Abseiling and Climbing

Australian Adventure Activity Good Practice Guide

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Contents Overview

Version details

Version	Date	Details
1.0	14 Dec 2018	Pre-release version. Final guidance content.

Foreword

"Adventure is worthwhile" – Aristotle

The Australian Adventure Activity Standard and Good Practice Guides are designed to ensure effective, responsible, sustainable and safe delivery of adventure activities to dependant participants. They can help people across the outdoor sector to develop appropriately managed adventure activities which enhance individuals and our communities, while protecting the environment and culturally significant places. In doing this, these documents can help ensure that people will continue to enjoy the benefits of adventure activities well into the future.

Best wishes for all your adventures.

The Australian Adventure Activity Standard Steering Committee.

Preface

About these documents

The **Australian Adventure Activity Standard (AAAS)** and related **Good Practice Guides (GPG's)** are a voluntary good-practice framework for safe and responsible planning and delivery of outdoor adventure activities with *dependent participants*.

The AAAS and related GPG's provide guidance on safety and other aspects of responsible activity delivery, such as respect for the environment, cultural heritage and other users. They are not a full legal compliance guide, nor are they a "how to" guide or field manual for outdoor activities. They do not provide guidance on providing a high-quality experience over and above safe and responsible delivery.

Activity *providers* are encouraged to obtain independent professional and legal advice in relation to their obligations and duties in delivering adventure activities and should reference the relevant laws to the area in which they intend to undertake the adventure activity.

Does the Standard and Good Practice Guides apply to me?

The AAAS and related GPG's are specifically designed to help activity *providers* who are conducting activities involving *dependent participants*, to provide a safe and responsible experience. It is for each *provider* to determine based on their own individual circumstances, if they are working with *dependent participants* or not.

A *dependent participant* is a person owed a duty of care by the activity *provider* who is reliant upon the *activity leaders* for supervision, guidance or instruction to support the person's participation in an activity. For example, this often includes participants under the age of 18, participants lacking the ability to safely undertake the activity, or participants reasonably relying on the activity *provider* for their safety. The degree of dependence may vary during an activity.

Considerations for determining if a person is a *dependent participant may* include, but is not limited to:

- the foreseeable level of *competence* of the participant in the activity and the associated level of reliance this creates on the *activity leaders*
- the level of foreseeable self-reliance of the participant to reasonably manage their own safety
- the possible variation throughout the activity of the level of reliance
- the variation of the degree of dependence throughout the activity
- the individual context, nature and circumstances of the activity
- the relevant circumstances and particular facts relating to the responsibilities assumed by the *provider*.

An activity *provider* can be any organisation – business, community group, government agency, school or any other groups – that organises and leads adventure activities. Individuals can also be an activity *provider*, if they have the ultimate legal duty of care to participants. In general, 'the Standard' and GPG's relate to a provider as a 'whole organisation', rather than to 'specific roles' within the provider 'organisation'.

Some providers may have their own standards or guidelines appropriate to their duty of care. It is recommended that these be reviewed periodically to ensure current duty of care expectations are met. 'The Standard' and 'GPG's' may aid such reviews.

Are they legally binding?

The AAAS and GPG's are voluntary, not legal requirements. However, they may refer to specific laws and regulations which may be legally binding on activity *providers*.

While the AAAS and 'GPG's' are voluntary, some *land manager*s and other organisations may require compliance. This may be as a condition of obtaining a licence, permit or other permission, or some other condition (e.g. a contract).

Under Australian common law and relevant legislation, *providers* have a legal duty of care towards *dependent participants* in some circumstances. In broad terms, the legal duty requires *providers* to take reasonable care that their actions and omissions do not cause reasonably foreseeable injury to *dependent participants*.

The AAAS and GPG's are not legal advice, and they cannot answer whether a legal duty exists in specific circumstances. All adventure activity *providers* should check what legal requirements apply in their own situation and seek legal advice if at all in doubt.

Even in cases where participants are not dependent, other legal duties and obligations may arise. The AAAS and GPG's have not been developed for those contexts.

Structure of the Standard and Good Practice Guides

The AAAS (i.e. the Standard) has a related Core Good Practice Guide (Core GPG). They both include guidance that applies to all adventure activities. They set out recommendations for a common approach to risk management that can generally apply regardless of the specific activity being undertaken.

Individual activity Good Practice Guides include guidance on specific adventure activities.

For any given activity, (i) the AAAS (the Standard), (ii) the Core GPG and (iii) the activity Good Practice Guide that applies to that specific activity, should be consulted.

The AAAS and Core GPG cover only those activities specifically listed. While the AAAS and Core GPG may be useful in managing *risk* generally for other activities, they may not reflect good practice for such other activities.

Interpretation of the Standard and Good Practice Guides

The following words and phrases are used in all documents and have specific meanings:

- *Must*: used where a provision is mandatory, if the *provider* is to operate fully in accordance with AAAS or GPG's. (This is equivalent to the keyword "shall" used in other voluntary standards *e.g. Standards Australia, other International Standards Organisations (ISO's) etc.*)
- *Should*: used where a provision is recommended, not mandatory. It indicates that the *provider* needs to consider their specific situation and decide for themselves whether it applies or is relevant.
- *Can/cannot*: indicates a possibility and capability.
- *May/need not*: indicates a permission or existence of an option.

- But are not limited to: used to indicate that a list is not definitive and additional items may need to be considered depending on the context.

The following formatting is used throughout:

- Defined words are in *italics.* They are defined in the Glossary.
- The main key words are in *italics*.
- Examples are in *smaller italic 9-point font*.
- In document references are in underlined. References are to section heading titles.
- External references are in dotted underline italic.

Creation

The AAAS and GPG's were developed with the input from a wide range of outdoors and adventure activity experts with extensive field experience. They draw on state and territory-specific standards previously in place across Australia. The development process included work by a range of technical expert working groups, as well as open consultation throughout the community of activity providers and other experts.

Further details of the creation of the AAAS and GPG's can be found at www.australianaas.org. The Steering Committee wishes to thank all the Technical Working Group (TWG) members for their work and contributions.

It is intended that the AAAS and GPG's will be regularly updated to reflect changing practice and better understanding over time. Updates will be noted on the website www.australianaas.org.

1 Introduction

This document is to be used together with Core Good Practice Guide.

1.1 Abseiling

Abseiling is descending vertical or near vertical *natural surfaces* or *artificial surfaces* using ropes and descending friction devices to manage the descent. It is also known as rappelling. Abseiling can occur on a single-pitch or multi-pitch. In most situations, abseiling involves descending a rope by walking backwards down a vertical or near vertical surface. *Forward abseiling* descents are also possible.

1.2 Climbing

Climbing is ascending, traversing or descending vertical or near vertical *natural surfaces* or *artificial surfaces*. The term rock climbing is also used for climbing on *natural surfaces* and at times used to describe climbing on *artificial surfaces*. For the purposes of this Good Practice Guide climbing *may* include ascending a fixed rope and climbing in climbing indoors (*e.g. climbing gyms*).

There are three types of climbing covered in this Good Practice Guide: *top-rope climbing*, *lead climbing* and *bouldering*.

> Top rope climbing is usually conducted on a single *pitch*.
>
> Lead climbing is further separated into *traditional climbing* and *sports climbing*. It can be conducted on a single *pitch* or *multi-pitch*.
>
> *Bouldering* is a form of climbing activity, limited in height and for which fall safety can be achieved by the provision of an impact absorbing system, by a *spotter* providing control of a fall or by a combination of these measures.

Climbing or abseiling without a means of a belay system is considered unacceptable, except for where a climber is *bouldering* within a reasonable *fall height*.

1.3 Exclusions

Activities that are not covered by this Good Practice Guide are:

- Challenge Ropes course activities
- 'Slack lining' or 'high lining'
- Climbing involving mountaineering and ice climbing
- Improvised roping activities during bushwalking on difficult or trackless terrain
- Activities associated with Camping while on overnight or extended activities.

1.4 Related activities

Abseiling and climbing is also engaged in as a component of associated activities including *canyoning* or *caving*. In these cases, the relevant associated Good Practice Guide *must* be used in conjunction with this Good Practice Guide.

Challenge course activities - refer to Challenge Course Good Practice Guide.

Where *bushwalking* occurs to access climbing and abseiling sites, then the Bushwalking Good Practice Guide *must* be complied with.

Where camping occurs associated with abseiling, the Camping Good Practice Guide *must* be complied with.

2 Management of risk

2.1 Management of risk

Refer Core Good Practice Guide Management of Risk provisions.

3 Planning

Also refer to Core Good Practice Guide.

3.1 Activity plans

Activity plan considerations *should* include but are not limited to:

- aims and objectives of activity
- participants involved including but not limited to:
    - group size
    - relevant items listed in participant sections
- environmental conditions
- the site environment including but not limited to:
    - the intended route to the site
    - the access to start & finish locations and throughout the activity
    - identifying site specific hazards and risks
    - surface type, stability and soundness of any features and anchors
    - characteristics of the route(s) e.g. difficulty, height, pitch, overhangs
    - availability and features of waiting areas
    - relevant items listed in environment sections
- the equipment requirements including but not limited to:
    - the expected weight of equipment need to be carried
    - relevant items listed in equipment sections
- the leadership requirements including but not limited to:
    - supervision requirements specific to the site
    - competencies required by activity leaders
    - relevant items listed in leadership sections.

3.2 Emergency management planning

Also refer to Core Good Practice Guide - Emergency management planning.

A non-participating contact *should* be used as part of the emergency management plan for all activities and *must* be used if providing activities in *remote areas* or where there is only one *activity leader*.

Events *must* be treated as an emergency where a person is hanging in a harness and is:

- unconscious or
- is unable to continue to progress either up or down for an extended period of time.

Emergency management plans *must* include:

- guidance on *trigger points* for considering the possibility of 'harness hang syndrome' occurring
- appropriate actions to follow where 'harness hang syndrome' is suspected, including but not limited to the relevant first aid treatment.

