



National
Outdoor
Leaders
Registration
Scheme

Climbing (Artificial Surfaces)

REGISTRATION LEVELS AND ASSESSMENT REQUIREMENTS

NOLRS VERSION 2.2

October 2009

Outdoor Council of Australia

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Introduction

This document contains information on the minimum skills required to achieve Registration within the National Outdoor Leader Registration Scheme (NOLRS) at specific levels within the activity of Climbing (Artificial Surfaces).

Additional documents are available at www.outdoorcouncil.asn.au that provides information about the Scheme and the registration process includes:

- NOLRS *Registration Guide* - information about the registration requirements and process
- NOLRS *Re-registration Guide* - information about the re-registration requirements and process
- *Application for Registration*
- *Application for Subsequent Registration*
- *Application for Re-registration*
- NOLRS *Partnered Assessment Providers* - a guide for organisations that conduct assessment of outdoor leaders, detailing how to have their course outcomes recognised as equivalent to the skill and knowledge requirements of the NOLRS

What is Climbing (Artificial Surfaces)?

Climbing on artificial surfaces involves ascending vertical (or near vertical) artificial or man made features (such as portable and fixed walls, fixed towers and bridges) using ropes and descending at the completion of the climb. Artificial Climbing Structures (ACS) generally have a more controlled environment (with constant conditions, emergency access, lack of remoteness, etc) than rock climbing (natural surface) sites that significantly alters the inherent risks and the skills required of the leader.

Climbing, as referred to in this document, does NOT include the activity of bouldering.

What are Artificial Climbing Structures?

Before using an ACS, leaders should ensure that “the design and construction have been tested in accordance with EN12572: 1998 Artificial Climbing Structures – Protection points, stability requirements and test methods or equivalent. Existing structures should comply with the intent of the above standard, i.e. the installation should take the required loadings for the intended purpose as an ACS. As with the design and construction of the ACS, it is essential that the attachment systems are specifically designed and tested to sustain the required loadings. The top rope attachment may be on the wall, roof or other structure but must be tested to EN12572:1998 (as above) and must be designed in such a way that the intended attachment/anchor is obvious (no confusion with wall fittings, fire extinguishers or other pipes) and that it is not possible to attach the rope inadvertently in a manner which it would be incapable of sustaining the required loadings.

Certification of the ACS design and construction, top rope attachment and anchors (where relevant) must be in accordance with EN 12572:1998 This certification should be supplied by the engineer carrying out the assessment and *the following specifics must be included:*

- For all anchors assessed, a list identifying all individual components in place at time of testing.
- Where the ACS is attached to a building or additional structure, certification must also be included to state that the additional building structure is sound and has the structural integrity to take the loading from the ACS.
- A certified engineer must provide all certification.

Much discussion has taken place regarding the specific benefits of energy absorbent flooring for a climbing area. The objectives of absorbent flooring are to minimise the likelihood and severity of *injuries resulting from:*

- A climber being lowered too rapidly by the belayer.

- An uncontrolled climber decent from a low level (start of a climb) where the belayer has not adjusted the slack appropriately.

Flooring for the potential impact zone of any designated climbing areas (at least 2 meters from the wall, overhang, roof anchor, climbing rope, or climbing ladder where provided) must be covered by suitable energy absorbent flooring (this should be in accordance with Australian Standard AS/NZS 4422:1996 Playground surfacing – specifications, requirements and test method). In circumstances where it is reasonably impractical for absorbent flooring (overhangs, restricted space, and infrequently used outdoor locations) then extra consideration must be given as a result of a specific risk assessment for that area. Options may include but will not be limited to enhanced supervision, friction pulleys and climber/belayer competency assessments”¹.

