PRESIDING REGULATORY AUTHORITY REFERENCE

Society of Professional Rope Access Technicians
994 Old Eagle School Road, Suite 1019
Wayne, PA 19087 USA
www.sprat.org
info@sprat.org

Version 21B Board Approved July 2021, editorial updates February 2022
RAC-02

Revision History:
Version 21B Board Approved July 2021, editorial updates February 2022

Table of Contents:

Notes for Use:

For the most recent standards versions, supporting documentation, and news, visit https://sprat.org.

Any errors, omissions, or potential updates should be reported to SPRAT at info@sprat.org.

Terminology and conversion values of this document reflect those of the presiding regulatory authority and may differ from other SPRAT documentation.

1. Purpose, Scope, and Exceptions

1.1. Purpose

1.1.1. The purpose of this document is to provide a resource to assist conducting work involving rope access and other forms of fall protection in accordance with the presiding regulatory authority.

1.1.2. This document is intended for use by:

1.1.2.1. ***Employers*** managing a fall protection program that may include the use of rope access.

1.1.2.2. ***Rope access technicians*** that use ***rope access systems*** and other fall protection systems.

1.2. Scope

1.2.1. This document provides an overview of the presiding regulatory authority structure and regulations as they pertain to rope access and other forms of fall protection.

1.2.2. System and component requirement values and references for rope access and other fall protection systems are provided when referenced within regulations.

1.3. Exceptions

1.3.1. This document is not a substitute for consulting a ***presiding regulatory authority*** regarding the regulations that may be applicable where work is conducted using ***rope access systems*** or other fall protection systems.

1.3.2. This document does not provide interpretations of values or other regulatory information.

2. Australia

2.1. General Information

2.1.1. Regulatory Structure

2.1.1.1. Safe Work Australia develops model regulations and codes of practice for adoption by the various Australian presiding regulatory authorities.

2.1.1.1.1. Model WHS regulations

2.1.1.1.2. Model codes of practice

2.1.1.1.2.1. Managing the Risk of Falls at Workplaces (MRFW)

2.1.1.2. These model WHS regulations and codes of practice must be adopted by a presiding regulatory authority to become enforceable.

2.1.2. Relevant Standards Development Organization

2.1.2.1. Standards Australia/Standards New Zealand (AS/NZ) develops standards related to work at height.

2.1.2.2. Model codes of practice reference these standards for compliance.

2.1.3. General Regulatory References

2.1.3.1. Commonwealth – Legislation

2.1.3.2. New South Wales – Legislation

2.1.3.3. Northern Territory – Legislation

2.1.3.4. Queensland – Legislation

2.1.3.5. South Australia – Legislation

2.1.3.6. Tasmania – Legislation

2.1.3.7. Victoria – Legislation

2.1.3.8. Western Australia – Legislation

2.2. Australia – (Safe Work Australia)

2.2.1. General References

Category	Reference	Notes
Overview	Model WHS, MRFW	Section 4.4 of Model WHS - Falls
General Duty	MRFW 1.1	
Rope Access	MRFW, AS4488 (ISO 22846)	AS4488 superseded by ISO 22846
Fall Protection	MRFW	
Platforms	MRFW	
Rope descent systems	*Not referenced*	
Training	MRFW	

2.2.2. System Requirements

Category	Value	Reference	Notes
Trigger height for fall protection	*None*	MRFW	"reasonably likely to cause injury"
Allowable free fall distance	2 m (6.5 ft)	MRFW 6.3	
Distance from unprotected edge	3 m	MRFW 6.2, 2.2	If using rope access. None for risk assessment
Maximum arrest force (MAF)	6 kN	AS1891.4(2.1.2)	
Maximum deceleration distance	1.7 m	MRFW Figure 21	Energy absorber deployment
Rescue	Procedures	MRFW 9	

2.2.3. Component Requirements

Category	Value(s)	Reference	Notes
Anchorages			
Rope access	12kN	AS1891.4, AS4488(ISO 22846)	AS4488 superseded by ISO 22846 Recommended 15 kN
Fall arrest	12 kN – limited 15 kN – free-fall 21 kN – 2-person	AS1891.4	Limited free-fall-arrest is less than 600 mm. Free-fall-arrest is greater than 600 mm
Positioning	*Not referenced*		AS1891.4 refers to rope access
Travel restraint	12 kN or 15 kN	AS1891.4(3)	
Rope descent systems	*Not referenced*		
Harness	Full body	MRFW 5.1	
Dorsal	☒ Yes ☐ No	AS1891.1(3.2)	Free-fall-arrest only
Sternal	☒ Yes ☐ No	AS1891.1(3.2)	Free-fall-arrest and limited free-fall-arrest
Ventral	☒ Yes ☐ No	AS1891.1(3.2)	Free-fall-arrest and limited free-fall-arrest
Connectors	20 kN	AS1891.1 (ISO 10333-5)	Carabiners self-closing, with lock. (15kN acceptable in some assemblies)
Energy absorbing lanyards	Ref standards	AS1891.4	
Self-retracting devices	Ref standards	AS1891.3	
Vertical lifelines	Ref standards	AS1891.3, AS 4142	
Horizontal lifelines	12kN or 15kN	AS1891.2	'equivalent strength'
Personal protective equipment			
Inspection requirements	Pre-use Detailed – 6 months	AS1891.4(9)	*MRFW* refers to 'detailed' inspections. See Table 9.1 in AS1891.4