The use of relevant rescue systems and procedures *must* be practiced periodically.

Where there is only one *activity leader*, the emergency management plan *must* have arrangements that allow participants an adequate and appropriate communication system if the leader becomes incapacitated.

4 Participants

Also refer to Core Good Practice Guide.

4.1 Information provided pre-activity

Pre-activity information *should* clearly communicate:

- expectations and activity conditions

An appropriate pre-activity assessment *should* be conducted to ensure participants have the necessary pre-requisite skills & knowledge to undertake the activity.

4.2 Participant health and wellbeing

Potential measures to assist in providing positive participant experiences *may* include but are not limited to:

- providing the activity as an option so it is 'challenge by choice'
- providing a scaled level of experience to build participants level of skill, knowledge and experience
- providing real choice in terms of activity entry and exit options
- providing a briefing of hazards and risks and how these are managed
- considering the group dynamics when grouping participants
- providing emotional support through a supportive environment and positive rapport
- building and maintaining positive relationships within the group
- reducing as much as practical any discomfort from the equipment used.

5 Environment

Also refer to Core Good Practice Guide.

5.1 Environment related planning

5.1.1 Natural surfaces

Any approved installation of permanent artificial anchors in natural surfaces *must* be undertaken by appropriately *competent* person.

Any approved modification or removal of *natural surfaces must* be undertaken by an appropriately *competent* person.

Safety considerations for *natural surfaces should* include but are not limited to:

- stability of the cliff face
- stability of features (*e.g. loose rocks*)
- availability of anchors or natural features to use for anchors
- safety requirements for access and egress including the likelihood of a fall from height before and after participation
- climatic conditions and weather events or conditions
- ability to retrieve ropes without dislodging or causing rockfalls.

5.1.2 Artificial surfaces

Permanent *artificial surfaces* constructed specifically for use in activities *must* comply with relevant construction standards which *may* include but is not limited to:

- AS 2316.1—2009 Artificial climbing structures and challenge courses Part 1: Fixed and mobile artificial climbing and abseiling walls
- AS 3533.1-2009: Design and construction
- AS 3533.1-2009/Amdt 1-2011: Design and construction
- AS 3533.2-2009: Operation and maintenance
- AS 3533.2-2009/Amdt 1-2011: Operation and maintenance
- AS 3533.3-2003: In-service inspections
- EN 795: Personal fall protection equipment – anchor devices
- National Fire Protection Association (NFPA) standards

Temporary *artificial surfaces should* comply with either permanent *artificial surfaces* relevant requirements or be assessed by a *competent* person that it is fit for purpose for the activity.

Compliance with the AS 2316.1-2009 Australian Standard *may* include but is not limited to inspection, testing and maintenance requirements.

5.1.3 Weather information

Refer weather information in Appendix 1.

5.1.4 Severe weather triggers

Trigger points must be based on the relevant Bureau of Meteorology weather warnings and actual weather conditions.

The risk management plan and emergency management plan *should* include guidance on trigger points and associated actions for:

- severe weather warnings
- severe thunderstorm warnings
- coastal waters wind warnings
- tropical cyclone advice: watch and warning
- extreme cold temperature
- extreme hot temperatures.

Actions for weather triggers *may* include but are not limited to:

- cancellation of activity
- evacuating to a safe location
- avoid locations effected by tides or surf
- avoiding areas that have the potential for flash flooding
- preparations to avoid the risks associated with lightning
- preparations to avoid the risks associated with blizzards
- moving to areas that are protected from strong winds and/or hail
- managing risks of flying or falling items during strong winds.

5.2 Bushfire, prescribed fire and fire danger

Refer Core Good Practice Guide - Bush fire, prescribed fire and fire danger.

5.3 Water crossings and flooding

Areas subject to current flood warnings *should* be avoided.

During severe weather or thunderstorms or when they are forecast, areas likely to experience flash flooding *should* be avoided.

5.4 Wildlife safety

Procedures *should* be in place to minimise the risks associated with wildlife that *may* be encountered.

The types of wildlife encounters that *may* need to be considered include but are not limited to:

- bees
- hazardous plants *e.g. stinging nettle*
- nesting birds
- snakes
- spiders
- wasps.

Considerations in reducing the above wildlife encounters *may* include but are not limited to:

- briefing participants in how to respond to encounters
- conducting a site assessment before use
- using alternative locations if necessary.

5.5 Environmental sustainability procedures

Environmental sustainability *procedures may* include but are not limited to:

- minimising the use of living trees used as anchors
- use of 'tree protectors' and/or wide tape slings when using living trees as anchors
- locate activity area and waiting areas to reduce repeated soil and root compaction around trees
- the use of temporary edge protection
- the installation of permanent artificial anchors or equipment only being carried out with the permission of the Land Owner or Land Manager
- use of geological features or artificial anchors where installed, in preference to living trees as anchors
- avoiding the modification of any natural surfaces or removal of natural features
- avoiding the removal of selected rock surface vegetation
- the modification of natural surfaces or removal of natural features only being carried out with the permission of the Land Owner or Land Manager
- the use of existing site access tracks wherever possible
- avoid using the edge of access tracks
- choosing sites wherever possible that have a rocky base and top that can better tolerate groups
- choosing sites that are appropriate for the group size
- actively managing groups to minimise impact
- choosing shaded *waiting areas* so shade is not sought in inappropriate areas
- avoiding blocking access to other users with equipment or belayers
- negotiating with other users regarding shared use of a site
- use removable protection in a manner that avoids damage to and protects natural surfaces
- using chalk sparingly, only when necessary and where customary and/or allowed.

Also refer Core Good Practice Guide – Environmental sustainability procedures.

6 Equipment and logistics

Also refer to Core Good Practice Guide.

6.1 Equipment requirements

Procedures *must* be in place to ensure appropriate clothing for the expected and foreseeable weather conditions is available.

Procedures *must* be in place to ensure appropriate footwear for the expected and foreseeable terrain is used.

Footwear *must* be fit for purpose.

Equipment listed below *must* be manufactured for use in the context of the activity:

- Accessory cord
- Artificial removable anchors including but not limited to chocks, cams, nuts, hexes, keyhole/removable bolt plates
- Artificial fixed anchors used in artificial climbing or abseiling structures
- Ascending devices
- Belay devices
- Carabiners or other connectors
- Descending devices
- Dynamic rope
- Harnesses
- Helmets
- Lanyards
- Pulleys
- Slings
- Static rope
- Any other equipment that is part of the safety system used.

The use of twin or half ropes *may* depend on the individual provider's policy and procedures.

Appropriate vertical rescue equipment *must* be readily accessible.

Vertical rescue equipment *may* include but is not limited to:

- ascending devices
- belay device
- connectors
- knife
- pulleys
- prusik loops
- rope long enough for the longest *pitch*
- slings.

Where practicable, an additional rope long enough for the longest *pitch should* be considered for rescue purposes.

Procedures *must* be in place to ensure a drinking water supply is available.

Example equipment lists can be found in appendix 1.

6.2 Use of equipment

6.2.1 Equipment use

All equipment *must* be used with reference to the manufacturers' instructions.

Training in the use of equipment used *must* be provided to activity leaders and participants.

Before use, the compatibility between and correct functioning of all equipment *must* be confirmed.

An appropriate helmet for protection from falling objects *must* be worn for

- all climbing except bouldering on natural surfaces
- all abseiling on natural and artificial surfaces
- when in an area identified as requiring a helmet due to a falling objects risk.

An appropriate helmet *should* be considered when:

- climbing or bouldering on artificial surfaces,

- bouldering on natural surfaces.

Consideration *must* be given to if a helmet needs to be worn when *non-actively participating*.

Considerations regarding the wearing of helmets *must* include:

- the hazards and risks of falling objects (*e.g. rock fall, equipment being dropped, falling climber etc.*)
- the hazards and risks of head impact against a surface (*e.g. the head hitting: the climbing wall, a feature like an overhang roof, a hard surface in the fall zone, an obstacle in fall zone, a person in the fall zone etc.*)
- what hazards the helmet design can provide protection for (*e.g. if intent is to protect both impact of a falling object and a lateral blow, the helmet used should be designed for that purpose*).

An appropriate harness *must* be used.

6.2.2 Equipment loading

Equipment will have a *Stated Strength* that *may* or *may not* include a *safety factor*. The type of *Stated Strength* rating needs to be known before use to ensure equipment is safely loaded. (Refer appendix 3 – equipment load ratings for more details).

Equipment with the *Stated Strength* providing the *Minimum Breaking Strength* (MBS) *must* have a suitable *Safety Factor* applied and a *Safe Working Load* (SWL) calculated.

Equipment with the *Stated Strength* providing the *Safe Working Load* (SWL) *must* only be loaded to the maximum of the *Safe Working Load* (SWL).

Reference to the manufacturers' instructions *must* occur when determining a safety factor and/or safe working load.

The expected peak load and possible additional loads should a rescue be carried out *must* be considered when determining equipment loading.

6.2.3 Connections

Connection methods, equipment and systems used *must* be periodically reviewed.

Considerations when determining connection methods, equipment and systems *should* include but are not limited to:

- the type of anchor or anchors being used
- the redundancy available should an anchor fail
- what needs to be attached to the harness (*e.g. direct connection to rope or a descender device)*
- the experience and context of who is completing the connection of the rope to the harness or descender device
- the availability of a *competent* person to supervise or check the connection that is completed by a participant.

6.2.4 Connectors and practices relating to use

Carabiners *must* be used so that no load is intentionally across the minor axis or gate.

Systems that have cyclical loads constantly applied or subject to vibration *should* be inspected at an appropriate frequency.

The type of connector used *must* be suitable for the task.

The connection of the harness *must* use either:

- two methods of connection to provide redundancy, with any carabiners used being *locking* carabiners or
- a 'three way' *auto-locking* carabiner where 'clipping in' is the soles means of attachment.