The following registration levels are available within the NOLRS within the activity of

- Top Rope (Restricted) Climbing Guide (Artificial Surfaces)
- Single Pitch Climbing Guide (Artificial Surfaces)
- Single Pitch Climbing Instructor (Artificial Surfaces)
- Multi Pitch Climbing Instructor (Artificial Surfaces)

Climbing Registration Levels and Description

Climbing (Artificial Surfaces) registration levels apply to guides and instructors who conduct climbing activities on artificial or man made features (such as portable and fixed walls, fixed towers and bridges) which may be single or multi-pitch and which may be indoors or outdoors.

Top Rope (Restricted) Climbing Guide (Artificial Surfaces):

The Top Rope (Restricted) Climbing Guide may only conduct climbing on artificial surfaces for which they have received instruction on how to operate that particular facility and how to respond in an emergency at that facility. Both the normal operation and emergency response have been determined and documented by someone with a higher level of skill, such as those held by a Single Pitch Climbing Guide (Artificial Surfaces).

A person designated as a Top Rope (Restricted) Climbing Guide (Artificial Surfaces) has the knowledge, skills and experience that enable them to work autonomously within a defined range of skilled operations. These should involve known routines, methods and procedures, where minimal discretion and judgement is required in the selection of equipment, services or contingency measures.

Top Rope (Restricted) Climbing Guides (Artificial Surfaces) may work within clearly defined contexts conducting climbing activities on artificial surfaces acting according to clearly defined Standard Operating Procedures and relevant documented guidelines. Persons with this level of competence may only conduct top rope climbing activities on Artificial Climbing Structures, NOT natural rock faces.

A Top Rope (Restricted) Climbing Guide (Artificial Surfaces) works as a guide in a context where there is no intention of imparting skills or knowledge to clients beyond that which is necessary to enable their safe participation in climbing. At the end of a session or program with the guide, the intent is not for the client to have acquired the skills to independently participate in climbing activities.

Persons with this level of competence may also work as an assistant with a more experienced leader in potentially non-routine or more complex activities and programs (eg, with “at risk” clients).

¹ Source: *Artificial Climbing Structures Adventure Activity Standards*. Outdoor Recreation Centre Vic, Version 2.0, April 2005, pp12-13

A Top Rope (Restricted) Climbing Guide must possess the skills, knowledge and experience that enable them to:

- Plan and implement minimal environmental impact
- Undertake risk analysis of activities
- Apply relevant legislation
- Follow defined Occupational Health and Safety policy and procedures
- Facilitate groups and deal with conflict
- Apply single pitch climbing skills on artificial surfaces
- Establish belays for single pitch climbing on artificial surfaces
- Guide climbing on artificial surfaces (single pitch restricted)
- Respond to emergency situations

Single Pitch Climbing Guide (Artificial Surfaces):

A person designated as a Single Pitch Climbing Guide (Artificial Surfaces) has the skills, knowledge and experience that enable them to work independently within a variety of settings and contexts that may be complex and non-routine. Leadership and guidance are involved when organising activities of self and others, as well as contributing to technical solutions of a non-routine or contingency nature.

A person at this level of leader registration may perform a broad range of skilled applications. These may include the evaluation and analysis of current practices, development of new criteria and procedures for performing current practices and provision of some leadership and guidance to others in the application and planning of the skills.

Single Pitch Climbing Guide (Artificial Surfaces) may work independently at a broad range of venues with a variety of different client groups. Persons at this level of registration should be able to apply their skills and knowledge to a variety of locations, seasons and situations, and should be able to deal with non-routine situations.

Persons at this level of competence may only conduct single pitch climbing activities on Artificial Climbing Structures, NOT natural rock faces (these may be top rope or lead climbing).

Persons with this level of competence may also work as an assistant with a more experienced leader in potentially non-routine or more complex activities and programs (eg, with “at risk” clients).