3. Canada

3.1. General Information

3.1.1. Regulatory Structure

3.1.1.1. National worksite safety laws apply only to activities that could be carried out in several provinces during the same work day.

3.1.1.2. Regulations for worksite safety is of provincial jurisdiction.

3.1.1.3. The following provinces have regulations specific to rope access:

3.1.1.3.1. Alberta

3.1.1.3.2. British Columbia

3.1.2. Relevant Standards Development Organization

3.1.2.1. The Canadian Standard Association (CSA) publishes standards relative to worksite safety for application in Canada.

3.1.2.2. When incorporated into regulation, these standards are publicly available at https://community.csagroup.org/login.jspa?

3.1.3. General References

3.1.3.1. Alberta

3.1.3.2. British Columbia

3.1.3.3. Manitoba

3.1.3.4. New Brunswick

3.1.3.5. Newfoundland and Labrador

3.1.3.6. Nova Scotia

3.1.3.7. Ontario

3.1.3.8. Prince Edward Island

3.1.3.9. Quebec

3.1.3.10. Saskatchewan

3.1.3.11. Northwest Territories and Nunavut,

3.1.3.12. Yukon

3.2. Alberta – (Occupational Health and Safety - OHS)

3.2.1. General References

Category	Reference	Notes
Overview	OHS Code	Explanation guide (superseded)
Rope Access	Part 41	
Fall Protection	Part 9	
Platforms	Part 23	
Rope descent systems	Part 9	
Training	Part 9 Section 141 Part 41 Section 812, 826	

3.2.2. System Requirements

Category	Value	Reference	Notes
Trigger height for fall protection	3m	Part 9 Section 139 Part 41 Section 808	See sub-clauses for details
Allowable free fall distance	No maximum, 1.2 m – no energy absorber	Part 9 Section 151	See sub-clauses for details
Distance from unprotected edge	2 m	Part 9 Section 161	See sub-clauses for control zone details
Maximum arrest force (MAF)	6 kN, 8kN if E6 used	Part 9 Section 151 Part 41 Section 828	8kN allowance only in Part 9
Maximum deceleration distance	*Not referenced*		See Part 9 Section 151
Rescue	Plan and procedures	Part 7 Part 9 Section 140 Part 41 Section 811, 821, 822	Part of emergency response and fall protection plan

3.2.3. Component Requirements

Category	Value(s)	Reference	Notes
Anchorages			
Rope access	16 kN or 2x MAF	Part 41 Section 829	Per worker attached.
Fall arrest	16 kN or 2x MAF	Part 9 Section 152	See sub-clauses for temporary and permanent anchorage details
Positioning	*Not referenced*		
Travel restraint	3.5 kN	Part 9 Section 152.1	Temporary only
Rope descent systems	16 kN or 2x MAF	Part 41 Section 829	Per worker attached.
Harness	Full body	Part 9 Section 142 Part 41 Section 834	Body belt allowed for travel restraint
Dorsal	*Not referenced*		
Sternal	☒ Yes ☐ No	Part 41 Section 830(4)	
Ventral	*Not referenced*		
Connectors	Ref standards	Part 9 Section 143 Part 41 Section 835	
Energy absorbing lanyards	Ref standards	Part 9 Section 142.2, 142.3	
Self-retracting devices	Ref standards	Part 9 Section 145	
Vertical lifelines	Ref standards	Part 9 Section 144, 147 Part 41 Section 838	
Horizontal lifelines	Ref standards	Part 9 Section 153	
Personal protective equipment		Part 18	
Inspection requirements	Before use	Part 9 150.1	

3.3. British Columbia – (WorkSafe BC)

Category	Reference	Notes
Overview	OHS Code	OHS Guidelines
General Duty	Part 2. 2	
Rope Access	Part 34	
Fall Protection	Part 4 Part 11	
Platforms	Part 13	
Rope descent systems	None	See Part 13
Training	Part 34.4	See also G11.2(6)-1