The connection of the belayers harness to 'belay devices' *must* use either a *locking* carabiner or *auto-locking* carabiner.

In situations where participants complete any connection to a harness:

- the connector or knot *must* be checked by a *competent person*
- and when a *competent person may* not check the connection, two methods of connection to provide redundancy *must* be used.

6.2.5 Chest harnesses

Chest harnesses are only to be used in combination with a sit harness.

Consideration of the use of a combination chest and climbing sit harness or a full body harness *should* occur:

- for forward facing abseils
- when inversion is intended or likely
- when the security of a sit harness cannot be relied upon due to body shape
- when the security of a sit harness cannot be relied upon if the person were to experience a pre-existing health, medical or personal condition episode (*e.g. epilepsy*)
- very young participants.

6.2.6 Other equipment use considerations

Dynamic rope must be used for the belay rope when:

- '*lead climbing'*
- a *fall factor* is likely to approach or exceed 0.3
- lanyards (*e.g. 'cows tails'*) are used at or above anchor height.

A procedure regarding participant supplied equipment *should* be developed.

Where a participant supplies any personal climbing or abseiling equipment, this *must* comply with the above equipment requirements and equipment use sections and be serviceable.

Wearing gloves *should* be considered when abseiling.

6.2.7 Rescue systems and rigging for rescue

Anchor systems and belay systems *must* be rigged for a timely and effective rescue.

Considerations in rigging systems for rescue *must* include but are not limited to:

- load direction
- load magnitude
- ability to lower the person
- ability to conduct sideways hauls
- ability to enable an *activity leader* to complete a *contact rescue*
- ability to raise the person.

6.3 Maintenance of equipment

All equipment *must* be checked that it is serviceable before each activity or before being used.

All equipment *should* be inspected periodically that it is serviceable.

Appropriate procedures *must* be in place for inspections and determining the time periods between inspections.

All anchors on *artificial surfaces* used *should* be periodically inspected as per any relevant 'artificial surfaces' construction standard by an appropriately *competent* person.

Considerations for how regular the assessment of all anchors occurs *may* include but are not limited to:

- the characteristics of the site
- how many people use the site and how regularly
- any manufacturers' recommendations where relevant
- the equipment being used.

Equipment and inspection records *must* conform with any legislative or regulatory requirements.

A record of inspection of anchors on *artificial surfaces must* be maintained.

An equipment record *should* be maintained.

Where used, an equipment record *should* record but is not limited to the:

- item individual identifier
- age *(e.g. date of manufacture*)
- date of inspections
- recommended or maximum lifespan.

A retirement of equipment policy *should* be developed.

Considerations for a retirement of equipment policy *may* include but are not limited to:

- type of use
- frequency of use
- prevailing conditions when used
- actual deterioration, wear and tear
- extreme usage events or patterns (*e.g. impacts, 'catches'*)
- age
- years in service
- manufactures recommendations.

6.4 Storage of equipment

Activity equipment *must* be stored in accordance with the manufacturer's recommendations or instructions.

Where no manufacturer's recommendations exist, considerations for storage of equipment *may* include but are not limited to:

- equipment is clean and dry
- the storage is free from harmful chemicals
- the storage is free from damp conditions
- the storage is free from environmental exposure including Ultra Violet (UV) light and avoids extremes of temperature
- the storage is free from interference of fauna or vermin.

7 Leadership

Also refer to Core Good Practice Guide

7.1 Naming conventions

The activity leader naming convention enables this Good Practice Guide to be related to Core Good Practice Guide requirements.

It is important to clarify specific roles and competencies required to avoid the possibility of:

- an "assistant guide" leading a group when "guide" *competencies* are required

- an “assistant guide” or “guide” leading a group when “instructor” *competencies* are required.

All activity leader competencies needed for a particular role *must* be clearly defined.

An abseiling and/or climbing instructor, has the competence to instruct participants so that they may undertake the activity independently without supervision.

An abseiling and/or climbing guide, has the *competence* to lead participants throughout the whole activity.

An abseiling and/or climbing assistant guide, has some but not all of the *competencies* of an abseiling and/or climbing guide, so can only lead participants through part of the activity under supervision of a guide or instructor.

The leadership naming conventions are:

‘’Abseiling guide”, ‘’Climbing guide”, “Abseiling instructor” and “Climbing instructor” *can* be the equivalent to *Leader* in Core Good Practice Guide.

7.2 Competencies

This section outlines the *competencies* that activity leaders *should* have.

7.2.1 Competencies overview

The AAAS and Good Practice Guides refers to units from the Sport, Fitness and Recreation Training Package for descriptive statements of the knowledge and skills required of *activity leaders*.

The Training Package units are used for the sole purpose of providing descriptions for the knowledge and skills required. It is not intended to imply or require that specific formal training, assessment or qualification is the only means of gaining or recognising knowledge and skills.

Activity *providers can* recognise *activity leaders* as having the ‘ability to apply knowledge and skills to achieve expected results’ (i.e. *competencies*) in a number of different ways as per Recognition of competence in Core GPG.

The Training Package units listed can be found by searching for the units on the training.gov.au/Home/Tga website. The code provided with the unit name assists in this search.

7.2.2 Abseil and climb competencies

Also refer to competencies section in Core Good Practice Guide.

For activities that also involve bushwalking to the site, refer to the Bushwalking Good Practice Guide.

Abseiling natural surfaces competencies – see appendix A6.1

Abseiling artificial surfaces competencies – see appendix A6.2

Climbing natural surfaces competencies – see appendix A6.3

Climbing artificial surfaces competencies – see appendix A6.4

Bouldering competencies – see appendix A6.5

Relevant rescue competencies *must* be practiced periodically.

7.3 Recognition of competence

Refer to considerations for recognition pathways outlined in Core Good Practice Guide.

7.4 Supervision

7.4.1 Overview

Appropriate supervision *must* be provided at all times during the activity.

The number of participants permitted to actively participate in an activity *must* be limited to the number the activity leaders can provide with *direct supervision* to deal with all aspects of the activity.

Spectators or participants currently *non-actively participating should* be located in a *waiting area* that reduces the likelihood:

- of a fall from height
- being struck from a falling object and/or
- they interfere with the conduct of the activity.

Spectators or participants currently *non-actively participating should* where necessary be supervised independently.

7.4.2 Abseiling and climbing group size

Considerations when determining group size *must* include but are not limited to:

- site capacity
- site related legislation or regulation
- the time allowed to enable all participants in the group to complete the activity is sufficient and realistic and does not compromise safety
- having appropriate supervision for non-actively participating participants
- considerations for determining group size outlined in Core Good Practice Guide.

7.4.3 Recommended supervision

Considerations for determining supervision requirements *may* include but are not limited to:

- characteristics of the site
- the belay system used
- participant training progression and competence
- supervision requirements of participants who are waiting
- time for the activity leaders to allow all participants to undertake the activity being sufficient and realistic
- general considerations for determining supervision requirements outlined in Core Good Practice Guide.

The supervision requirements and ratios for programs that train/teach participants to become guides or instructors *should* be determined on a case-by-case basis, according to the progress of those participants towards being fully independent guides or instructors themselves.

7.4.4 Participants that are non-actively participating

Consideration *must* be given to the type of supervision participants require when *non-actively participating* (i.e. who are waiting to undertake the activity).

In cases where participants who are *non-actively participating* require *direct supervision*, that supervision *must* be provided by an activity leader not providing *direct supervision* of an activity or by a *responsible person* as appropriate.

7.4.5 Abseiling supervision

Adequate supervision *must* be provided for participants both actively and non-actively participating.

The following supervision recommendations are based on participants who are *non-actively participating* are either:

- capable of self-managing their own safety in a *waiting area* based on instructions provided or
- are under the supervision of either another *activity leader* not providing direct supervision of the activity or a *responsible person*.

Recommended supervision for participants actively abseiling and/or belaying, for single pitch or multi-pitch on natural or artificial surfaces:

- *top-belay* with guide or instructor belaying at top:
    - 1 x abseil guide/instructor to 1 x belay system in use.
- *top-belay* with participants used as belayers at top, with backup belayers, while in close proximity to each other:
    - 1 x abseil guide or instructor to a maximum of 2 x belay systems in use.
- *bottom braking*:
    - 1 x abseil guide/instructor dispatching at top and 1 x abseil guide/instructor/assistant guide at the base to a maximum of 1 x active belay system in use.
- *self-belay* (note: is context dependent based on an appropriate learning progression):
    - 1 x abseil guide/instructor to maximum 2 x belay systems in use.
- *multipitch abseil*:
    - 1 x abseil guide/instructor dispatching at top and 1 x abseil guide/instructor to establish the lower belay station to a maximum of 1 x active belay system in use.
- *multipitch abseil* that is a series of 'single pitch abseils', where all pitch changeovers occur at an area that does not require a *belay system* or *direct supervision* of participants to protect from a fall from height:
    - 1 x abseil guide/instructor to 1 x belay system in use.

7.4.6 Climbing supervision

Adequate supervision *must* be provided for participants both actively and non-actively participating.

Unless the belayers and climbers are assessed for *competence* they *should* be considered dependent participants and suitable supervision as recommended below is used.

The following supervision recommendations are based on participants who are *non-actively participating* are either:

- capable of self-managing their own safety in a *waiting area* based on instructions provided or
- are under the supervision of either another *activity leader* not providing direct supervision of the activity or a *responsible person*.

Recommended supervision for participants actively climbing and/or belaying:

For single-pitch on natural or artificial surfaces:

- *top-belay* with belayer at the bottom, with participants as belayers and backup belayers, while climbs in close proximity to each other:
    - 1 x climbing guide/instructor to maximum of 2 x belay systems in use
    - 1 x climbing guide/instructor and 1 assistant guide to maximum of [3] x belay systems in use.
- *top-belay* with belayer at the top, with participants as belayers and backup belayers, while climbs in close proximity to each other:
    - 1 x climbing guide/instructor supervising belaying and 1 x assistant climbing guide supervising tying in (at the base) to a maximum of 2 belay systems in use.
- *auto-belay* top-belay on artificial surface with climbs in close proximity:
    - 1 x climbing guide/instructor to a maximum of 8 x belay systems in use.
- *lead climbing* with participants as belayers and backup belayers, while climbs in close proximity to each other:
    - 1 x climbing guide /instructor to a maximum of 2 belay systems in use.

