supports at least every 9 m; (c) have a maximum deflection, when taut, of no greater than 381 mm for a 9 m span; (d) be equipped with turnbuckles or other comparable tightening devices that provide an equivalent level of protection, at the ends of the static line; (e) be made of Improved Plow Wire Rope; (f) be equipped with softeners at all sharp edges or corners to protect against cuts or chafing; (g) be made only of components that are able to withstand either the maximum load likely to be imposed on the components or a load of 8 kN, whichever is greater; and (h) meet both CSA Z259.13-16 and CSA Z259.16-15
- Separate rules for fall arrest systems for arborists

(*Fall Protection Regs.,* Secs. 2 and 3)

QUÉBEC

- If fall protection is required, employer must take one

or more of the following measures: (1) change the work position of workers so they can work on the ground or on another surface from which they’re not at risk of falling; (2) install guardrails or a system which, by limiting the movements of workers, prevent them from being at risk of falling; (3)use common protective devices and equipment, such as a safety net; (4) ensure that workers wear safety harnesses secured to an anchorage system by a fall arrest connecting device, when they’re working—when workers can’t position themselves without the help of their fall arrest connecting device, ensure that they also use a means of positioning, such as a plank on brackets, positioning tether or strap, a suspension cable or a platform; and/or (5) use another means that ensures equivalent safety for workers

- Where used, a full body harness must meet CSA Z259.10 and be secured by a fall arrest connecting device to an anchorage system, with the assembly limiting the maximum fall arrest force to 6 kN or the free fall distance to 1.8 m
- A fall arrest connecting device must be composed of one or more of the following: (a) a shock absorber and a lanyard meeting CSA Z259.11 ,with the lifeline, including the shock absorber, having a maximum length of 2 m; (b) a self-retracting lanyard meeting CSA Z259.2.2; (c) a rope grab meeting CSA Z259.2.5 or CSA Z259.2.4; (d) a vertical lifeline meeting CSA Z259.2.5 or CSA Standard Z259.2.4, which is never directly in contact with a sharp edge, and which must: (i) be used by one person only; (ii) be less than 90 m in length; (iii) be free of defects, knots and splices, except at the terminations of the lifeline; and (e) a connecting component, such as a spring hook, D-ring or snap hook meeting CSA Z259.12
- The fall arrest connecting device of a full body harness must be secured to one of the following anchorage

systems: (a) a single point of anchorage with one of the following characteristics: (i) a breaking strength of at least 18 kN; or (ii) it’s designed and installed in accordance with an engineer’s plan in compliance with CSA Z259.16 and, (A) has a strength equal to twice the maximum arrest force as certified by an engineer; or (B) is certified in accordance with either EN 795 or CSA Z259.15; (b) a flexible continuous anchorage system (horizontal lifeline) with one of the following characteristics: (A) it has: (i) a steel cable of a minimum diameter of 12 mm slackened to a minimum angle of 1 vertical to 12 horizontal, or 5° from horizontal; (ii) a maximum distance of 12 m between the end anchors; and (iii) end anchors with a breaking strength of at least 90 kN; (B) it’s designed and installed in accordance with an engineer’s plan in compliance with CSA Z259.13 and CSA Z259.16; and (c) a rigid continuous anchorage system designed and installed in accordance with an engineer’s plan meeting CSA Z259.16

- An anchorage system: (a) may not be used by more than 1 person at a time, except in the case of a continuous anchorage system, such as a horizontal lifeline, or a rigid anchorage system, such as a rail; (b) must be designed so that the D-ring of the suspension point of a worker’s safety harness can’t be moved horizontally by more than 3 m or an angle of 22°; and (c) must be designed so that properly attached PPE can’t be detached involuntarily
- The structure on which the anchorage system is installed must be able to withstand the effort exerted by the anchorage system in addition to the other efforts that it must ordinarily withstand
- A safety belt: (a) may be used only to limit the movement of a worker or to keep them in a working position; (b) must meet CSA Z259.1 Body Belts; and (c) May not be used as individual protective equipment to stop the fall of a worker

