Fall Arrest Anchor Requirements

Summary:

	Permanent	Temporary (w/o Shock Absorber)	Temporary (w/ Shock Absorber)
Canada	17.8kN		
Alberta	16kN, or 2x MAF	16kN, or 2 x maximum arrest force	
British Columbia	22kN	22kN, or 2 x maximum arrest force	
New Brunswick	22kN or 4 x maximum arrest force		
Newfoundland	Greater of 22.2kN or maximum arrest force		
Northwest Territories	22.2kN		
Nova Scotia	22kN or 2 x maximum arrest force		
Nunavut	17.8kN or 2 x maximum arrest force		
Manitoba	22.2kN	8kN	6kN
Ontario	Per Building Code	8kN	6kN
Prince Edward Island	Greater of 17.8kN or maximum arrest force		
Quebec	18kN		
Saskatchewan	22.2kN		
Yukon	??		

Note: Manitoba and Ontario temporary anchors a recommended factor of safety of at least 2 for design

Code:

Canada

Canada Occupational Health and Safety Regulations (SOR/86-304) - Clause 12.10 (3)

http://laws-lois.justice.gc.ca/eng/regulations/SOR-86-304/page-31.html#h-167

(3) The anchor of a fall-protection system shall be capable of withstanding a force of 17.8 kN.

Alberta

Occupational Health and Safety Act – Part 9 Section 152-152.1

http://work.alberta.ca/SearchAARC/1109.html
http://work.alberta.ca/SearchAARC/1101.html

Section 152 Anchor strength – permanent

(1) An employer must ensure that 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 kilonewtons or two times the maximum arresting force in any direction in which the load may be applied.

(2) Subsection (1) does not apply to anchors installed before July 1, 2009.

(3) Subsection (1) does not apply to the anchors of flexible horizontal lifeline systems that must meet the requirements of subsection 153(1).

(4) The employer must ensure that an anchor rated at two times the maximum arresting force is designed, installed and used in accordance with
(a) the manufacturer's specifications, or
(b) specifications certified by a professional engineer.

Section 152.1 Anchor strength – temporary

(1) An employer must ensure that 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 kilonewtons 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 is intended is completed, or
(ii) the time specified by the manufacturer or professional engineer.

(2) An employer must ensure that 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 kilonewtons or two 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 is intended is completed, or
(ii) the time specified by the manufacturer or professional engineer.

British Columbia

B.C. Reg. 296/97 - Clause 12.10 (3)

http://www.bclaws.ca/civix/document/LOC/complete/statreg/--%20W%20--/Workers%20Compensation%20Act%20[RSBC%201996]%20c.%20492/05_Regulations/15_296_97%20-%20Occupational%20Health%20and%20Safety%20Regulation/296_97_08.xml#part11

11.6 (1) 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) four times the weight of the worker to be connected to the system.

(2) Each personal fall protection system that is connected to an anchor must be secured to an independent attachment point.

(3) 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) two times the maximum arrest force.

(4) 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).

[en. B.C. Reg. 420/2004, s. 6; am. B.C. Regs. 19/2006, s. 3; 404/2012, App. A, s. 2.]

Manitoba

Workplace Safety and Health Regulation, M.R. 217/2006 - Clause 14.14

http://web2.gov.mb.ca/laws/regs/current/217.06.pdf

Fixed support system requirements

14.14(1) The owner of a building or structure must ensure that a permanent anchorage system used as the fixed support in a travel restraint system or fall arrest system for that building meets the following requirements:

(a) the anchor has an ultimate capacity of at least 22.2 kN in any direction in which the load may be applied for each worker attached;

(b) the anchorage system is certified by a professional engineer as having the required load capacity;

(c) where the anchorage system is used in conjunction with a suspended work platform, the system is designed, constructed and used in accordance with CAN/CSA Standard-Z91-02, Health and Safety Code for Suspended Equipment Operations and CAN/CSA-Z271-98 (R2004), Safety Code for Suspended Elevating Platforms.

14.14(2) When a permanent anchorage system cannot be used at a workplace, an employer must ensure 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.

New Brunswick

Occupational Health and Safety Regulation (91-191) - Clause 49.2

http://laws.gnb.ca/en/ShowPdf/cr/91-191.pdf

49.2(1) An owner of a place of employment, an employer and a contractor shall each ensure that any fall arresting system consists of the following:

(a) a full body harness that is 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 that is rated by the manufacturer for the employee;
(c) unless it is a horizontal life line, an anchor point that is capable of withstanding a 22 kN force or, if used under the direction of a competent person, four times the maximum load that may be generated in the fall-arresting system

Newfoundland

Occupational Health and Safety Regulations ((O.C. 2012-005)) - Clause 142

http://www.assembly.nl.ca/legislation/sr/regulations/rc120005.htm#140_

142. (1) A fall arrest system that is provided in accordance with section 141 shall

(a) be adequately secured to
(i) an anchorage point, or

(ii) a lifeline that is

(A) securely fastened to anchor points, or

(B) attached to a static line that is securely fastened to anchorage points and that is capable of withstanding either the maximum load likely to be imposed on the anchorage point or a load of 22.2 kilonewtons, whichever is the greater;

Northwest Territories

OCCUPATIONAL HEALTH AND SAFETY REGULATIONS R-039-2015 - Section 104

http://www.wscc.nt.ca/sites/default/files/documents/NEW%20OHS%20REGS.pdf

104. (1) An employer shall ensure that a personal fall arrest system and connecting linkage required by these regulations are each approved and maintained.