- *self-belay* (note: is context dependent based on an appropriate leaning progression):
    - 1 x climbing guide/instructor to maximum 2 x belay systems in use.

For multi-pitch on natural or artificial surfaces:

- climbing guide/instructor leading climbs; participants belaying:
    - 1 x climbing guide/instructor to a maximum of 4 participants.

7.4.7 Bouldering supervision

Adequate supervision *must* be provided for participants both actively and non-actively participating.

The number of climber's that can be supervised while *bouldering must* be based on the:

- the *competence* of the *spotters*
- the ability and need for providing *direct supervision* or *indirect supervision* of both the climber(s) and *spotter(s)*
- the available distance separating multiply climber's *bouldering*
- the site considerations including hazards within the *fall zone*.

7.5 Activity management during activity

7.5.1 Knowledge of site

The knowledge and experience of the activity site that activity leaders require before leading participants at that site, *should* be considered when allocating activity leader roles.

7.5.2 Activity information provided to participants

The information required *must* be determined prior to the activity.

Required information *must* be provided at the appropriate time before or during the activity.

Opportunities for participants to ask questions and have concerns addressed *must* be provided.

Where there is only has one activity leader, the group *must* be briefed on what action to take to enact the emergency management plan if the activity leader becomes injured or incapacitated.

Activity information that *should* be provided to participants includes but is not limited to:

- the plan for running the activity
- who is controlling the activity and who to ask for guidance
- relevant participant responsibilities
- site specific hazards and risks
- the correct fitting of personal equipment and this is to be checked before use
- the correct use of the belay systems and other any other fall protection systems
- the correct use of the activity's systems
- an appropriate technique(s) for the activity
- the release procedures for belay system or other system
- communications systems and requirements
- any other relevant activity information or procedures.

Climbing specific activity information

Activity information that *should* be provided to participants climbing includes but is not limited to:

- the activity information listed above
- method for "falling off" and "recovering to the climb"
- procedures for exiting at the top or being lowered back to the start.

7.5.3 Falling objects

Procedures to minimise the possibility or impact of falling objects *must* include but are not limited to:

- checking the site and anchors prior to use
- ensuring helmets are worn where relevant as per the equipment section
- designating *waiting areas* that reduce the expose to falling objects
- briefing participants on potential hazards and how to avoid dislodging objects
- briefing participants on the appropriate action and warnings to give if an object does fall
- managing groups so that the groups and individual's exposure within potential fall areas is minimised
- minimising movement between areas that are located above other people
- supervision of participants while they are located above other people.

Procedures to minimise the possibility or impact of falling objects *should* include but are not limited to:

- placing belay areas wherever possible so that they are not directly under the climber
- where allowed, remove loose objects that are likely to fall prior to running the activity
- managing spectators and other people moving through the area.

7.5.4 Falls from height

Considerations for the likelihood of a fall from height *should* include but are not limited to:

- how close to the edge people are
- the slope of the surface being stood on
- the stability and grip of the surface being stood on
- obstacles that need to be negotiated
- abilities of participants including the ability to follow instructions.

To protect from a fall from height, procedures *must* include checking participant(s):

- equipment is correctly fitted before they need to rely on the *belay system*
- correct attachment to the *belay system*, abseil system and/or other safety systems.

Checking equipment and attachment *must* not be delegated to the participants themselves, unless they have demonstrated *competence* in the procedure(s).

To reduce the potential for and/or severity of falls from height, procedures *must* include:

- ensuring ropes are of a sufficient length for the *pitch*
- remove unnecessary slack in belay system before use
- monitoring the correct use of belay systems
- monitor attaching to anchors or belay systems
- monitor belay rope(s) to keep them at the appropriate length
- monitor belay systems to remove unnecessary slack in belay ropes
- providing appropriate instruction to mitigate risks caused by the stretch in dynamic rope.

To reduce the potential for and/or severity of falls from height, procedures *should* include:

- designating what areas that are not to be entered
- designating *waiting areas*
- designating areas that can only be accessed when attached to the *belay system*
- *[duplication see above]*
- checking correct attachment to the *belay system*, safety or other systems
- anchoring the *belayer* where the *belay system* relies substantially on the *belayers* weight to arrest a fall and the weight of the abseiler or climber is greater than that of the *belayer.*

Consideration *must* be given to the need for separately *spotting* climbers when starting their ascent, until such time the climber reaches a *fall height* where the *belay system* will fully operate to stop their fall before they touch the *fall zone*. (Refer bouldering specifics section During activity – Bouldering.)

7.5.5 Swinging falls

To reduce the potential for injury or damage to participants or equipment consideration *should* include but is not limited to the possibility of participants:

- taking a route on an angle that creates the potential for a pendulum swing if control is lost
- swinging or falling against or across hard, abrasive or sharp objects.

7.5.6 Entanglement and snags

The activity leader(s) *should* monitor belay rope(s) to keep them at the appropriate length and tension, to prevent the possibility of a slack rope becoming entangled or snagged.

To avoid entanglement in ropes and devices:

- long hair *must* be secured to stop it being able to be entangled
- loose jewellery (*e.g. bracelets and necklaces*) *should* be removed or secured
- loose clothing and drawstrings *should* be secured.

To avoid being caught or snagged, where there is such a risk:

- rings *should* be removed or tapped over
- body piercings *should* be removed or taped over.

7.5.7 Anchors and the belay & activity systems

Anchors *must* be sufficient to protect a fall.

Procedures to ensure that all systems function as intended *must* include but are not limited to:

- anchor systems are assessed as suitable to support the intended loads
- anchor systems and equipment are suitable for the activity, site and participants
- appropriate knots and connections are used
- regular inspection of all anchors and connections where practicable
- operating procedures and checks used will prevent unplanned disconnection of any part of the system
- checking attachment to and disconnection from the system during the activity.

Where a belay system requires a belayer, either the belayer *must* be:

- a *competent* belayer; or
- under *direct supervision* of an activity leader.

Also refer equipment section – Rescue systems – rigging for rescue.

7.5.8 Abseil belay systems

The abseil system *must* use at least one belay method to protect the abseiler if they lose control of the descent.

Belay methods include but are not limited to a *top belay* system, *bottom braking* or a *self-belay* system.

Equipment and systems to affect a rescue *must* be available.

Considerations for using a *top belay* system *should* include but are not limited to:

- any stretch in the belay system still allows it to effectively protect a fall
- the likelihood of the abseiler spinning and twisting the belay and abseil ropes together *e.g. free abseiling, abseiling over overhangs*.

Considerations for using *bottom braking should* include but are not limited to:

- that any stretch in the belay system still allows it to effectively protect a fall
- the belayers competence or ability to be appropriately supervised
- the appropriate equipment required to ensure the descent speed is appropriate
- the activity aims, and objectives being suited to the participants
- any policy requirements of the 'organisation' engaging the provider to deliver activity for its participants (*e.g. education department policy*)
- the appropriateness of the site
- the additional risks when abseiler's are free hanging and/or required to negotiating overhangs
- the ability of the belayer to see the abseiler at all times
- the likelihood of objects falling on the belayer.

Considerations for using a *self-belay* system (*e.g. prussik brake*) as the belay method to protect the abseiler if they lose control of the descent *should* include but are not limited to:

- the abseiler being *competent* in operating the *self-belay* system
- having available equipment and systems to affect a rescue
- the stretch in the belay system is too great for a *top belay* system or *bottom braking* system to effectively protect a fall.

7.5.9 Longer abseils

Considerations for longer abseils *should* include but are not limited to:

- appropriate communication systems to enable effective communication between the top and bottom of the pitch
- use of an appropriate belay system that effectively protects a fall including:
    - checking if *bottom braking* is effective over the length of the abseil
    - checking if a two-rope system is effective over the length of the abseil
- use of an appropriate descender device to handle the heat build-up over the length of the abseil
- issues caused by the weight of the rope(s)
- the time the abseiler will be suspended in a harness
- strategies to manage the varying amount of friction experienced over the length of the abseil.

7.5.10 Forward abseiling

Some risks associated with forward abseiling are different to backwards abseiling and require additional risk management practices. Forward abseiling can cause significant discomfort to the abseiler.

Sit harnesses *must* only be used when they:

- have manufactures endorsement for use in *forward abseiling*
- are fit for purpose
- are fitted as per manufactures instructions and not in reverse
- fit the abseiler correctly
- will retain the abseiler if they become inverted.

A full body harness *must* be used when a sit harness is not suitable.

The connection to the *belay system* in every case *must* be checked by a *competent* person, as the abseiler is unable to fully inspect the connection located behind them.

The abseiling system used *must* allow a rescue to be swiftly completed without requiring the abseiler to assist.

A *self-belay* system *must not* be used as the belay method to protect the abseiler if they lose control of the descent when *forward abseiling*.

Forward abseiling activity leaders *must*:

- have experience in forward abseiling
- competent in handling the additional complexities when completing forward abseiling.

Additional considerations for forward abseiling *should* include but are not limited to:

- having an appropriate learning progression for the participant
- any pre-existing medical conditions
- the abseil site including the length of abseil and slope
- the equipment used, including its impact on the speed of descent
- the pre-activity information and briefings provided.

7.5.11 Multi-pitch activities

A pre-activity check and ongoing monitoring *must* be used to confirm that the activity follows and uses the correct route and belay station locations.

Participant management practices *should* be used to prevent overcrowding at belay stations.

Participants *should* have:

- prior experience in the activity or the opportunity to try a single pitch of the activity, before being committed to completing a *multi-pitch* activity
- the *competence* in using basic skills to temporarily operate out of line of sight or communication of an activity leader.

