

0193 Roof access safety systems

Revisions

If a whole clause is deleted, the clause title is retained with bracketed words [Clause not used] added to the title. All changes are flagged in the left margin by a vertical line, as indicated to the left of this paragraph. Deleted text is expunged.

Adjustment to format, spelling or punctuation is not shown unless it is likely to affect the meaning.

The current revision merges the amendments of all previous revisions and removes the margin flag lines. The entire revised Section is then re-issued.

The full scope and extent of revisions should be understood by comparison with previous versions.

Revisions to this section

Rev	Date	Amendment Description
01	23/07/21	PRELIMINARY ISSUE
02	13/08/21	FOR CONSTRUCTION

1 General

1.1 Responsibilities

General

General: Provide the building access safety system, as documented.

Outcomes: Maintain the waterproofing integrity of roofing and cladding without damage or distortion. Maintain the structural integrity of the supporting elements.

Supply

Design: The design, supply, installation, testing, certification, user manuals and training.

Delivery: Deliver the fall protection assembly ready for installation as follows:

- Clearly labelled to show the intended location.
- In a separate dust and moisture proof package.
- Including the necessary templates, fixings and fixing instructions.

1.2 Cross references

General

Requirement: Conform to the following:

0171 General Requirements

0181 Adhesives, Sealants and Fasteners

0183 Metals and Prefinishes

0411 Waterproofing – External and Tanking

0423 Roofing – Profiled Sheet Metal

0552 Metalwork – Fabricated

1.3 Design by contractor

Requirements

Responsibility: Design and install a fall protection system to all building roofs to meet Australian Standards and Workcover requirements. Refer Drawings for indicative layouts (FAS), anchor points and pathways.

Authority requirements: Refer Development Approvals – Conditions of Consent.

Access: Make provision for three workers to access the system at any one time, and provide access as follows:

- Full extent of gutters.
- Roof mounted plant and equipment.
- Roof areas within 2.5 m of fall hazards not otherwise protected by parapets or guard rails.

Means of access: Nominate permanent means of access as appropriate.

1.4 Standards

General

Personal equipment for working at height: To AS/NZS 1891.1, AS/NZS 1891.2, AS/NZS 1891.3, AS/NZS 1891.4 and AS 1891.5.

Rope access system: To AS/NZS 4488.1, AS/NZS ISO 22846.1 and AS/NZS ISO 22846.2.

1.5 Interpretation

Definitions

General: For the purposes of this worksection the definitions given in AS/NZS 1891.1, AS/NZS 5532 and AS/NZS ISO 22846.1 apply.

1.6 Inspection

Notice

Inspection: Give notice so that inspection may be made of the following:

- Shop fabricated or assembled items ready for delivery to the site.
- Commencement of shop or site welding.
- All equipment attachments with concealed fixings, before they are covered.
- Site erected assemblies on completion of erection, before applying finishes.
- Steel surfaces prepared for, and immediately before, site applied finishes.

Installation inspector: Registered Height Safety Inspector.

1.7 Submissions

Design

Documentation: Submit design documentation including all calculations, components and drawings.

Samples

Particular samples required:

- One sample per system element.

Product data sheets

Installation: Submit the manufacturer's Installation Data Sheets/Specification Manual.

2 Products

2.1 Fall protection systems

Fall restraint systems

Description: Cable based systems positioned so that the user cannot reach a fall hazard when continuously connected to the system using a standard 2 m shock absorbing lanyard. Adjustment of the Personnel Protective Equipment (PPE) is not required whilst connected to the system.

Demonstrators: Use only manufacturer's representatives competent in connecting the appropriate travelling device to and from the cable.

Fall arrest systems

Description: Either cable based where the user is continuously attached to the system, rope based series of anchor points or a single anchor point from which the users can attach themselves when working at height. Whilst attached to these systems they are at risk of falling. The system relies on a rescue plan being in place.

Anchors

Single point anchors: To AS/NZS 5532.

Ladder access

Product: Vertical systems comprising top, intermediate and bottom anchor sets and 8 mm 1 x 19 grade 316 stainless steel cables.

Personal protective equipment (PPE)

Harness: Supply two full body harnesses to AS/NZS 1891.1 with shock absorbing lanyards to AS 1891.5.

Cable attachment:

Storage: PPE storage hold all supplied by the manufacturer.