3.3.1. System Requirements

Category	Value	Reference	Notes
Trigger height for fall protection	3m (10')	Part 11.2 (1) (a)	Part 34.2 refers to Part 11.2
Allowable free fall distance	2 m (6.5 ft) - energy absorber 1.2 m (4 ft) - no energy absorber	G11.5-3	Guidelines only See also G11.2-3
Distance from unprotected edge	2m (6.5')	G11.2(5)-1	Guidelines only: Safety monitor system
Maximum arrest force (MAF)	Part 34 - 6kN	Part 34.15(2)(a)	No MAF in Part 11
Maximum deceleration distance	Not referenced		
Rescue	Prompt	Part 34.8	See also Part 32

3.3.2. Component Requirements

Category	Value(s)	Reference	Notes
Anchorages			
Rope access	22kN (5000 lbf) permanent 12kN (2700lbf) temporary	Parts 34.12, 34.13	See sub-clauses
Fall arrest	22kN (5000 lbf) or 2x MAF	Part 11.6	See sub-clauses. 2x MAF for temporary only
Positioning	*Not referenced*		
Travel restraint	3.5kN (800lbf) or 4x worker weight	Part 11.6(1)(a)(b)	Temporary only
Rope descent systems	*Not referenced*		Part 13 references Part 11 for fall protection
Harness	Full body	Parts 11.4, 11.5(c) Schedule 34-A	See subclauses
Dorsal	*Not referenced*		
Sternal	*Not referenced*		
Ventral	*Not referenced*		
Connectors	Ref standards	Part 11.5(c) Schedule 34-A	
Energy absorbing lanyards	Ref standards	Part 11.5(c) Schedule 34-A	
Self-retracting devices	Ref standards	11.5(c)	None
Vertical lifelines	Ref standards	Part 11.5(c)	See G11.5.2
Horizontal lifelines	Ref manufacturer or engineer	Parts 11.7, 11.8	
Personal protective equipment		Part 8	
Inspection requirements	Before use	Part 11.9 Part 34.10	See also Part 32.4. 32.5, and guidelines

3.4. Newfoundland & Labrador – (Service NL)

3.4.1. General References

Category	Reference	Notes
Overview	Regulation 5/12	
General Duty	Section 14	
Rope Access	*Not referenced*	See Section 141(h)
Fall Protection	Part X	
Platforms	Part XI	
Rope descent systems	*Not referenced*	
Training	Part X Section 139	

3.4.2. System Requirements

Category	Value	Reference	Notes
Trigger height for fall protection	3m (10')	Section 141(a)	
Allowable free fall distance	1.44 m (4 ft) - no 'shock absorption system'	Section 142(c)	See sub-clauses
Distance from unprotected edge	2 m (6.6 ft)	Section 29(1)	See sub-clauses. Roof less than 3/12 grade.
Maximum arrest force (MAF)	*Not referenced*		
Maximum deceleration distance	*Not referenced*		
Rescue	Plan and procedures	Section 38 Section 142(10)(b)	

3.4.3. Component Requirements

Category	Value(s)	Reference	Notes
Anchorages			
Rope access	*Not referenced*		
Fall arrest	22.2 kN (5000 lbf)	Section 142	Horizontal lifelines only
Positioning	*Not referenced*		
Travel restraint	*Not referenced*		
Rope descent systems	*Not referenced*		
Harness	Full body, Z259.10	Section 142(d)(iii)	
Dorsal	*Not referenced*		
Sternal	*Not referenced*		
Ventral	*Not referenced*		
Connectors	*Not referenced*		
Energy absorbing lanyards	CSA Z259.11		
Self-retracting devices	*Not referenced*		
Vertical lifelines	CSA Z259.2.1	Section 142 (2)&(4)	
Horizontal lifelines			Static line
Personal protective equipment		Part VII	
Inspection requirements	Before use	Section 142(5)	

3.5. Ontario – (Ministry of Labor – Health and Safety)

3.5.1. General References

Category	Reference	Notes
Overview	OHS Act RSO	
General Duty		
Rope Access	MOL Guidance	Not in regulation See 859/90|3 (Window Cleaning)
Fall Protection	213|91 – Construction 851|90 - Industrial	
Platforms	213/91|126-136.0.1	
Rope descent systems	213/91|125,136.1-142.06 859/90 (Window Cleaning)	
Training	213/91}26.2 297/13	

3.5.2. System Requirements

Category	Value	Reference	Notes
Trigger height for fall protection	3 m	213/91|26, 26.3 851/90|85	See clauses for details. 2.4 m for 26.3
Allowable free fall distance	1.5 m	851/90|85(a) 859/90|10 (Window Cleaning)	
Distance from unprotected edge	*Not referenced*		
Maximum arrest force (MAF)	8 kN	213/91|26.6(5) 851/90|85(b)(ii)	
Maximum deceleration distance	*Not referenced*		Ref standards
Rescue	Procedures	213/91|26.1(4)	