Procedures *must* enable appropriate communication between groups at each belay system.

Additional pre-activity information *should* include but is not limited to the method of transferring from the activity belay system to a fixed anchor and back to the activity belay system.

7.5.12 Activity leader fatigue and repetition

Considerations in managing activity leader fatigue and task repetition risks *should* include but are not limited to:

- group sizes and the number of groups
- role rotation
- suitable breaks.

7.5.13 Activity leader positioning

The activity leader *should* where practicable, have visual contact with the abseiler(s) and/or climber(s).

An activity leader with the appropriate rescue competencies *must* be positioned to affect a timely rescue if required.

7.5.14 Communication

A system of clear & unambiguous verbal or non-verbal communications *must* be used to manage the activity.

Having line of sight and communication by sound *should* be used as the preferred means of supervising participants wherever possible.

7.5.15 Participants belaying or spotting

Considerations for when participants operate *belay systems* or *spotting should* include but are not limited to:

- participants are willing and capable
- appropriate training is provided

- the need for ongoing monitoring to ensure:
    - correct technique is used
    - attention to the task is maintained
    - equipment is used correctly
- can appropriately communicate with the climber or abseiler
- backup systems to support the belayer (*e.g. backup belayer*).

7.5.16 Bouldering

Safety considerations when bouldering *should* include but are not limited to:

- the hazards within the fall zones
- the possibility of falling objects
- whether the surface has holds on vertical, inclined and/or overhanging surfaces
- the body orientations of the person bouldering that the holds permit
- the need for *spotting*
- possible use of padding to protect from hazards in the *fall zone* and/or hard landings
- the supervision required.

Spotting should be used while participants are *bouldering* on *natural surfaces*.

An appropriate helmet *should* be worn when *bouldering* and *spotting* on *natural surfaces*.

Where participants are spotting they *must* be instructed and appropriately supervised.

7.5.17 Single activity leader working independently

When a single *activity leader* working independently requires a *belayer* and relies on *dependent participants* to belay them, additional procedures that *should* be considered include:

- assessment of the participants *competence* to operate the *belay system*
- the use of a backup *belayer*
- appropriate selection of the climb route difficulty to minimise the possibility of the *activity leader* falling while climbing.

When a single *activity leader* working independently is *lead climbing* or doing *multi-pitch* climbing activities, a procedure for pre-attachment of *dependent participants* to the required systems *must* be used prior to the *activity leader* leaving to establish the next belay station.

Glossary

Also, refer terms and definitions from Core Good Practice Guide.

AAAS: Australian Adventure Activity Standard – See Preface for details.

Abseiling: descending vertical or near vertical *natural surfaces* or *artificial surfaces* using ropes and descending friction devices to manage the descent. It is also known as rappelling.

Abseiling assistant guide: is an *Assistant Leader* with some of competencies of an Abseil Guide and is able to lead participants in parts of an abseiling activity.

Abseiling guide: is a *Leader* able to lead participants throughout an abseiling activity.

Abseiling instructor: is a Leader able to teach participants to achieve the skills and knowledge required to participate in an abseiling activity independently.

Anchor: Any load bearing attachment to which any part of a *belay system* is attached.

Anchor system: a group of individual *anchor*s to which any part of a *belay system* is attached.

Artificial surface(s): a man-made structure. Also called 'artificial structures' and *may* include but is not limited to portable climbing/abseiling walls, climbing gyms, challenge course elements, fixed climbing/abseiling or other towers, buildings and bridges.

Auto-belay system: A device that acts as a *belay system* and that provides for the safe retardation of the climber to a controlled rate of descent such that there is no hazardous impact with the ground.

Belay System: The means by which the climber or abseiler is protected from an uncontrolled fall or descent.

Belayer: A person that operates the *belay system*.

Bottom belay: Belaying a climber or abseiler from the bottom of a *pitch.*

Bottom braking: The controlling of the descent of an abseiler, by a *belayer* located below the abseiler applying tension to the abseil rope.

Bouldering: A form of climbing activity, limited in height and for which fall safety can be achieved by the provision of an impact absorbing system, by a *spotter* providing control of a fall or by a combination of these measures.

Bushwalking: walking in natural areas.

Carabiner: (refer connector).

Camping: the use of a temporary site for overnight camping.

Caving: refer Caving GPG.

Canyoning: refer Canyoning GPG.

Climbing: ascending, traversing or descending vertical or near vertical *natural surfaces* or *artificial surfaces*. (Also see r*ock climbing*).

Climbing assistant guide: is an *Assistant Leader* with some of competencies of a Climbing Guide and is able to lead participants in parts of a climbing activity.

Climbing guide: is a *Leader* able to lead participants throughout a climbing activity.

Climbing instructor: is a *Leader* able to teach participants to achieve the skills and knowledge required to participate in a climbing activity independently.

Connector(s): a metal device used to link components together. A connector may be:

- *Non-locking*: a connector that cannot be locked to prevent it opening.
- *Locking*: a connector that can be manually locked and unlocked to reduce the possibility of it opening
- *Auto-locking*: a connector that will automatically lock to prevent it from opening and requires two or more deliberate actions to unlock.

Contact rescue: a rescue requiring an activity leader to manoeuvre to the persons actual location to physically assist them.

Dynamic rope: a specially constructed rope that is somewhat elastic under load. The elastic 'stretch' under load is what makes the rope 'dynamic'. (Also see *static rope*.)

Fall factor: is the ratio of the height of a fall (h) (measured before the rope or lanyard begins to stretch) and the rope or lanyard length available to absorb the energy of the fall (L). It is used as a representation of the severity of a fall when arrested by a belay system. It is calculated by (h) divided by (L).

Fall height: The vertical distance between the climber's or abseiler's lowest body element and the surface beneath.

Fall zone: The surface that can be hit by a climber or abseiler falling.

Feature: a part of a *natural surface* or *artificial surface*.

Flash flooding: is flooding in a localised area with a rapid onset, usually as the result of relatively short intense bursts of rainfall.

Forward abseiling: *abseiling* while facing towards the ground.

GPG's: Good Practice Guide(s) – See Preface for details.

Lead climbing: where the climber ascends a *pitch* while periodically attaching their rope to fixed or removable protection.

Minimum Breaking Strength (MBS): is the magnitude of a load that may permanently distort or damage equipment but not cause it to break. (Refer appendix 3 – equipment load ratings).

Master Anchor Point: (also known as Focal or Power Point) The main connection point of an *anchor* constructed from multiple anchors or pieces of protection providing increased security through redundancy.

Multi-pitch: a section of a *natural surface* or *artificial surface* that to ascend, traverse or descend, progress is made by using more than one *pitch* and establishing *belay systems* mid route.

Natural surface(s): the geologic structure and flora that forms a cliff or steep face.

Non-actively participating: a participant that is waiting to but is not currently doing the activity.

Pitch: a section of a natural surface or artificial surface that requires no greater than one length of rope to ascend, traverse or descend. (Also see *multi-pitch* and *single-pitch*.)

Rappelling: see *abseiling*.

Rock Climbing: ascending, traversing or descending vertical or near vertical *natural surfaces*. At times also used to describe climbing on *artificial surfaces*. (Also see *climbing*.)

Safety Factor: the ratio between the *Minimum Breaking Strength* (MBS) and *Safe Working Load* (SWL) to provide a safety margin. It is expressed as a ratio, example 8:1. (Refer appendix 3 – equipment load ratings).

Safe Working Load (SWL): is the magnitude of load that does not permanently distort, weaken, damage or break equipment and includes a safety margin. (Refer appendix 3 – equipment load ratings).

Self-belay: a *belay system* that requires the climber or abseiler to operate and does not use an independent belayer or *auto-belay system*. *For example, abseiling with a prussik brake.*

Single-pitch: a section of a *natural surface* or *artificial surface* that requires no greater than one length of rope to ascend, traverse or descend.

Sports climbing: *lead climbing* where the *belay system* relies on permanent fixed anchors for protection. (Also see *traditional climbing*)

Spotter(s): a person or persons who are *spotting*.

Spotting: a support process provided by a person, or persons, who offer physical protection of the head and upper body of a person should they fall.

Stated Strength: the magnitude of load that is either the *Minimum Breaking Strength* (MBS) or *Safe Working Load* (SWL) marked on equipment or listed in manufacturer's literature. (Refer appendix 3 – equipment load ratings).

Static rope: a specially constructed low stretch kernmantle rope, that has low elongation under load. The low elongation or 'stretch' under load is what makes the rope 'static'. (Also see *dynamic rope*.)

Top belay: Belaying a climber or abseiler from the top of a *pitch*.

Top-rope climbing: climbing where the *belay system* has its *anchor* or *anchor system* at the top of the *pitch* and uses either a *top belay* or *bottom belay*.

Traditional climbing: *lead climbing* where the *belay system* relies on *anchors* for protection that the climber places during the climb. (Also see *sports climbing*).

Via ferrata climbing: climbing where the safety system does not use a *belayer* and relies on a series of permanent fixed anchors that limit the distance a climber can fall.

Waiting areas: a location in which to wait prior to undertaking the activity, where it is reasonable for a person to not be required to use equipment to protect them from a fall from height.

Abseil & Climb Appendices

Appendix 1 Weather information

The Bureau of Meteorology also provides a range of services. For details refer to:

http://www.bom.gov.au/weather-services/WeatherGuideLand.pdf

The following table details the:

- current Australian weather warnings
- associated weather for each warning
- mainland warning trigger points for issuing warnings for strong winds and hail.

Bureau of Meteorology weather warnings and associated weather Table:

Severe Weather warning	**Severe Thunderstorm warning**	**Coastal Waters Wind Warning**	**Tropical Cyclone Advice: Watch or warning**
High tides			
Large surf			
Blizzards			
Heavy rain/flash flooding	Heavy rain/flash flooding		
Strong winds Wind >63 km/h Gusts >90 km/h	Strong winds Gusts >90 km/h	Strong winds Wind >48 km/h or >26 knots	Strong winds Wind >62 km/h or >=34 knots
	Tornadoes		
	Hail (>=2cm)		
	Lightning		

Appendix 2 Equipment

The equipment required and the appropriate "type" of equipment used is dependent on the specific context of the activity.