- A warning line must be: (a) continuous and installed on all sides of the work area that it delimits; (b) placed at a distance of 2 m or more from any place where a worker may fall from a height; (c) made of a rigid strip, a cable or a chain able to withstand a tractive force of at least 2,22 kN; (d) equipped with flags made of high-visibility materials and placed at intervals of no more than 2 m; (e) capable of withstanding a load of 100 N applied horizontally at the line's highest point or vertically at its midpoint between 2 stanchions; (f) completed at each access point, storage area or hoisting area by a path formed by 2 parallel lines not exceeding 3 m in length; and (g) installed so that the line is: (i) located between 0,7 m above the work surface at the line's lowest point and 1.2 m above that surface at its highest point; (ii) supported by stanchions placed at intervals of no more than 2,5 m; and (iii) attached to each stanchion so that pushing on the line between 2 stanchions doesn't reduce the height of the line between adjacent stanchions by an equivalent amount

(*OHS Regs*., Secs. 33.2 and 347 to 354)

SASKATCHEWAN

Employer or contractor must ensure that:

- Workers use a fall protection system at a temporary or permanent work area if: (a) a worker may fall 3 metres or more; or (b) there's a possibility of injury if a worker falls less than 3 metres
- If reasonably practicable, a worker at a permanent work area is protected from falling by a guardrail or similar barrier if the worker may fall a vertical distance of more than 1.2 metres and less than 3 metres
- If use of a guardrail or similar barrier is not reasonably practicable, that a worker uses a travel

restraint system
- If use of a travel restraint system is not reasonably practicable, that a safety net or control zone or other equally effective means that protects the worker from falling is used

Employer, contractor or owner must ensure that:

- A lifeline: (a) is suitable for the conditions in which it’s to be used, including with regard to strength, abrasion resistance, extensibility and chemical stability; (b) is made of wire rope or synthetic material; (c) is free of imperfections, knots and splices, other than end terminations; (d) is protected by padding where the lifeline passes over sharp edges; (e) is protected from heat, flame or abrasive or corrosive materials during use; (f) is fastened to a secure anchor point that: (i) has a breaking strength of at least 22.2 kN; and (ii) isn’t used to suspend any platform or other load; and (g) is maintained according to the manufacturer’s recommendation
- A temporary anchor point used in a travel restraint system: (a) has an ultimate load capacity of at least 3.5 kN (800 pounds-force) per worker attached in any direction in which the load may be applied; (b) is installed and used according to the manufacturer’s specifications; (c) is permanently marked as being for travel restraint only; and (d) is removed by the last worker from use on the earlier of: (i) the date the work project for which it is intended is completed; and (ii) the time specified by the manufacturer
- A permanent anchor point used in a travel restraint system associated with any new construction project: (a) has an ultimate load capacity of at least 8.75 kN (2,000 pounds-force) per worker attached in any direction in which the load may be applied; (b) is installed and used according to the manufacturer’s specifications; and (c)

is permanently marked as being for travel restraint only

- Anchor points to which a personal fall arrest system is attached have an ultimate load capacity of at least 22.2 kN (5,000 pounds-force) per worker attached in any direction in which the load may be applied
- The following types of equipment that are components of fall protection systems, and their installation, conform to the manufacturer's specifications or are certified by a professional engineer: (a) permanent anchor points; (b) anchors with multiple attachment points; (c) permanent horizontal lifeline systems; (d) support structures for safety nets

Employer or contractor must ensure that:

- A vertical lifeline required by the regulations has a minimum diameter of: (a) 12 millimetres, if the lifeline is made of nylon; (b) 15 millimetres, if the lifeline is made of polypropylene; or (c) 8 millimetres, if the lifeline is made of wire rope
- If a vertical lifeline is used: (a) the lower end extends to the ground or to a safe landing; and (b) the lifeline is protected at the lower end to ensure that the line can't be fouled by any equipment
- A horizontal lifeline is: (a) either: (i) designed and certified as safe by a professional engineer; or (ii) manufactured to an approved standard; and (b) installed and used in accordance with the design mentioned in clause (a) or the manufacturer's recommendations
- A personal fall arrest system and connecting linkage required by these regulations: (a) prevents a worker from falling more than 1.2 metres without a shock absorber; (b) if a shock absorber is used, prevents a worker from falling more than 2 metres or the limit specified in the manufacturer's specifications, whichever is less; (c) applies a peak fall-arrest force not greater than 8 kN to a worker; and (d) is fastened

to a lifeline or to a secure anchor point that has a breaking strength of at least 22.2 kN

- If a full body harness is used: (a) the full-body harness and connecting linkage are approved and maintained; (b) the full body harness is properly fitted to the worker; (c) the worker is trained in the safe use of the full-body harness; (d) all metal parts of the full-body harness and connecting linkage are of drop-forged steel that’s 22.2 kN proof tested; (e) a protective thimble is used to protect ropes or straps from chafing whenever a rope or strap is connected to an eye or a D-ring used in the full-body harness or connecting linkage; and (f) the connecting linkage is attached to a personal fall arrest system, lifeline or secure anchor point to prevent the worker from falling more than 1.2 metres
- Snap hooks used as an integral component of a personal fall arrest system, connecting linkage, full-body harness or lifeline are self-locking, approved and maintained
- A lanyard: (a) is as short as work conditions permit; (b) is constructed of: (i) nylon, polyester or polypropylene rope or webbing; or (ii) wire rope equipped with an approved shock absorbing device; (c) is equipped with suitable snap hooks; and (d) is approved and maintained
- If the use of a connecting linkage, personal fall arrest system, full body harness or lifeline is required by the regulations, that a competent person: (a) inspects the connecting linkage, personal fall arrest system, full-body harness or lifeline: (i) as recommended by the manufacturer; and (ii) after the connecting linkage, personal fall arrest system, full-body harness or lifeline has sustained a fall-arresting incident; and (b) determines whether the connecting linkage, personal fall arrest system, full-body harness or lifeline is safe for continued use.

- A worker inspects the connecting linkage, personal fall arrest system, full-body harness or lifeline before each use and that if a defect or unsafe condition that may create a hazard to a worker is identified in a connecting linkage, personal fall arrest system, full body harness or lifeline: (a) steps are taken immediately to protect the health and safety of any worker who may be at risk until the defect is repaired or the unsafe condition is corrected; and (b) as soon as is reasonably practicable, the defect is repaired or the unsafe condition is corrected

(*OHS Regs*., Secs. 7-16 to 7-21, 9-2 and 9-5)

NORTHWEST TERRITORIES & NUNAVUT

Employer must ensure that:

- Workers use a fall protection system at a temporary or permanent work area if: (a) a worker may fall 3 metres or more; or (b) there's a possibility of injury if a worker falls less than 3 metres
- If reasonably practicable, a worker at a permanent work area is protected from falling by a guardrail or similar barrier if the worker may fall a vertical distance of more than 1.2 metres and less than 3 metres
- If use of a guardrail or similar barrier is not reasonably practicable, that a worker uses a travel restraint system
- If use of a travel restraint system is not reasonably practicable, that a safety net or control zone or other equally effective means that protects the worker from falling is used
- A lifeline is (a) suitable for the conditions for which it's to be used, with regard to its physical factors including strength, abrasion resistance, extensibility and chemical stability; (b) made of wire rope or

synthetic material; (c) free of imperfections, knots and splices, other than end terminations; (d) protected by padding where the lifeline passes over sharp edges; (e) protected from heat, flame or abrasive or corrosive materials during use; (f) fastened to a secure anchor point that (i) has a breaking strength of not less than 22.2 kN, and (ii) isn't used to suspend any platform or other load; and (g) maintained according to the manufacturer's specifications