3.5.3. Component Requirements

Category	Value(s)	Reference	Notes
Anchorages			
Rope access	*Not referenced*		
Fall arrest	213 - 8 kN – static 851 - 2x load	213/91/26.7 851/90|85(b)	213 - Permanent only. See subclause. 851 – 'fall arrest system.' See subclauses.
Positioning			
Travel restraint	2kN - static	213/91/26.7(2)5	Permanent only. See subclause.
Rope descent systems	2x support lines	859/90|29(2)	Window Cleaning
Harness	CSA Z259.10	213/91|26.1(3)5	
Dorsal	☒ Yes ☐ No	213/91|1	Full body harness definition
Sternal	*Not referenced*		
Ventral	*Not referenced*		
Connectors	CSA Z259.12	213/91|26.1(3)7	
Energy absorbing lanyards	CSA Z259.11	213/91|26.1(3)6	See also 859/90|10(5)
Self-retracting devices	CSA Z259.2.2	213/91|26.1(3)3	
Vertical lifelines	CSAZ259.2.5	213/91|26.1(3)2	See also 859/90|10(6)
Horizontal lifelines	Engineered	213/91|26.9(8)	
Personal protective equipment		213/91|21-27 851/90|79-86	
Inspection requirements	Before use	213/926.6(6)	

3.6. Quebec - CNESST (Commission des Normes, de l'Équité et de la Santé et Sécurité au Travail)

3.6.1. General References

Category	Reference	Notes
Overview	RSST c.s-2.1, r.13 (ENG)	
General Duty	LSST c.s-2.1 (ENG)	
Rope Access	*Not referenced*	
Fall Protection	RSST c.s-2.1, r.13 art. 346-354.1 (ENG)	
Platforms	RSST c.s-2.1, r.13 art. 31.-33 (ENG)	
Rope descent systems	*Not referenced*	
Training	RSST c.s-2.1, r.13 art. 338 (ENG)	

3.6.2. System Requirements

Category	Value	Reference	Notes
Trigger height for fall protection	3 m (10 ft)	RSST c.s-2.1, r.13 art. 33.1 (ENG)	
Allowable free fall distance	1.8 m (6 ft)	RSST c.s-2.1, r.13 art. 347 (ENG)	
Distance from unprotected edge	2 m (6.6 ft)	RSST c.s-2.1, r.13 art. 354.1 (ENG)	Warning line
Maximum arrest force (MAF)	6 kN	RSST c.s-2.1, r.13 art. 347 (ENG)	
Maximum deceleration distance	Ref standard		Refers to CSA Z259.11
Rescue	*Not referenced*		

3.6.3. Component Requirements

Category	Value(s)	Reference	Notes
Anchorages			
Rope access	*Not referenced*		
Fall arrest	18 kN	RSST c.s-2.1, r.13 art. 349 (ENG)	Refers to CSA Z259.16
Positioning	*Not referenced*		
Travel restraint	*Not referenced*		
Rope descent systems	*Not referenced*		
Harness	Full body	RSST c.s-2.1, r.13 art. 347 (ENG)	Refers to CSA Z259.10
Dorsal	☒ Yes ☐ No	RSST c.s-2.1, r.13 art. 348 (ENG)	
Sternal	☒ Yes ☐ No	RSST c.s-2.1, r.13 art. 348 (ENG)	Limited use, refers to CSA Z259.2.5, Z259.2.4
Ventral	*Not referenced*		
Connectors	5000 lbf (22.2kN) (tensile) 3600 lbf (16 kN) (proof, gate)	RSST c.s-2.1, r.13 art. 348 (ENG)	Refers to CSA Z259.12
Energy absorbing lanyards	Max length 2 m	RSST c.s-2.1, r.13 art. 348 (ENG)	Refers to CSA Z259.11
Self-retracting devices		RSST c.s-2.1, r.13 art. 348 (ENG)	Refers to CSA Z259.2.2
Vertical lifelines	Max length 90 m	RSST c.s-2.1, r.13 art. 348 (ENG)	Refers to CSA Z259.2.5, Z259.2.4
Horizontal lifelines	90 kN, 12 m max span	RSST c.s-2.1, r.13 art. 349 (ENG)	Refers to CSA Z259.13
Personal protective equipment			
Inspection requirements	Anchorages	RSST c.s-2.1, r.13 art. 349 (ENG)	Prior to initial use - Refers to CSA Z259.16