Equipment used for abseiling and climbing *may* include but is not limited to:

A2.1 Abseiling and climbing specific equipment

- Helmet
- Harness
- Descending device
- Belay device
- Carabiner
- Ropes – static and dynamic as appropriate
- Slings
- Accessary cord
- Artificial removable anchors including but not limited to chocks, cams, nuts, hexes, keyhole/removable bolt plates
- Fixed artificial anchors (*e.g. bolts*)
- nut tool
- Whistle (for communications or emergency)
- Rescue equipment.

Rescue equipment *may* include but is not limited to:

- Additional rope
- Pulleys
- Ascenders
- Prusik loops
- Slings
- Accessory cord
- Carabiners
- Belay device
- Knife suitable for cutting ropes (preferably on a lanyard).

A2.2 Abseiling specific equipment

Specific equipment for abseiling *may* include but is not limited to:

- Gloves.

A2.3 Climbing specific equipment

Specific equipment for climbing *may* include but is not limited to:

- Gloves
- Climbing shoes
- Chalk bag.

A2.4 Bouldering specific equipment

Specific equipment for bouldering *may* include but is not limited to:

- Crash pads or padding.

A2.5 General equipment

Specific general equipment *may* include but is not limited to:

Emergency/rescue

- Documentation (see Core Good Practice Guide - Activity leader required documentation)

- Emergency communication equipment (see Core Good Practice Guide -Emergency communication)
- First aid kit in waterproof storage (see Core Good Practice Guide - First aid equipment and medication)
- A waterproof method of storing and carrying documentation and communications equipment
- Specific activity context equipment required
- Emergency shelter where appropriate for the context
- Emergency equipment to keep a patient warm (*e.g. mat, sleeping bag*) where appropriate for the context.

Activity Leaders

- communications equipment (standard communication rather than emergency communication where this differs) and spare batteries or backup "power banks"
- relevant maps and navigation information
- a waterproof method of storing and carrying maps and navigation information
- compass and/or other navigation aids(*e.g. GPS*)
- pen/pencil and blank writing paper
- watch or equipment suitable to tell and measure time for first aid purposes
- head torch and spare batteries
- same as for participant.

Participant

- personal medications (including for asthma and anaphylaxis)
- personal hygiene requirements
- clothing appropriate to the weather conditions
- sun hat
- sunglasses
- spare prescription glasses
- sunscreen.

Group

- backpack to carry equipment
- trowel for toileting
- toilet paper
- hand sanitiser
- water purification 'system'
- repair kit
- food for duration plus spare
- rubbish bags
- multi-tool with knife
- sunscreen
- insect repellent
- first aid kit common content (see Core Good Practice Guide)

Multi- pitch activities

- small personal backpacks to carry personal equipment
- inter-group communication equipment *(e.g. portable two-way radios)*

Appendix 3 Equipment & relevant standards

A3.1 Equipment and standards

Fixed and mobile artificial climbing and abseiling walls:

- AS2316.1—2009 - Part 1

Equipment and the relevant standards:

- Accessory cord (EN 564)
- Braking devices (EN 15151-1, EN 15151-2)
- Carabiners or other connectors (EN 362, EN 12275, AS/NZS 1891.4 or ISO 10333-5)
- Chocks (EN 12270)
- Crash pads/padding (AS2316.1—2009 - Part 1, UIAA 161-3)
- Descending devices (EN 341)
- Energy absorbing systems EN 958
- Frictional anchors EN 12276
- Helmets (EN 12492)
- Harnesses (EN 358, EN 361, EN 813, EN 12277, AS/NZS 1891.4 or equivalent)
- Lanyards (EN 354)
- Rock anchors (EN 959)
- Rope clamps EN 567
- Rope – dynamic (EN 892)
- Rope – static (EN 1891, AS 4142.3, CI 1801)
- Personal fall protection equipment - anchor devices (EN 795)
- Pitons (EN 569)
- Pulleys (EN 12278)
- Slings (EN 566, AS 1353 (series) or AS/NZS 1891.4)

A3.2 List of relevant standards

AS/NZS

- 1353 Flat synthetic-webbing slings Product specification
- 1891 Industrial fall-arrest systems and devices
- 1891.4 Part 4: Selection, use and maintenance
- 2316.1—2009 Artificial climbing structures and challenge courses Part 1: Fixed and mobile artificial climbing and abseiling walls.
- 2512 Methods of testing protective helmets
- 2512.1 Part 1: Definitions and headforms

CI

- 1801 Low Stretch And Static Kernmantle Life Safety Rope

EN

- 341 Personal protective equipment against falls from a height—Descender devices
- 354 Personal protective equipment against falls from a height—Lanyards
- 358 Personal protective equipment for work positioning and prevention of falls from a height—Belts for work positioning and restraint and work positioning lanyards
- 361 Personal protective equipment against falls from a height—Full body harnesses
- 362 Personal protective equipment against falls from a height—Connectors
- 564 Mountaineering equipment—Accessory cord—Safety requirements and test methods
- 566 Mountaineering equipment—Slings—Safety requirements and test methods
- 567 Mountaineering equipment—Rope clamps—Safety requirements and test methods
- 569 Mountaineering equipment. Pitons. Safety requirements and test methods
- 795 Personal fall protection equipment. Anchor devices

- 813 Personal fall protection equipment—Sit harnesses
- 892 Mountaineering equipment—Dynamic mountaineering ropes—Safety requirements and test methods
- 958 Mountaineering equipment. Energy absorbing systems for use in klettersteig (via ferrata) climbing. Safety requirements and test methods
- 959 Mountaineering equipment. Rock anchors. Safety requirements and test methods
- 12270 Mountaineering equipment. Chocks. Safety requirements and test methods
- 12275 Mountaineering equipment—Connectors—Safety requirements and test methods
- 12276 Mountaineering equipment. Frictional anchors. Safety requirements and test methods
- 12277 Mountaineering equipment—Harnesses—Safety requirements and test methods
- 12278 Mountaineering equipment—Pulleys—Safety requirements and test methods
- 12492 Mountaineering Equipment - Helmets For Mountaineers - Safety Requirements And Test Methods
- 15151-1 Mountaineering equipment. Braking devices. Braking devices with manually assisted locking, safety requirements and test methods
- 15151-2 Mountaineering equipment. Braking devices. Manual braking devices, safety requirements and test methods
- 1891 Personal protective equipment for the prevention of falls from a height—Low stretch kernmantel ropes

ISO

- 10333 Personal fall-arrest systems
- 10333-5 Part 5: Connectors with self-closing and self-locking gates

UIAA

- 161-3 Crash Pads

Appendix 4 Equipment load ratings

A4.1 Equipment loading discussion

Proper understanding and use of equipment load ratings (*stated strength*) is needed to allow for an appropriate safety margins (*safety factors*) to be used. This ensures that equipment is never loaded to a point it is in danger of breaking or being damaged.

Manufacturers provide details of the load ratings for equipment either stamped on the equipment or in available documentation. This is called the *Stated Strength*. *Stated Strength* is the magnitude of load that is either the *Safe Working Load* (SWL) or *Minimum Breaking Strength* (MBS).

It is critical to understand the difference between *Safe Working Load* (SWL) and *Minimum Breaking Strength* (MBS) because SWL has a safety factor already applied to it, while MBS does not.

Safe Working Load (SWL): is the magnitude of load that does not permanently distort, weaken, damaged or break equipment. It is safe to load equipment to 100% of the SWL.

Minimum Breaking Strength (MBS): is the magnitude of a load that may permanently distort or damage a piece of equipment but not cause it to break. An appropriate *safety factor* needs to be applied to the MBS. The MBS is a load, determined by the manufacture, that might not break a piece of equipment but may make it unusable or unsafe to use. Equipment should never be loaded to the MBS, even for testing purposes when testing a system before being use, the test should not exceed the SWL. Some equipment may be in danger of being overloaded even at less than half the MBS. It should be noted that the stated MBS value is calculated from tests on a selection of items, not on each individual item. It is therefore likely that a small percentage of similar items, (usually less than 1%) will break slightly below their stated MBS value.

Safety Factor: The ratio between the *Minimum Breaking Strength* (MBS) and *Safe Working Load* (SWL) which is used to provide a safety margin. It is expressed as a ratio for example 8:1. An appropriate *Safety Factor* is chosen based on the type of equipment and intended use. The *safety factor* applicable may be specified in relevant standards or manufactures instructions. It is recommended to follow known safe practices, manufacturers recommendations, relevant standards or calculated assessments when determining safety factors.

A4.2 Examples

Rope

Recreational 'climbing/abseiling' rope may have the *Stated Strength* provided as a *Minimum Breaking Strength* (MBS). In use, it requires a suitable *Safety Factor* to be selected and applied to the MBS to calculate appropriate SWL.

Static rope:

- Stated strength: 30kN MBS
- Safety Factor: say 8:1
- Safe Working Load (SWL): 3.75kN (30 divided by 8 = 3.75)

Flat lifting sling:

A flat lifting sling may have the *Stated Strength* provided as a *Safe Working Load* (SWL). In use, it can be loaded to 100% of the SWL.

- Stated strength: 2,000 kg SWL
- Safety Factor: may or may not be provided by manufacturer
- Safe Working Load (SWL): 2,000 kg (No calculation required as Stated Strength given as SWL)

The Australian Standard AS1353 states that a 2,000 kg SWL flat lifting sling should have a 8:1 safety factor. If this is the case, then the MBS is 16,000 kg (2,000 times 8 = 16,000).

Connectors

Recreational 'climbing/abseiling' connectors may have the *Stated Strength* provided as a *Minimum Breaking Strength* (MBS). In use, it requires a suitable *Safety Factor* to be selected and applied to the MBS to calculate appropriate SWL.