- A vertical lifeline required by the OHS regulations has a minimum diameter of: (a) 12 mm if the lifeline is made of nylon; (b) 15 mm if the lifeline is made of polypropylene; or (c) 8 mm if the lifeline is made of wire rope
- If a vertical lifeline is used: (a) the lower end extends to the ground or to a safe landing; and (b) the lifeline is protected at the lower end to ensure that the line can't be fouled by any equipment
- A horizontal lifeline is: (a) either (i) designed and certified by a professional engineer, or (ii) manufactured to an approved standard; and (b) installed and used in accordance with the design or standard referred to in paragraph (a) or the manufacturer's specifications
- A personal fall arrest system and connecting linkage required by the regulations are each approved and maintained
- A personal fall arrest system required by the regulations: (a) prevents a worker from falling more than 1.2 m without a shock absorber; (b) if a shock absorber is used, prevents a worker from falling more than 2 m or the limit specified by the manufacturer's specifications, whichever is less; (c) applies a peak fall arrest force not exceeding 8 kN to a worker; and (d) is fastened to a lifeline or a secure anchor point that has a breaking strength of no less than 22.2 kN
- If a full body harness required by these regulations is

used, that: (a) the full body harness and connecting linkage are each approved and maintained; (b) the full body harness is properly fitted to the worker; (c) the worker is trained in the safe use of the full body harness; (d) all metal parts of the full body harness and connecting linkage are of drop-forged steel 22 kN proof tested; (e) a protective thimble is used to protect ropes or straps from chafing whenever a rope or strap is connected to an eye or a D-ring used in the full body harness or connecting linkage; and (f) the connecting linkage is attached to a personal fall arrest system, lifeline or secure anchor point to prevent the worker from falling more than 1.2 m

- A snap hook used as an integral component of a personal fall arrest system, connecting linkage, full body harness or lifeline is self-locking, approved and maintained
- A lanyard is: (a) as short as work conditions permit; (b) constructed of (i) nylon, polyester or polypropylene rope or webbing, or (ii) wire rope equipped with an approved shock absorbing device; (c) equipped with suitable snap hooks; and (d) approved and maintained
- If the regulations require use of a connecting linkage, personal fall arrest system, full body harness or lifeline, that a competent individual: (a) inspects it in accordance with the manufacturer’s recommendations; (b) inspects it after it has been used to arrest a fall; and (c) determines whether it is safe for continued use
- A worker inspects a connecting linkage, personal fall arrest system, full body harness or lifeline before each use and that if it has a defect or is in a condition that could endanger a worker: (a) steps are taken, without delay, to protect the health and safety of any worker who could be endangered until the defect is repaired or the condition is corrected; and (b) as soon as is reasonably possible, the defect is repaired or the condition is corrected

- An anchor point or anchor plate meeting the requirements of the regs. is used as part of a personal fall arrest or travel restraint system used by a worker
- A temporary anchor point used in a travel restraint system: (a) has an ultimate load capacity of no less than 3.5 kN per worker attached in any direction that a load could be applied; (b) is installed and used according to the manufacturer's specifications; (c) is permanently marked as being for travel restraint only; and (d) is removed from use on the earlier of (i) the date the work project for which it is intended is completed, and (ii) the time specified by the manufacturer
- A permanent anchor point used in a travel restraint system: (a) has an ultimate load capacity of no less than 22.5 kN per worker attached in any direction that a load could be applied; (b) is installed and used according to the manufacturer's specifications; and (c) is permanently marked as being for travel restraint only
- Anchor points to which a personal fall arrest system is attached have an ultimate load capacity of no less than 8.75 kN per worker attached in any direction that a load could be applied
- The following types of equipment that are components of fall protection systems, and their installation, conform to the manufacturer's specifications or are certified by a professional engineer: (a) permanent anchor points; (b) anchors with multiple attachment points; (c) permanent horizontal lifeline system; (d) support structures for safety nets