4. Germany

4.1. General Information

4.1.1. Regulatory structure

4.1.1.1. General law for safety at work (ArbSchG)

4.1.1.2. Worksite safety: ASR, the specification of the general law in relation to technical regulations BAuA - Technischer Arbeitsschutz (inkl. Technische Regeln) - Bundesanstalt für Arbeitsschutz und Arbeitsmedizin

4.1.1.3. Specific Technical regulation for rope access and fall protection TRBS 2121-3

4.1.2. Relevant Standards Development Organization

4.1.2.1. European Norm (EN)

4.2. References

4.2.1. General References

Category	Reference	Notes
Overview	ASR A2.1	Germany, Austria, Switzerland
General Duty	ASR A2.1	Germany, Austria, Switzerland
Rope Access	TRBS 2121-3	Germany
Fall Protection	TRBS 2121-3	Germany
Platforms	TRBS-2121-4	Germany
Rope descent systems	*Not referenced*	*No difference from rope access*
Training	TRBS 2121-3 Part 4.3.2.2	

4.2.2. System Requirements

Category	Value	Reference	Notes
Trigger height for fall protection	>1m	ASR A2.1 Part 4.1	General duty
Allowable free fall distance	*Not referenced*		
Distance from unprotected edge	*2m*		
Maximum arrest force (MAF)	6 kN	EN 355	
Maximum deceleration distance	1.75 m	EN 355	Max deceleration of fall arrest lanyard
Rescue	Prompt		

4.2.3. Component Requirements

Category	Value(s)	Reference	Notes
Anchorages	12kN	TRBS 2121-3 Part 4.1	EN 795
Rope access	Min. 10kN	DGUV-I 212-001 5.1.1	Information of the German professional association referring to EN 795 Standard
Fall arrest	12kN	EN 795	Per person, additional person +1kN
Positioning	*Not referenced*		
Travel restraint	12kN		Same as fall arrest system
Rope descent systems	*Not referenced*		
Harness		EN 361	Full body
Dorsal	15kN		
Sternal	15kN		
Ventral	15kN		
Connectors	20kn	EN 362 locking mechanism	
Energy absorbing lanyards	< 6kN force	EN 355	Maximum length 2m
Self-retracting devices		EN 360	
Vertical lifelines		EN 353-2	
Horizontal lifelines		EN 795 Type B	
Personal protective equipment			
Inspection requirements	Before use Min. 1x year by competent person	TRBS 2121-3 Part 5.1	

5. United States

5.1. General Information

5.1.1. Regulatory Structure

5.1.1.1. Worksite safety is managed federally by the Occupational Safety and Health Administration (OSHA).

5.1.1.2. Federal regulations are applicable in any US state or territory that does not have an OSHA-approved State Plan.

5.1.1.3. Federal regulations are divided mainly into General Industry (29 CFR Part 1910) and Construction (29 CFR Part 1926).

5.1.1.3.1. Additional regulations exist for specific industries.

5.1.1.4. State Plans may cover private and state/local government workplaces, or only state/local government workers.

5.1.2. Relevant Standards Development Organization

5.1.2.1. The American National Standards Institute (ANSI) publishes standards relative to worksite safety for application in United States.

5.1.2.2. These voluntary standards may be used to assist in ensuring regulatory compliance but are not regulations unless specifically referenced within OSHA regulations.

5.1.3. General References

5.1.3.1. Federal OSHA resources

5.1.3.2. State OSHA resources

5.1.3.2.1. Arizona

5.1.3.2.2. California

5.1.3.2.3. Hawaii

5.1.3.2.4. Indiana

5.1.3.2.5. Iowa

5.1.3.2.6. Kentucky

5.1.3.2.7. Maryland

5.1.3.2.8. Michigan

5.1.3.2.9. Minnesota

5.1.3.2.10. Nevada

5.1.3.2.11. New Mexico

5.1.3.2.12. North Carolina

5.1.3.2.13. Oregon

5.1.3.2.14. Puerto Rico

5.1.3.2.15. South Carolina

5.1.3.2.16. Tennessee

5.1.3.2.17. Utah

5.1.3.2.18. Vermont

5.1.3.2.19. Virginia

5.1.3.2.20. Washington

5.1.3.2.21. Wyoming

5.2. OSHA 1910 (29 CFR Part 1910 Occupational Safety and Health Standards)

5.2.1. General References

Category	Reference	Notes
Overview	29 CFR 1910 Subpart D 29 CFR 1910 Subpart I	Subpart D – Walking Working Surfaces Subpart I – Personal Protective Equipment
General Duty	29 U.S.C. § 654, 5 (a) (1)	
Rope Access	*Not referenced*	Must meet 1910.28 - LOI (Federal Register Vol. 81, No. 223 page 82569)
Fall Protection	1910.28, 1910.29, 1910.140	1910 Sub part I App C - guidelines
Platforms	1910.66	
Rope descent systems	1910.27	RDS and rope access - LOI
Training	1910.9, 1910.30	

