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.

This Standard was published on 28 August 2020.

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
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IANZ
Industrial Rope Access Association of New Zealand
IRATA Australia
New Zealand Arboricultural Association
Petroleum and Gas Inspectorate
Roofing Industry Association of NSW
Transport for NSW
Working at Height Association
WorkSafe New Zealand

This Standard was issued in draft form for comme[illegible] DR AS/NZS 1891.1:2020.

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ISBN 978 1 76072 958 5

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

Originated in Australia as AS 1891—1976.
Originated in New Zealand as NZS 1661:1962 and NZS 2253:1969.
Revised and redesignated as AS/NZS 1891.1:2007.
Second edition 2020.

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 thereafter 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.

Contents

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.

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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*