Tests

Personal equipment for working at height: Tested as follows:

- Harnesses: To AS/NZS 1891.1 Section 4.
- Horizontal lifeline and rail systems: To AS/NZS 1891.2.
- Lanyard assemblies and pole straps: To AS 1891.5 clause 3.4.

Rope access systems:

- Rope grabs and descenders: Static load test to AS/NZS 4488.1 Appendix A.
- Back-up type rope grabs and descenders: Dynamic load and performance test to AS/NZS 4488.1 Appendix B.

Site tests: Submit results of proof load tests of drilled-in anchors.

3 Execution

3.1 Installation

General

Drilled-in anchors: Load test drilled-in anchors used in shear and not in axial tension (direct pull-out) before use.

Standards

Personal equipment for working at height: To the AS/NZS 1891 series.

Rope access systems: to AS/NZS 4488.1.

Contractor

Installer: Registered Installer approved by the manufacturer.

Labels and signage

General: To AS/NZS 1891.4 clause 2.2.9.

Proof load test for horizontal lifeline and rail systems

Standard: To AS/NZS 1891.3 clause 3.1.

3.2 Maintenance

General

Preventative and mandatory system maintenance: By an Accredited Height Safety Inspector/Certifier, in conformance with AS/NZS 1891.4 Section 9 and manufacturer's maintenance/recertification recommendations.

Check list for all inspections: To AS/NZS 1891.2 Supp 1 Table 8, and AS/NZS 1891.4 Section 9 and Appendices C and D.

The installer/competent person: To AS/NZS 1891.4 clause 1.4.2.

Routine inspections

Standard: To AS/NZS 1891.4 clause 9.

Completion certificate:

- Provide inspection, testing and certification by an Accredited Installer and/or Accredited Height Safety Inspector:
 - Upon completion of the installation.
 - Upon the expiry of the defects liability period or 12 months after completion of the installation whichever is the lesser, and valid for a further 12 months period.
- Note the date of the next system inspection and period of validity and display the certificate at the access points of the work area or on the individual system components where provision is made.

Regular scheduled periodic inspections

Standard: To AS/NZS 1891.4 clause 9.

Completion certificate:

- Provide inspection, testing and certification by an Accredited Installer and/or Accredited Height Safety Inspector:
 - . Upon completion of the installation at the date for practical completion.
 - . Upon the expiry of the defects liability period or 12 months after completion of the installation whichever is the lesser, and valid for a further 12 months period.
- Record the date of the next system inspection and period of validity and display the certificate at the access points of the work area or on the individual system components where provision is made.

Inspection after a fall or other event

Standard: To AS/NZS 1891.4 clause 9.5.

On-going maintenance

Certificate: Submit the completion certificates and notify the proprietor of the requirement for continued interval testing.

Maintenance Manual

Provide relevant data in Operation and Maintenance Manual including induction requirements and users guide.

3.3 Warranty

Warranty: Provide a warranty on:	Joint Supplier and Installer warranty against failure of roof access safety materials, system design and workmanship under normal environment and use conditions.
Minimum design life:	Fifteen years.
Minimum warranty period:	Five years

4 Selections

4.1 Roof fall protection

Fall protection system

Type: Designed by the Contractor to meet Australian Standards and Workcover requirements.

Roof anchorage device

Colour: To match roof sheeting, where applicable.

4.2 Roof access

Ladders and walkways

Refer **0552 Metalwork – fabricated.**

4.3 Referenced Documents

The following documents are incorporated into this worksection by reference:

AS/NZS 1891	Personal equipment for work at height
AS/NZS 1891.1	2020 Manufacturing requirements for full body combination and lower body harnesses
AS/NZS 1891.2	2001 Horizontal lifeline and rail systems

AS/NZS 1891.2 Supp 1	2001	Horizontal lifeline and rail systems - Prescribed configurations for horizontal (Supplement to AS/NZS 1891.2:2001)
AS/NZS 1891.3	2020	Manufacturing requirements for fall-arrest devices
AS/NZS 1891.4	2009	Selection, use and maintenance
AS 1891.5	2020	Manufacturing requirements for lanyard assemblies and pole straps.
AS/NZS 4488		Industrial rope access systems
AS/NZS 4488.1	1997	Specifications
AS/NZS 5532	2013	Manufacturing requirements for single-point anchor device used for harness-based work at height
AS/NZS ISO 22846		Personal equipment for protection against falls – Rope access systems
AS/NZS ISO 22846.1	2020	Fundamental principles for a system of work
AS/NZS ISO 22846.2	2020	Code of practice