5.2.2. System Requirements

Category	Value	Reference	Notes
Trigger height for fall protection	4 ft (1.2 m)	1910.28(b)(1)(i)	
Allowable free fall distance	6 ft (1.8 m)	1910.140(d)(2)(ii)	Higher value permissible if certain conditions are met.
Distance from unprotected edge	*Not referenced*		See 1926 Construction for letters of interpretation
Maximum arrest force (MAF)	1800 lbf (8 kN)	1910.140(d)(1)(i)	
Maximum deceleration distance	3.5 ft (1.1 m)	1910.140(d)(1)(ii)	
Rescue	"prompt"	1910.140(c)(21)	Letter of interpretation

5.2.3. Component Requirements

Category	Value(s)	Reference	Notes
Anchorages			
Rope access	5000 lbf (22.2kN), or Safety factor of 2	1910.140(c)(13)	Safety factor of 2 requires design, install, and use under direction of qualified person. See 1910.140(c)(12) – anchorage independence
Fall arrest			
Positioning			
Travel restraint			
Rope descent systems	5000 lbf (22.2kN)	1910.27(b)(1)(i)	Anchorage enforcement guidance - LOI Anchorage testing - LOI
Harness	Full body	1910.140(c)(19) 1910.140(c)(20)	
Dorsal	☒ Yes ☐ No	1910.140(c)(22)	
Sternal	☒ Yes ☐ No	1910.140(c)(22)	If free fall distance less than 2 ft (0.6 m)
Ventral	☐ Yes ☒ No	*Not referenced*	
Connectors	5000 lbf (22.2kN) (tensile) 3600 lbf (16 kN) (proof, gate) Auto-lock, (min 2-stage)	1910.140(c)(7) 1910.140(c)(8) 1910.140(c)(9)	See also: 1910.140(c)(1) 1910.140(c)(2) 1910.140(c)(10)
Energy absorbing lanyards	5000 lbf (22.2kN)	1910.140(c)(6)	
Self-retracting devices	Max free fall of 2 ft (0.6 m)	1910.140(c)(5)	Minimum tensile load of 3,000 lbf (13.3 kN)
Vertical lifelines	5000 lbf (22.2kN)	1910.140(c)(4)	1910.140(c)(3) – one worker per lifeline 1910.140(c)(15) – synthetic requirement
Horizontal lifelines	Safety factor of 2	1910.140(c)(11)	1910.140(c)(15) – synthetic requirement
Personal protective equipment		1910.132	1910 Subpart I App B – Selection guidance
Inspection requirements	Before use	1910.140(c)(18)	"before initial use during each workshift"

5.3. OSHA 1926 (29 CFR Part 1926 Safety and Health Regulations for Construction)

5.3.1. General References

Category	Reference	Notes
Overview	1926 Subpart M – Fall Protection	
General Duty	1926.20	
Rope Access	*Not referenced*	
Fall Protection	1926.501, 1926.502	1926 Sub M App C - guidelines
Platforms	1926 Subpart L	
Rope descent systems	*Not referenced*	
Training	1926.21, 1926.503	

5.3.2. System Requirements

Category	Value	Reference	Notes
Trigger height for fall protection	6 ft	1926.501(b)(1)	
Allowable free fall distance	6 ft	1926.502(d)(16)(iii)	Higher free fall potential –LOI-1, LOI-2
Distance from unprotected edge	15 ft	LOI	Requires warning lines and other policies
Maximum arrest force (MAF)	1800 lbf	1926.502(d)(16)(ii)	
Maximum deceleration distance	3.5 ft (1.07 m)	1926.502(d)(16)(iv)	
Rescue		1926.35(b)(4) 1926.502(d)(20)	

5.3.3. Component Requirements

Category	Value(s)	Reference	Notes
Anchorages			
Rope access	*Not referenced*		
Fall arrest	5000 lbf, or Safety factor of 2	1926.502(d)(15)	Per person See sub-clauses
Positioning	3000 lbf or 2x impact of fall	1926.502(e)(2)	"whichever is greater" 1926.502(e)(1) - free fall ≤ 2 ft (0.6 m)
Travel restraint	*Not referenced*		
Rope descent systems	*Not referenced*		
Harness			
Dorsal	☒ Yes ☐ No	1926.502(d)(17)	
Sternal	☐ Yes ☒ No	*Not referenced*	
Ventral	☐ Yes ☒ No	*Not referenced*	
Connectors	5000 lbf MBS 3600 lbf proof	1926.502(d)(3) 1926.502(d)(4)	
Energy absorbing lanyards	5000 lbf MBS	1926.502(d)(9)	
Self-retracting devices	5000 lbf MBS	1926.502(d)(13)	
Vertical lifelines	5000 lbf MBS	1926.502(d)(9)	
Horizontal lifelines	Safety factor of 2	1926.502(d)(8)	
Personal protective equipment		1926.28 1926.95	1926 Sub E
Inspection requirements	Before use	1926.502(d)(21)	"Prior to each use"