(*OHS Regs*., Secs. 103 to 109, 119 and Sec. 122)

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- If it's not practical to protect a worker who's at risk of vertical fall hazards by using guards, guardrails,

safety nets or other devices, the worker must be provided with and required to use the appropriate fall arrest protection

- A worker using a personal protection system for fall arrest must wear: (a) a full body harness or other acceptable harness or device meeting CSA Z259.10-M90, or other similar standard acceptable to the board; and (b) an energy absorbing system meeting CSA Standard Z259.11-05 or other similar standard acceptable to the board
- A worker using a personal protection system for fall restraint must wear a safety belt, full body harness or other such acceptable harness or device and lanyard meeting CSA Z259.1-95, or other similar standard acceptable to the board
- A vertical lifeline must meet CSA Z259.2.1-98, or other similar standard acceptable to the board, and be: (a) secured independently to an anchor with adequate strength, (b) padded or protected at points of attachment and everywhere else the lifelines may come in contact with sharp or abrasive edges, (c) used to protect only one worker per line, (d) first grade, three strand, hawser laid manila rope of no less than 0.019 m (3/4 in.), having a breaking strength of no less than 24 kN (5400 lbs.), or synthetic or wire rope of at least equal strength, (e) wire rope or wire-cored manila rope if there’s a possibility of the line being cut, burned or other quick severing incidence, (f) non-conductive and used in duplicate (2 lines per worker), where workers are using the lifelines in proximity of an energized electrical line, (g) less than 90 m (300 ft.) in length, and (h) extended to within 3 m (10 ft.) of the ground or other safe landing
- A horizontal lifeline used as a temporary system of fall restraint must: (a) be designed to provide an ultimate load capacity of at least 3.5 kN (800 lbs.) for each worker connected to it, and (b) be either certified by a

professional engineer as meeting the requirements of a permanent system as outlined in section 1.42 of the WSC Regs., or (c) meet the following requirements: i. the horizontal lifeline must be a minimum of 0.012 m (1/2 in.) diameter wire rope with a breaking strength of at least 89 kN (20,000 lbs.), ii. the horizontal lifeline must be free of splices except at the terminations, iii. all connecting hardware and end anchors must have ultimate load capacity of at least 71 kN (16,000 lbs.), iv. the lifeline must span at least 6 m (20 ft.) and no more than 18 m (60 ft.), v. the unloaded sag in the lifeline must be approximately equal to the span length divided by 60, with a minimum elevation of 1 m (39 in.) above the work surface, vi. any free fall distance must be limited to 1.2 m (4 ft.), vii. a minimum of 3.5 m (12 ft.) of unobstructed clearance must be available below the working surface, viii. no more than 3 workers may be secured to a horizontal lifeline, and ix. the lifeline must be positioned so it doesn’t impede safe movement of a worker

- A permanent horizontal lifeline must be designed by a professional engineer, who must provide the workplace with signed and dated drawings and instructions for the lifeline system, indicating: (a) the layout in plan and elevation, including anchor locations, installation specifications, anchor design and detailing, (b) system specifications that include permissible free fall distance, clearance to obstructions below, and rope size, breaking strength, termination details and initial sag or tension, (c) the number of workers permitted to connect to the lifeline, and maximum arrest force to each worker, and (d) written certification that the lifeline system has been installed in accordance with the design documents
- Workers using lifelines and lanyards shall ensure that they are: (a) free of knots or splices except at their terminals, and (b) capable of limiting the worker’s free

fall to less than 1.2 m (4 ft.)

- Where a fall restraint system is used, it must be: (a) rigged to allow the movement of workers only as far as the edge of the roof, (b) attached to a secure anchor capable of supporting the loads that may be applied to it, and (c) Installed and used in conformance with CSA Z259.1-05, or other similar standard acceptable to the board

(*WSC Regs*., Secs. 1.37, 1.39 to 1.43 and 10.13)