In-line loaded carabiner:

- Stated strength: 24kN MBS
- Safety Factor: say 4:1
- Safe Working Load (SWL): 6kN (24 divided by 4 = 6)

All equipment needs to have its *Safe Working Load* (SWL) estimated using an appropriate *safety factor* for the context it is being used. They are not to be loaded above their SWL.

Case example

On the 4th of May 2014, in Rhode Island USA, a 45kN carabiner was overloaded and failed with a 6.8kN three-way load, causing 8 circus performers to fall 10m. The subsequent investigation showed that similar carabiners, in new condition, also failed when similarly loaded but easily held 50kN when in-line loaded.

A4.3 Kilonewtons (kN) of force vs kilograms (kg) of load (mass)

Newtons, (abbreviated to N) are the metric units of force. A 102kg object applies, approximately, 1,000 N, (1kN) downward force at the surface of the earth, (due to its mass and gravity). One Kilonewton (1 kN) is 1,000 N.

In a simple vertical loading situation, it is generally accurate enough to convert a load mass of 100 kg to a force of 1kN. Forces can exist in any direction, not just up and down. Force is calculated by multiplying mass by acceleration. Gravity at earth's surface produces approximately 10m/s2 of acceleration, (the exact valve varies and is slightly less).

Therefore, equipment rated 1 kN of force equals equipment rated approximately 100kg of load (1,000N divided by 10 = 100kg of load). So 1kN of force = approximately 100kg of load. Note that peak loads can vary and allowance for these should be made.

Examples:

SWL 3.75kN force equals approximately 375kg static load

- Calculation: 3.75 times 1,000 = 3,750N with 3,750N divided by 10 = 375 or
- Calculation: 3.75 times 100 = 375

SWL 2,000kg static load equals approximately 20kN force

- Calculation: 2,000kg times 10 = 20,000N with 20,000N divided by 1,000 = 20 or
- Calculation: 2,000kg divided by 100 = 20

Appendix 5 Fall factors

Fall factor: is the ratio of the height of a fall (h) (measured before the rope or lanyard begins to stretch) and the rope or lanyard length available to absorb the energy of the fall (L). It is used as a representation of the severity of a fall when arrested by a belay system. It is calculated by (h) divided by (L).

Fall factors are illustrated in the following diagram A5-1.

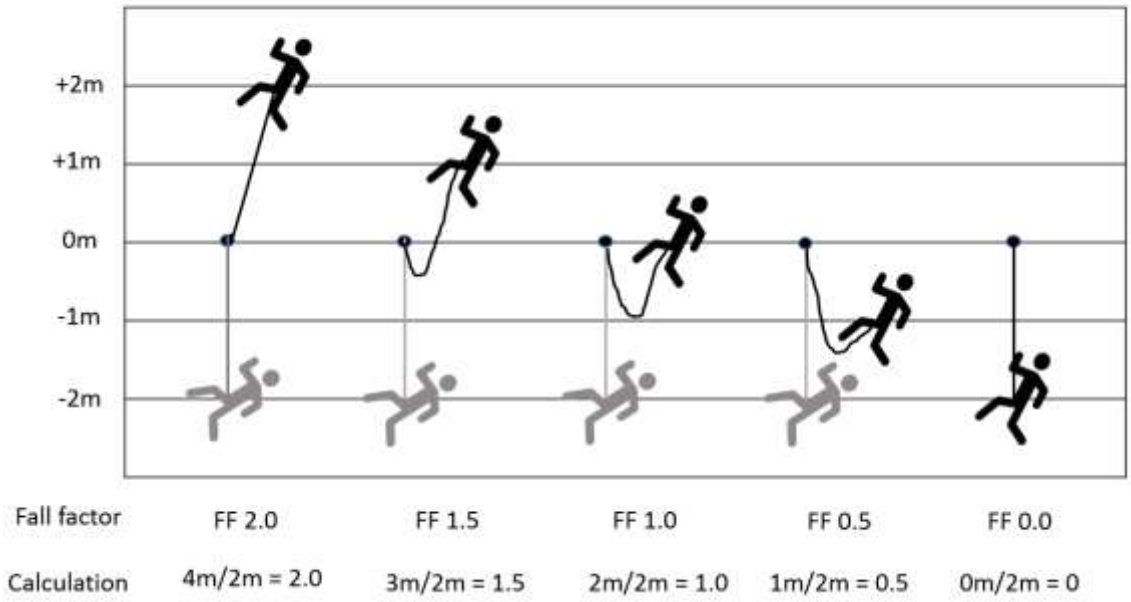

Diagram A5-1 – Fall factors.

Appendix 6 Activity guide competencies

A6.1 Abseiling natural surfaces competencies

The following table outlines the recommended level of competence activity leaders *should* have when leading *abseiling* on *natural surfaces*:

Activity type	Abseiling Assistant guide (Assistant Leader) Units describing skills and knowledge	Code (or equivalent)	Abseiling guide (Leader) Units describing skills and knowledge	Code (or equivalent)	Abseiling Instructor (Leader) Units describing skills and knowledge	Code (or equivalent)
Common abseiling units						
	Safeguard an abseiler using a single rope belay system	SISOABN202A	Safeguard an abseiler using a single rope belay system	SISOABN202A	Safeguard an abseiler using a single rope belay system	SISOABN202A
	Operate communications systems and equipment	PUAOP013A	Operate communications systems and equipment	PUAOP013A	Operate communications systems and equipment	PUAOP013A
			Plan for minimal environmental impact	SISOOPS304A	Plan for minimal environmental impact	SISOOPS304A
Single-pitch – Natural surfaces						
	All units listed in Core Good Practice Guide, all common abseiling units plus		All units listed in Core Good Practice Guide, all common abseiling units plus		All units listed in Core Good Practice Guide, all common abseiling units plus	
	Apply single pitch abseiling skills on natural surfaces	SISOABN303A	Apply single pitch abseiling skills on natural surfaces	SISOABN303A	Apply single pitch abseiling skills on natural surfaces	SISOABN303A
			Establish ropes for single pitch abseiling on natural surfaces	SISOABN304A	Establish ropes for single pitch abseiling on natural surfaces	SISOABN304A
			Perform vertical rescues	SISOVTR301A	Perform vertical rescues	SISOVTR301A
			Guide abseiling on single pitch natural surfaces	SISOABN305A	Guide abseiling on single pitch natural surfaces	SISOABN305A
					Instruct abseiling on single pitch natural surfaces	SISOABN408A

Leading *abseiling* on *natural surfaces* table continued.

Activity type	Abseiling Assistant guide (Assistant Leader) Units describing skills and knowledge	Code (or equivalent)	Abseiling guide (Leader) Units describing skills and knowledge	Code (or equivalent)	Abseiling Instructor (Leader) Units describing skills and knowledge	Code (or equivalent)
Multi-pitch – natural surfaces						
	All units listed in Core Good Practice Guide, all common abseiling units, all single pitch natural features units plus		All units listed in Core Good Practice Guide, all common abseiling units, all single pitch natural features units plus		All units listed in Core Good Practice Guide, all common abseiling units, all single pitch natural features units plus	
	All activity leaders to have minimum of 'guide' multi-pitch competencies		Apply multi pitch abseiling skills on natural surfaces	SISOABN406A	Apply multi pitch abseiling skills on natural surfaces	SISOABN406A
			Establish ropes for multi pitch abseiling on natural surfaces	SISOABN407A	Establish ropes for multi pitch abseiling on natural surfaces	SISOABN407A
			Guide abseiling on multi pitch natural surfaces	SISOABN409A	Guide abseiling on multi pitch natural surfaces	SISOABN409A
			Perform complex vertical rescues	SISOVTR402A	Perform complex vertical rescues	SISOVTR402A
			Coordinate emergency responses	SISXEMR402A	Coordinate emergency responses	SISXEMR402A
			Implement and monitor occupational health and safety policies	SISXOHS402A	Implement and monitor occupational health and safety policies	SISXOHS402A
					Instruct abseiling on multi pitch natural surfaces	SISOABN510A

A6.2 Abseiling artificial surfaces competencies

The following table outlines the recommended level of competence activity leaders *should* have when leading *abseiling* on *artificial surfaces*:

Activity type	Abseiling Assistant guide (Assistant Leader) Units describing skills and knowledge	Code (or equivalent)	Abseiling guide (Leader) Units describing skills and knowledge	Code (or equivalent)	Abseiling Instructor (Leader) Units describing skills and knowledge	Code (or equivalent)
Common abseiling units						
	Safeguard an abseiler using a single rope belay system	SISOABN202A	Safeguard an abseiler using a single rope belay system	SISOABN202A	Safeguard an abseiler using a single rope belay system	SISOABN202A
	Operate communications systems and equipment	PUAOP013A	Operate communications systems and equipment	PUAOP013A	Operate communications systems and equipment	PUAOP013A
			Plan for minimal environmental impact	SISOOPS304A	Plan for minimal environmental impact	SISOOPS304A
Single-pitch – artificial surfaces						
	All units listed in Core Good Practice Guide, all common abseiling units plus		All units listed in Core Good Practice Guide, all common abseiling units plus		All units listed in Core Good Practice Guide, all common abseiling units plus	
	Apply single pitch abseiling skills on artificial surfaces	SISOABA302A	Apply single pitch abseiling skills on artificial surfaces	SISOABA302A	Apply single pitch abseiling skills on artificial surfaces	SISOABA302A
			Establish ropes for abseiling on artificial surfaces	SISOABA303A	Establish ropes for abseiling on artificial surfaces	SISOABA303A
			Perform vertical rescues	SISOVTR301A	Perform vertical rescues	SISOVTR301A
			Guide abseiling on single pitch artificial surfaces	SISOABA304A	Guide abseiling on single pitch artificial surfaces	SISOABA304A
					Instruct abseiling on single pitch artificial surfaces	SISOABA406A