5.4. California – (Cal-OSHA)

5.4.1. General References

Category	Reference	Notes
Overview	Title 8 Regulations	Title 8 Searchable Index Construction (CSO) and General Industry (GISO) primarily referenced here. See other subchapters for industry-specific regulation
General Duty	GISO 3203 - IIPP	Injury and Illness Prevention Program
Rope Access	GISO 3270.1	
Fall Protection	CSO, Article 24	CSO §1670.
Platforms	GISO, Article 24 GISO, Article 6 App C	
Rope descent systems	GISO §3286	
Training	GISO 3270.1(c,h) GISO §3203(a)(7) CSO §1510	

5.4.2. System Requirements

Category	Value	Reference	Notes
Trigger height for fall protection	7.5 ft	CSO §1670(a)	See clause for details and references
Allowable free fall distance	6 ft	CSO §1670(b)(11)(B)	
Distance from unprotected edge	6 ft	GISO 3212(d-e)	
Maximum arrest force (MAF)	1800 lb	CSO §1670(b)(11)(A)	
Maximum deceleration distance	3.5 ft	CSO §1670(b)(11)(C)	
Rescue	Prompt, self-rescue	CSO §1670(b)(14) GISO 3270.1(i)	

5.4.3. Component Requirements

Category	Value(s)	Reference	Notes
Anchorages			
Rope access	2x dynamic load	GISO 3270.1(e)	
Fall arrest	5000 lb or safety factor of 2	CSO §1670(b)(10)	
Positioning	3000 lb or 2x load	CSO §1670(c)(4)	Whichever is greater
Travel restraint	4x load	CSO §1670(d)(3)	
Rope descent systems	5000 lb or safety factor of 2	GISO, Article 6 App C (I)(c)(5)	
Harness	Full body Body belt ANSI Z359.1	CSO §1670(b)(12, 13) CSO §1670(d) CSO §1670(k)	
Dorsal	☒ Yes ☐ No	CSO §1670(b)(12)	
Sternal	*Not referenced*	See GISO 3270.1(c)(1)	
Ventral	*Not referenced*		
Connectors	ANSI Z359.1	CSO §1670(l) GISO, Article 6 App C (I)(c)(1-2)	
Energy absorbing lanyards	5000 lb ANSI Z359.1	CSO §1670(b)(3) CSO §1670(l)	
Self-retracting devices	3-5000lb ANSI Z359.1	CSO §1670(b)(7, 8) CSO §1670(l)	3000 lb for <2 ft free fall distance 5000 lb for >2 ft free fall distance
Vertical lifelines	5000 lb ANSI Z359.1	CSO §1670(b)(3) CSO §1670(l)	
Horizontal lifelines	Safety factor of 2	CSO §1670(b)(2)	Qualified person. GISO, Article 6 App C requires CA engineer
Personal protective equipment		GISO §3380	
Inspection requirements	Before use Twice annually	CSO §1670(b)(15) CSO §1670(b)(19)	Twice annually by competent person

5.5. Oregon (Oregon OSHA)

5.5.1. General References

Category	Reference	Notes
Overview	Chapter 437	
General Duty	437-001-0760(1)	
Rope Access	437-002-2027	"Rope Descent & Rope Access Systems"
Fall Protection	437 Sub D, 437 Sub I	Adopted
Platforms	437 Sub F	Adopted
Rope descent systems	437-002-2027	"Rope Descent & Rope Access Systems"
Training	1910.30	Adopted

5.5.2. System Requirements

Category	Value	Reference	Notes
Trigger height for fall protection	4 ft (1.2 m)	1910.28(b)(1)(i)	Adopted
Allowable free fall distance	6 ft (1.8 m)	1910.140(d)(2)(ii)	Adopted
Distance from unprotected edge	*Not referenced*		
Maximum arrest force (MAF)	1800 lbf (8 kN)	1910.140(d)(1)(i)	Adopted
Maximum deceleration distance	3.5 ft (1.1 m)	1910.140(d)(1)(ii)	
Rescue	"rompt"	1910.140(c)(21)	

