

AS/NZS 1891.1:2020



Australian/New Zealand Standard™

Personal equipment for work at height

Part 1: Manufacturing requirements for full body combination and lower body harnesses



AS/NZS 1891.1:2020

This Joint Australian/New Zealand Standard™ was prepared by Joint Technical Committee SF-015, Industrial Height Safety Equipment. It was approved on behalf of the Council of Standards Australia on 14 August 2020 and by the New Zealand Standards Approval Board on 5 August 2020.

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The following are represented on Committee SF-015:

- Australian Chamber of Commerce and Industry
- Australian Industry Group
- Australian Lightweight Vertical Rescue Instructors
- Australian Mobile Telecommunications Association
- Australian Rope Access Association
- Better Regulation Division
- Business New Zealand
- Communications, Electrical and Plumbing Union — Electrical Division
- Electrical Engineers Association, New Zealand
- Engineers Australia
- Facility Management Association of Australia
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- IRATA Australia
- New Zealand Arboricultural Association
- Petroleum and Gas Inspectorate
- Roofing Industry Association of NSW
- Transport for NSW
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Preface

This Standard was prepared by the joint Standards Australia/Standards New Zealand Committee SF-015, Industrial Height Safety Equipment, to supersede in part AS/NZS 1891.1:2007, *Industrial fall-arrest systems and devices, Part 1: Harnesses and ancillary equipment*.

The objective of this Standard is to specify requirements for the materials, design, manufacture, testing and marking of full-body, combination and lower-body harnesses designed for working at height.

The major changes in this edition are as follows:

- (a) Separation of the document (AS/NZS 1891.1:2007) into separate documents as follows:
 - (i) Harness manufacture (this Standard).
 - (ii) Lanyard and pole strap manufacture (AS 1891.5).
- (b) Alteration of the testing requirements to align with International Standards and foreseeable use while balancing the need to maintain appropriate safety margins in design. These changes include:
 - (i) A requirement to test each harness dynamically and then statically.
 - (ii) A reduction of test loads to reflect this new testing process.
 - (iii) The adoption of a steel wire test lanyard to improve test repeatability.
 - (iv) Aligning as far as practicable to International Standards.

This document is the first part of the following series of Standards dealing with this area of industrial safety:

AS/NZS 1891.1, *Personal equipment for work at height, Part 1: Manufacturing requirements for full body, combination and lower body harnesses* (this Standard)

AS/NZS 1891.2, *Industrial fall-arrest systems and devices, Part 2: Horizontal lifeline and rail systems*

AS/NZS 1891.2 Supp 1, *Industrial fall-arrest systems and devices, Part 2: Horizontal lifeline and rail systems, Supplement 1: Prescribed configurations for horizontal lifelines (Supplement to AS/NZS 1891.2:2001)*

AS/NZS 1891.3, *Personal equipment for work at height, Part 3: Manufacturing requirements for fall-arrest devices*

AS/NZS 1891.4, *Industrial fall-arrest systems and devices, Part 4: Selection, use and maintenance*

AS 1891.5, *Personal equipment for work at height, Part 5: Manufacturing requirements for lanyard assemblies and pole straps*

The above series of Standards is part of a suite which also includes:

AS/NZS 4488.1, *Industrial rope access systems, Part 1: Specifications*

AS/NZS ISO 22846.1, *Personal equipment for protection against falls — Rope access systems — Part 1: Fundamental principles for a system of work*

AS/NZS ISO 22846.2, *Personal equipment for protection against falls — Rope access systems — Part 2: Code of practice*

AS/NZS 5532, *Manufacturing requirements for single-point anchor device used for harness-based work at height*

The terms “normative” and “informative” are used in Standards to define the application of the appendices to which they apply. A “normative” appendix is an integral part of a Standard, whereas an “informative” appendix is only for information and guidance.

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Introduction

The following factors have been considered in the preparation of this Standard:

- (a) The ability of the human body to survive a fall with the minimum chance of serious injury will depend principally on the decelerating forces imposed on the body during fall-arrest and the manner in which those forces are transmitted to the body.
- (b) The harness is intended to be used as part of a fall protection system with components, e.g. lanyard assembly, pole strap or fall-arrest device, that will limit the force applied to the harness and the wearer.
- (c) The foreseeable usage of harnesses covered by this Standard.
- (d) Incident histories.
- (e) The content of relevant International Standards and the testing results from Australian manufacturers to assist with alignment with International Standards and determine the practicality of new test requirements.
- (f) Ergonomics of use and the limitations associated with specifying minimum standards where test data are either not available or is limited.

Australian/New Zealand Standard

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Part 1: Manufacturing requirements for full body combination and lower body harnesses

Section 1 Scope and general

1.1 Scope

This Standard specifies requirements for the materials, design, manufacture, testing and marking of full-body, combination and lower-body harnesses designed for working at height.

1.2 Exclusions

Personal protective equipment designed exclusively for the following purposes is not covered by this Standard:

- (a) Theatrical flying.
- (b) Rescue operations.
- (c) Emergency services.
- (d) Recreational activities.
- (e) Restraint.

NOTE Equipment conforming to this Standard may be appropriate for the purposes listed above.

1.3 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document:

AS 1891.5, *Personal equipment for work at height, Part 5: Manufacturing requirements for lanyard assemblies and pole straps*

AS 2001.4.A02, *Methods of test for textiles, Method 4.A02: Colourfastness tests — Grey scale for assessing change in colour*

AS 2001.4.B01, *Methods of test for textiles, Method 4.B01: Colourfastness tests — Determination of colourfastness to daylight of textile materials*

AS 2001.4.B02, *Methods of test for textiles, Method 4.B02: Colourfastness tests — Colourfastness to artificial light: Xenon arc fading lamp test (ISO 105-B02:1994, MOD)*

AS 2001.4.21, *Methods of test for textiles, Method 4.21: Colourfastness tests — Determination of colourfastness to light using an artificial light source (mercury vapour, tungsten filament, internally phosphor-coated lamp)*

AS 2193, *Calibration and classification of force-measuring systems*

ISO 9227, *Corrosion tests in artificial atmospheres — Salt spray tests*

EN 362, *Personal protective equipment against falls from a height — Connectors*

ANSI/ASSP Z359.12, *Connecting Components for Personal Fall Arrest Systems*