Leading *abseiling* on *artificial surfaces* table continued**.**

Activity type	Abseiling Assistant guide (Assistant Leader) Units describing skills and knowledge	Code (or equivalent)	Abseiling guide (Leader) Units describing skills and knowledge	Code (or equivalent)	Abseiling Instructor (Leader) Units describing skills and knowledge	Code (or equivalent)
Multi-pitch – Artificial surfaces						
	All units listed in Core Good Practice Guide, all common abseiling units, all single pitch artificial features units plus		All units listed in Core Good Practice Guide, all common abseiling units, all single pitch artificial features units plus		All units listed in Core Good Practice Guide, all common abseiling units, all single pitch artificial features units plus	
	All activity leaders to have minimum of 'instructor' competencies for multi-pitch abseiling		All activity leaders to have minimum of 'instructor' competencies for multi-pitch abseiling			
					Instruct abseiling on single pitch artificial surfaces	SISOABA406A
					Coordinate emergency responses	SISXEMR402A
					Implement and monitor occupational health and safety policies	SISXOHS402A
					Instruct abseiling on multi pitch artificial surfaces	SISOABA407A

A6.3 Climbing natural surfaces competencies

The following table outlines the recommended level of competence activity leaders *should* have when leading *climbing* on *natural surfaces*:

Activity type	Climbing Assistant guide (Assistant Leader) Units describing skills and knowledge	Code (or equivalent)	Climbing guide (Leader) Units describing skills and knowledge	Code (or equivalent)	Climbing Instructor (Leader) Units describing skills and knowledge	Code (or equivalent)
Common climbing units						
	Operate communications systems and equipment	PUAOP013A	Operate communications systems and equipment	PUAOP013A	Operate communications systems and equipment	PUAOP013A
			Plan for minimal environmental impact	SISOOPS304A	Plan for minimal environmental impact	SISOOPS304A
			Establish belays for climbing on natural surfaces	SISOCLN303A	Establish belays for climbing on natural surfaces	SISOCLN303A
			Apply climbing skills on natural surfaces	SISOCLN302A	Apply climbing skills on natural surfaces	SISOCLN302A
Single pitch 'Top-rope Climbing' with alternative access to top of pitch – Natural surfaces						
	All units listed in Core Good Practice Guide, all common climbing units plus		All units listed in Core Good Practice Guide, all common climbing units plus		All units listed in Core Good Practice Guide, all common climbing units plus	
	Apply climbing skills on natural surfaces	SISOCLN302A				
	Demonstrate top rope climbing skills on natural surfaces	SISOCLN201A	Demonstrate top rope climbing skills on natural surfaces	SISOCLN201A		
			Guide top rope climbing activities on natural surfaces	SISOCLN304A	Guide top rope climbing activities on natural surfaces	SISOCLN304A
			Perform vertical rescues	SISOVTR301A	Perform vertical rescues	SISOVTR301A
					Instruct top rope climbs on natural surfaces	SISOCLN409A

Leading *climbing* on *natural surfaces* table continued.

Activity type	Climbing Assistant guide (Assistant Leader) Units describing skills and knowledge	Code (or equivalent)	Climbing guide (Leader) Units describing skills and knowledge	Code (or equivalent)	Climbing Instructor (Leader) Units describing skills and knowledge	Code (or equivalent)
Single-pitch lead climbing or Single pitch 'top rope climbing' with no alternative access to top of pitch – Natural surfaces						
	All units listed in Core Good Practice Guide, all common climbing units plus		All units listed in Core Good Practice Guide, all common climbing units plus		All units listed in Core Good Practice Guide, all common climbing units plus	
	All activity leaders to have minimum of 'guide' competencies for lead climbing		Apply single pitch lead climbing skills on natural surfaces	SISOCLN405A	Apply single pitch lead climbing skills on natural surfaces	SISOCLN405A
			Guide lead climbing activities on single pitch natural surfaces	SISOCLN408A	Guide lead climbing activities on single pitch natural surfaces	SISOCLN408A
			Perform vertical rescues	SISOVTR301A	Perform vertical rescues	SISOVTR301A
			Coordinate emergency responses	SISXEMR402A	Coordinate emergency responses	SISXEMR402A
			Implement and monitor occupational health and safety policies	SISXOHS402A	Implement and monitor occupational health and safety policies	SISXOHS402
					Instruct lead climbing on single pitch natural surfaces	SISOCLN411A

Leading *climbing* on *natural surfaces* table continued.

Activity type	Climbing Assistant guide (Assistant Leader) Units describing skills and knowledge	Code (or equivalent)	Climbing guide (Leader) Units describing skills and knowledge	Code (or equivalent)	Climbing Instructor (Leader) Units describing skills and knowledge	Code (or equivalent)
Multi-pitch' lead climbing – natural surfaces						
	All units listed in Core Good Practice Guide, all common climbing units, all single pitch natural features units plus		All units listed in Core Good Practice Guide, all common climbing units plus		All units listed in Core Good Practice Guide, all common climbing units plus	
	All activity leaders to have a minimum of 'guide' single pitch climbing competencies.		Apply single pitch lead climbing skills on natural surfaces	SISOCLN405A	Apply single pitch lead climbing skills on natural surfaces	SISOCLN405A
			Apply multi pitch lead climbing skills on natural surfaces	SISOCLN406A	Apply multi pitch lead climbing skills on natural surfaces	SISOCLN406A
			Establish belays for multi pitch climbing on natural surfaces	SISOCLN407A	Establish belays for multi pitch climbing on natural surfaces	SISOCLN407A
			Guide lead climbing activities on multi pitch natural surfaces	SISOCLN410A	Guide lead climbing activities on multi pitch natural surfaces	SISOCLN410A
			Perform complex vertical rescues	SISOVTR402A	Perform complex vertical rescues	SISOVTR402A
			Coordinate emergency response	SISXEMR402A	Coordinate emergency response	SISXEMR402A
			Implement and monitor occupational health and safety policies	SISXOHS402A	Implement and monitor occupational health and safety policies	SISXOHS402A
					Instruct lead climbing on multi pitch natural surfaces	SISOCLN512A

A6.4 Climbing artificial surfaces competencies

The following table outlines the recommended level of competence activity leaders *should* have when leading *climbing* on *artificial surfaces*:

Activity type	**Climbing Assistant guide (Assistant Leader) Units describing skills and knowledge**	**Code (or equivalent)**	**Climbing guide (Leader) Units describing skills and knowledge**	**Code (or equivalent)**	**Climbing Instructor (Leader) Units describing skills and knowledge**	**Code (or equivalent)**
Common climbing units						
	Operate communications systems and equipment	PUAOP013A	Operate communications systems and equipment	PUAOP013A	Operate communications systems and equipment	PUAOP013A
			Plan for minimal environmental impact	SISOOPS304A	Plan for minimal environmental impact	SISOOPS304A
Single-pitch with alternative access to top of pitch - Artificial surfaces						
	All units listed in Core Good Practice Guide, all common climbing units plus		All units listed in Core Good Practice Guide, all common climbing units plus		All units listed in Core Good Practice Guide, all common climbing units plus	
	Apply top rope climbing skills on artificial surfaces	SISOCLA302A	Apply top rope climbing skills on artificial surfaces	SISOCLA302A	Apply top rope climbing skills on artificial surfaces	SISOCLA302A
			Establish belays for climbing on artificial surfaces	SISOCLA303A	Establish belays for climbing on artificial surfaces	SISOCLA303A
			Guide top rope climbing activities on artificial surfaces	SISOCLA311	Guide top rope climbing activities on artificial surfaces	SISOCLA311
			Undertake risk analysis of activities	SISXRSK301A	Undertake risk analysis of activities	SISXRSK301A
					Instruct top rope climbing on artificial surfaces	SISOCLA412
					Coordinate emergency responses	SISXEMR402A
					Implement and monitor occupational health and safety policies	SISXOHS402A
					Manage risk in an outdoor activity	SISOODR404A

Activity type	Climbing Assistant guide (Assistant Leader) Units describing skills and knowledge	Code (or equivalent)	Climbing guide (Leader) Units describing skills and knowledge	Code (or equivalent)	Climbing Instructor (Leader) Units describing skills and knowledge	Code (or equivalent)
'Multi-pitch' -Artificial surfaces						
	All activity leaders to have a minimum of 'guide' single pitch artificial climbing competencies.		All activity leaders to have a minimum of 'instructor' single pitch artificial climbing competencies.		All activity leaders to have a minimum of 'instructor' single pitch artificial climbing competencies.	

A6.5 Bouldering competencies

The following table outlines the recommended level of competence activity leaders *should* have when leading *bouldering*:

Activity type	Boulder Assistant guide (Assistant Leader) Units describing skills and knowledge	Code (or equivalent)	Bouldering guide (Leader) Units describing skills and knowledge	Code (or equivalent)	Bouldering Instructor (Leader) Units describing skills and knowledge	Code (or equivalent)
Artificial surfaces						
	All units listed in Core Good Practice Guide, all common climbing units plus		All units listed in Core Good Practice Guide, all common climbing units plus		All units listed in Core Good Practice Guide plus	
					All Climbing Instructor (Leader) Units listed in artificial climbing	
	Conduct a low ropes session	SISOCRP301A	Conduct a low ropes session	SISOCRP301A	Conduct a low ropes session	SISOCRP301A
	Operate communications systems and equipment	PUAOP013A	Operate communications systems and equipment	PUAOP013A		
Natural surfaces						
	All units listed in Core Good Practice Guide, all common climbing units plus		All units listed in Core Good Practice Guide, all common climbing units plus		All units listed in Core Good Practice Guide plus	
					All Climbing Instructor (Leader) Units listed in natural climbing	
	Conduct a low ropes session	SISOCRP301A	Conduct a low ropes session	SISOCRP301A	Conduct a low ropes session	SISOCRP301A
	Operate communications systems and equipment	PUAOP013A	Operate communications systems and equipment	PUAOP013A		
			Plan for minimal environmental impact	SISOOPS304A		

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