5.5.3. Component Requirements

Category	Value(s)	Reference	Notes
Anchorages			
Rope access	5000 lbf or safety factor of 2*	437-002-2027	Safety factor of 2 requires design, install, and use under direction of qualified person. See 437-002-2027(4)(b)
Fall arrest	5000 lbf or safety factor of 2*	1910.140(c)(13)	Adopted. Safety factor of 2 requires design, install, and use under direction of qualified person
Positioning	5000 lbf or safety factor of 2*	1910.140(c)(13)	Adopted. Safety factor of 2 requires design, install, and use under direction of qualified person
Travel restraint	3000 lbf (13.34 kN) or safety factor of 2*	437-002-0134(5)(b)	Safety factor of 2 requires design, install, and use under direction of qualified person.
Rope descent systems	5000 lbf or safety factor of 2*	437-002-2027	Safety factor of 2 requires design, install, and use under direction of qualified person. See 437-002-2027(4)(b)
Harness	Full body	1910.140(c)(19) 1910.140(c)(20)	Adopted
Dorsal	☒ Yes ☐ No	1910.140(c)(22)	
Sternal	☒ Yes ☐ No	1910.140(c)(22)	If free fall distance less than 2 ft (0.6 m)
Ventral	☐ Yes ☒ No	*Not referenced*	
Connectors	5000 lbf (22.2kN) (tensile) 3600 lbf (16 kN) (proof, gate) Auto-lock	1910.140(c)(7) 1910.140(c)(8) 1910.140(c)(9)	Adopted. See also: 1910.140(c)(1) 1910.140(c)(2) 1910.140(c)(10)
Energy absorbing lanyards	*Not referenced*		
Self-retracting devices	Limit free to 2ft.	1910.140(c)(5)	Adopted. Minimum tensile load of 3000 lbf (13.3 kN)
Vertical lifelines	5000 lbf (22.2kN)	1910.140(c)(4)	Adopted. 1910.140(c)(3) – one worker per lifeline 1910.140(c)(15) – synthetic requirement
Horizontal lifelines	Safety factor of 2	1910.140(c)(11)	Adopted. 1910.140(c)(15) – synthetic requirement
Personal protective equipment		1910.132	Adopted. 1910 Subpart I App B – Selection guidance
Inspection requirements	Before use	1910.140(c)(18)	"before initial use during each workshift"

5.6. Washington (Department of Labor & Industries)

5.6.1. General References

Category	Reference	Notes
Overview	296-880	
General Duty	296-800-110	
Rope Access	*Not referenced*	
Fall Protection	296-880	Effective October 1st, 2020
Platforms	296-880-(30015-30030)	
Rope descent systems	296-880-30025	Window Cleaning (296-878)
Training	296-880-10015	

5.6.2. System Requirements

Category	Value	Reference	Notes
Trigger height for fall protection	0-10 ft	296-880-090	Industry and location dependent
Allowable free fall distance	6 ft	296-880-40020(3)(a)	Higher value permissible if certain conditions are met
Distance from unprotected edge	15 ft	296-880-40040	Warning lines
Maximum arrest force (MAF)	1800 lbf	296-880-40020(3)(b)	
Maximum deceleration distance	3.5 ft (1.07 m)	296-880-40020(3)(c)	
Rescue	"prompt"	296-880-10005	

5.6.3. Component Requirements

Category	Value(s)	Reference	Notes
Anchorages			
Rope access	*Not referenced*		
Fall arrest	3000 lbf 5000 lbf (22.2 kN), or safety factor of 2	296-880-40020(2)	3000 lbf requires self-retracting lifeline or energy absorbing lanyard with MAF <900lbf Safety factor of 2 requires supervision of qualified person.
Positioning	2x impact from fall or 3000 lbf	296-880-40030(3)	whichever is greater
Travel restraint	4x intended load	296-880-40025(5)	See 296-880-40025(6) regarding rope grabs
Rope descent systems	*Not referenced*		
Harness	Full body	296-880-40020(1)(a)	
Dorsal	☒ Yes ☐ No	296-880-40020(1)(b)	
Sternal	☐ Yes ☒ No	296-880-40020(1)(b)	
Ventral	☐ Yes ☒ No	296-880-40020(1)(b)	
Connectors	5000 lbf MBS 3600 lbf proof	296-880-40020	
Energy absorbing lanyards	5000 lbf MBS	296-880-40020(c)	
Self-retracting devices	3000 lbf (13.3 kN)	296-880-40020(1)(k)	Free fall limited to less than 2 ft (0.6 m)
Vertical lifelines	5000 lbf (22.2kN)	296-880-40020(1)(k)	one worker per line
Horizontal lifelines	Safety factor of 2	296-880-40020(1)(k)	Designed, installed, and used, under supervision of a qualified person
Personal protective equipment		206-800-160	
Inspection requirements	Regularly	296-880-510(11)	References 296-880-40020