AS/NZS ISO 22846.1:2020
ISO 22846-1:2003

AS/NZS ISO 22846.1:2020

Australian/New Zealand Standard™

Personal equipment for protection against falls — Rope access systems

Part 1: Fundamental principles for a system of work

AS/NZS ISO 22846.1:2020

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 30 June 2020 and by the New Zealand Standards Approval Board on 3 June 2020.

This Standard was published on 10 July 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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Facility Management Association of Australia
IANZ
Industrial Rope Access Association of New Zealand
IRATA Australia
New Zealand Arboricultural Association
Roofing Industry Association of NSW
Transport for NSW
Working at Height Association
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This Standard was issued in draft form for comment as DR AS/NZS ISO 22846.1:2020.

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ISBN 978 1 76072 919 6

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Part 1: Fundamental principles for a system of work

Originated as AS/NZS 4488.2:1997.
Jointly revised and redesignated as AS/NZS ISO 22846.1:2020.

Preface

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee SF-015, Industrial Height Safety Equipment, to supersede AS/NZS 4488.2:1997, *Industrial rope access systems, Part 2: Selection, use and maintenance.*

The objective of this Standard is to give the fundamental principles for the use of rope access methods for work at height. It is intended for use by employers, employees and self-employed persons who use rope-access methods, by those commissioning rope-access work and by rope-access associations.

This Standard is applicable to the use of rope-access methods on buildings, other structures (on- or offshore) or natural features (such as cliff faces), during which ropes are suspended from or connected to a structure or natural feature. It is applicable to situations where ropes are used as the primary means of access, egress or support and as the primary means of protection against a fall.

This Standard is not intended to apply to the use of rope-access methods for leisure activities, arboriculture, general steeplejack methods or emergency personal-evacuation systems, or to the use of rope-access (line rescue) techniques by the fire brigade and other emergency services for rescue work or for rescue training.

This Standard is identical with, and has been reproduced from, ISO 22846-1:2003, *Personal equipment for protection against falls — Rope access systems — Part 1: Fundamental principles for a system of work*.

As this document has been reproduced from an International Standard, the following applies:

(a) In the source text "this part of ISO 22846" should read "this Australian/New Zealand Standard".

(b) A full point substitutes for a comma when referring to a decimal marker.

Australian or Australian/New Zealand Standards that are identical adoptions of international normative references may be used interchangeably. Refer to the online catalogue for information on specific Standards.

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

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 22846-1 was prepared by Technical Committee ISO/TC 94, *Personal safety — Protective clothing and equipment*, Subcommittee SC 4, *Personal equipment for protection against falls*.

ISO 22846 consists of the following parts, under the general title *Personal equipment for protection against falls — Rope access systems*:

— *Part 1: Fundamental principles for a system of work*

— *Part 2: Code of practice* (in the early stages of preparation)

Introduction

Rope access is a system that provides a user with the means, typically using synthetic fibre kernmantel ropes and associated equipment, to gain access to, be supported at, and then as a means of egress from, a place of work for the purpose of carrying out a work task.

Rope access has its background in mountaineering and particularly in caving, where it has been well proven, although it relies on only a single rope. For adaptation to the work environment, the techniques and some of the equipment have been modified. The most significant change is the inclusion of a second rope to provide additional safety. These modifications allow the system to offer a level of protection to the operatives equal to, or better than, other similar forms of access.

In a typical system, one rope (the working line) is used for access and egress (usually ascent and descent) and for support at the workplace. A harness is attached to the user and specially designed devices are attached to the working line and to the harness. The other rope (the safety line) is connected to the user via a safety device, which travels along the safety line as the user ascends or descends the working line. In the event of a failure of the working line or any of its components, the safety line protects against a fall and limits the load to the equipment and operative. This is one example of a system. However, the need to provide a basic access system and a back-up system may also be accomplished in other ways. The techniques and equipment used for this purpose may be extended to encompass traversing and aid climbing.

The safe use of rope access systems requires competence, normally acquired by training, and confirmed with independent assessment and certification, not only in the use of the system itself, but also in workmate rescue/retrieval.

While this part of ISO 22846 provides the generalized framework for the specification and the operation of rope access, individual countries, states and localities may have particular requirements. These local requirements should be followed in addition to those of this part of ISO 22846.

NOTES

Australian/New Zealand Standard

Personal equipment for protection against falls — Rope access systems

Part 1: Fundamental principles for a system of work

1 Scope

This part of ISO 22846 gives the fundamental principles for the use of rope-access methods for work at height. It is intended for use by employers, employees and self-employed persons who use rope-access methods, by those commissioning rope-access work and by rope-access associations. This part of ISO 22846 is applicable to the use of rope-access methods on buildings, other structures (on- or offshore) or natural features (such as cliff faces), during which ropes are suspended from or connected to a structure or natural feature. It is applicable to situations where ropes are used as the primary means of access, egress or support and as the primary means of protection against a fall.

This part of ISO 22846 is not intended to apply to the use of rope-access methods for leisure activities, arboriculture, general steeplejack methods or emergency personal-evacuation systems, or to the use of rope-access (line rescue) techniques by the fire brigade and other emergency services for rescue work or for rescue training. Nevertheless, those engaged in other similar activities are likely to benefit from the advice given in this part of ISO 22846, as many of the principles do apply to, and offer good practice for, activities outside this formally defined scope.

NOTE This is the first of a planned multi-part series of International Standards for rope access.

2 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

2.1
aid climbing
method of progression in suspension, either by moving from one fixed anchor to another or by the use of moveable anchors or anchor points

2.2
anchor
fixture or place for the attachment of lines or persons

2.3
ascender
rope adjustment device which, when attached to a line of appropriate type and diameter, locks under load in one direction and slides freely in the opposite direction

Note 1 to entry: Normally used for ascending the working line or positioning the operative on it.

2.4
back-up device
rope adjustment device for a safety line of appropriate type and diameter, which accompanies the user during changes of position or allows adjustment of the length of the safety line, and which locks automatically to the safety line, or only allows gradual movement along it, when a sudden load is applied in one direction, e.g., in the event of a fall

2.5
belay
system incorporating a device to control, by friction, a running rope which acts as a brake should the user experience sudden movement or fall