(2) An employer shall ensure that a personal fall arrest system required by these 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 to a secure anchor point that has a breaking strength of not less than 22.2 kN

Nova Scotia

Workplace Health and Safety Regulations made under Section 82 of the Occupational Health and Safety Act S.N.S. 1996 - Clause 21.15

https://www.novascotia.ca/just/regulations/regs/ohsworkplace.htm#TOC3_37

21.15 An employer must ensure that 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.

Nunavut

CONSOLIDATION OF GENERAL SAFETY REGULATIONS R.R.N.W.T. 1990,c.S-1 - Section 58

http://www.wscc.nt.ca/sites/default/files/documents/General%20safety%20Regs%20%28NU%29%20EN_0.pdf

58. An employer shall ensure that

(a) safety-belts, body harnesses and lanyards used by a worker comply with the following standards, as amended from time to time, of the Canadian Standards Association:
(i) CAN/CSA-Z259.1-95, Safety Belts and Lanyards;
(ii) Z259.2-M1979, Fall-Arresting Devices, Personnel Lowering Devices, and Life Lines;
(iii) CAN/CSA-Z259.10-M90, Full Body Harness;
(iv) CAN/CSA-Z259.11-M92, Shock Absorbers for Personal Fall Arrest Systems; General Safety Regulations, Consolidation of Current to: 2010-04-01 16 R.R.N.W.T. 1990,c.S-1
(b) a lifeline or lanyard is protected by padding where it passes over sharp edges;
(c) a lifeline is
(i) free of knots of splices except at its terminals,
(ii) not attached to the same anchor points as the suspension lines of a work platform, and
(iii) attached to a fixed anchor capable of supporting twice the shock load that may be applied;
(d) a safety-belt, body harness, lanyard or lifeline is assembled and used in a manner that will limit the free fall of a worker to 1.25 m (4.1 ft.);
(e) metal parts of, or hardware attached to, a safety-belt, body harness, lanyard or lifeline are of drawn, rolled or forged metal with a load arresting capacity of not less than 17.8 kN (4,000 lbf);

Ontario

O. Reg. 213/91: CONSTRUCTION PROJECTS under Occupational Health and Safety Act, R.S.O. 1990, c. O.1 - Clause 26.7

https://www.ontario.ca/laws/regulation/910213

26.7 (1) A permanent anchor system shall be used as the fixed support in a fall arrest system, fall restricting system or travel restraint system if the following conditions are met:

1. The anchor system has been installed according to the Building Code.

2. It is safe and practical to use the anchor system as the fixed support. O. Reg. 145/00, s. 14.

(2) If the conditions set out in subsection (1) are not met, a temporary fixed support shall be used that meets the following requirements:

1. Subject to paragraph 2, a support used in a fall arrest system shall be capable of supporting a static force of at least 8 kilonewtons without exceeding the allowable unit stress for each material used.

2. If a shock absorber is also used in the fall arrest system, the support shall be capable of supporting a static force of at least 6 kilonewtons without exceeding the allowable unit stress for each material used.

3. Subject to paragraph 4, a support used in a fall restricting system must be capable of supporting a static force of at least 6 kilonewtons without exceeding the allowable unit stress for each material used.

4. Paragraph 3 does not apply to a support that is used in accordance with the manufacturer’s written instructions and is adequate to protect a worker.

5. A support used in a travel restraint system shall be capable of supporting a static force of at least 2 kilonewtons without exceeding the allowable unit stress for each material used. O. Reg. 145/00, s. 14.

(3) Despite the requirements listed in subsection (2), 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. O. Reg. 145/00, s. 14.

Prince Edward Island

Occupational Health and Safety Act – Fall Protection Regulations – Clause 3.2(1)(a)(ii)(B)

http://www.gov.pe.ca/law/regulations/pdf/O&01-01-1.pdf

2(1), to a worker at a work area as a means of fall protection shall

(a) be adequately secured to

(i) an anchor point, or

(ii) a lifeline that is

(A) securely fastened to an anchor point, or

(B) attached to a static line that is securely fastened to an anchor point that is 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

Quebec

O.C. 885-2001, s. 348

http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=3&file=/S_2_1/S2_1R13_A.HTM

348. Anchorage point: The anchorage point for a safety harness lifeline shall be attached in one of the following ways:

(1) be anchored to some point with a tensile strength at break of at least 18 kN;

(2) be attached to a sliding sleeve in compliance with the CAN/CSA Z259.2-M1979 standard Fall-arresting Devices, Personal Lowering Devices and Life Lines;

(3) be attached to a horizontal lifeline and anchorage point system, designed by an engineer, as demonstrated by a plan or certification available on the premises where such work is performed.

Saskatchewan

10 Aug 2007 SR 67/2007 s8.

http://www.qp.gov.sk.ca/documents/English/Regulations/Regulations/O1-1R1.pdf

102(1) An employer or contractor shall ensure that a personal fall arrest system and connecting linkage required by these regulations are approved and maintained.

(2) An employer or contractor shall ensure that a personal fall arrest system required by these regulations:

(a) prevents a worker from falling more than 1.2 metres without a shock absorber;
(b) where a shock absorber is used, prevents a worker from falling more than two metres or the limit specified in the manufacturer's specifications, whichever is less;
(c) applies a peak fall-arrest force not greater than eight kilonewtons 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 kilonewtons.