A Single Pitch Climbing Guide (Artificial Surfaces) must possess all the skills, knowledge and experience required of a top Rope (Restricted) Climbing Guide (Artificial Surfaces) PLUS those that enable them to:

- Manage risk in outdoor activities
- Provide leadership to groups
- Apply lead climbing skills on artificial surfaces
- Guide lead climbing activities on artificial surfaces (single pitch)
- Perform vertical rescues
- Coordinate emergency response

Single Pitch Climbing Instructor (Artificial Surfaces):

An Instructor facilitates skill transfer or development to clients in order that they may act independently. This requires the instructor to be able to transfer required skills and knowledge, apply a variety of appropriate instructional strategies, and assess participant's skill and knowledge acquisition during and at the end of a program or session

A Single Pitch Climbing Instructor (Artificial Surfaces) has the skills and knowledge that enable them to work independently within a variety of settings and contexts that may be complex and non-routine. A person at this level of leader registration may perform a broad range of skilled applications which may include the evaluation and analysis of current practices, development of new criteria and procedures for performing current practices and provision of some leadership and guidance to others in the application and planning of the skills.

Single Pitch Climbing Instructor (Artificial Surfaces) may work independently at a broad range of venues with a variety of different client groups. Persons with this level of registration should be able to apply their skills and knowledge to a variety of locations, seasons and situations, and should be able to deal with non-routine situations.

A Single Pitch Climbing Instructor (Artificial Surfaces) should instruct clients at a level below their own skill level. That is, they may instruct clients to achieve the following outcomes:

- Single pitch climbing participant (artificial surfaces) (top rope and lead climbing)
- Restricted climbing guide (artificial surfaces)

A Single Pitch Climbing Instructor (Artificial Surfaces) must possess all the skills, knowledge and experience required of a Single Pitch Climbing Guide (Artificial Surfaces) PLUS those that enable them to:

- Train small groups
- Instruct lead climbing on artificial surfaces (single pitch)

Multi Pitch Climbing Instructor (Artificial Surfaces):

A person designated as a Multi Pitch Climbing Instructor (Artificial Surfaces) has the skill, knowledge and experience to instruct and assess clients in order that they may acquire climbing skills or climbing guiding skills to enable independent operation. *They may instruct clients to achieve the following outcomes:*

- Single pitch climbing participant (artificial surfaces)
- Multi pitch climbing participant (artificial surfaces)
- Restricted climbing guide (artificial surfaces)
- Single pitch climbing guide (artificial surfaces)
- Single pitch climbing instructor (artificial surfaces)
- Multi pitch climbing instructor (artificial surfaces)

A Multi Pitch Climbing Instructor (Artificial Surfaces) must possess all the skills, knowledge and experience required of a Single Pitch Climbing Instructor (Artificial Surfaces) PLUS those that enable them to:

- Apply multi pitch lead climbing skills on artificial surfaces
- Establish belays for multi pitch climbing on artificial surfaces
- Instruct climbing on artificial surfaces (multi pitch)

Climbing Skill, Knowledge and Experience Requirements

Top Rope (Restricted) Climbing Guide (Artificial Surfaces):

Critical aspects of a Top Rope (Restricted) Single Pitch Climbing Guide (Artificial Surfaces) knowledge and skills include:

- Ability to identify, and plan for, basic requirements of a single pitch climbing activity (ie. equipment, food, water, clothing)

- Knowledge of, and compliance with, relevant Occupational Health and Safety requirements
- Knowledge of, and compliance with, relevant laws and legal requirements
- Group facilitation skills and conflict resolution strategies
- Application of risk analysis principles in a climbing context
- Ability to respond to emergency situations relevant to climbing on artificial walls
- Knowledge of first aid procedures relevant to climbing
- An awareness of minimal impact procedures and an understanding of their application to an artificial climbing environment
- Knowledge of climbing equipment (advantages, disadvantages, limitations, Australian and international standards, manufacturer's design specifications and recommendations, accepted industry best practice or recommendations)

Knowledge of:

- Principles of anchor systems (equally shared load, single component failure and effect, redundancy, angle of separation)
- Principles of belay systems and devices
- Different types of belay system, eg. top and bottom belays
- Advantages and disadvantages of various knots in a variety of situations
- Ability to tie a variety of knots (knots that have at least 50% of the static strength of the original, end-of-rope knots, mid-rope knots, rope joining knots, tape knot)
- Knowledge of equipment storage and maintenance requirements relevant to climbing equipment
- Independent selection of climbing and belaying equipment appropriate to the situation and clients
- Climbing in a controlled manner in single pitch situations on artificial surfaces at a minimum of two sites using a range of features and techniques applicable to the route
- Establishment of effective communication systems with belayer(s) and climbers
- Ability to plan and guide climbing sessions to suit available resources, environmental limitations and different types of client groups with differing needs and activity aims
- Information about sites to climb (appropriate to skill level)
- Selection of fixed anchors (eg. beams, eye bolts, chains), considering the factors that affect their suitability
- Application of knowledge of knots and anchor selection to rig ropes to suit different situations (ascent and descent) using single and multiple anchors
- Establishment and use of top and bottom belay systems (and back-up belay systems, where required) to accommodate different client abilities and situations
- Use of plate devices, auto-locking devices, and tubular devices to belay and to arrest falls

Ability to respond to basic emergency situations and perform self rescue and rescue of clients including:

- release of jams
- assistance to frozen climbers
- ascent and descent of rope
- Briefing of clients, covering aspects such as safety procedures, correct climbing, belaying and back-up belaying techniques, communication systems, safe areas/boundaries, etc
- Maintenance of a client's physical and emotional safety during a climbing session
- Conducting climbing activities at a number of different locations to suit;
 - Different types of client groups/client needs
 - Different activity aims
 - Different activity duration
 - Different environmental conditions (if applicable)

In order to demonstrate currency, an applicant seeking registration must have verifiable evidence of guiding a minimum of four (4) climbing sessions (minimum of three (3) hours per session) on artificial surfaces in the past twelve (12) months. In addition, evidence must be

supplied of 'in-house' or external vertical rescue training within the past twelve (12) months, or participation in vertical rescue of 'real' clients.

Newly trained outdoor leaders require verifiable evidence of guiding a minimum of six (6) climbing sessions (minimum of three (3) hours per session) on artificial surfaces.

Single Pitch Climbing Guide (Artificial Surfaces):

Critical aspects of a Single Pitch Climbing Guide (Artificial Surfaces) experience, knowledge and skills include the Top Rope (Restricted) Single Pitch Climbing Guide (Artificial Surfaces) knowledge and skills **PLUS:**

- Ability to identify, and plan for requirements of a single pitch climbing activity (ie. equipment, food, water, clothing) where extreme environmental conditions could potentially occur; and/or at a diversity of locations
- Coordination of response to emergency situations associated with single pitch top rope and lead climbing on artificial surfaces
- Group leadership techniques
- Ability to identify and record the potential risks and hazards in an activity, and develop management strategies to lessen their potential impact, evaluate risk management and risk management plans
- Ability to deal with complex, unpredictable and non-routine situations associated with climbing on artificial surfaces
- Application of an extensive knowledge of climbing equipment and discrimination between features of different equipment
- Establishment and use of top and bottom belay systems, using single and double rope
- Ability to respond to emergency situations and perform self rescue and rescue of clients including:
 - Release of jams
 - Assistance to frozen climbers
 - Approach from above and below
 - Ascent and descent of rope
 - Raising and lowering of conscious climbers
- Ability to ascend a route as a second climber, removing quick draws in a manner that minimises potential for dropping of gear
- Ability to lead single pitch climbs on artificial surfaces using fixed protection (fixed hangers, fixed draws, chains), demonstrating suitable techniques that minimise rope drag and minimise injury in the event of a fall

In order to demonstrate currency, an applicant seeking registration must have verifiable evidence of guiding a minimum of four (4) climbing sessions (minimum of three (3) hours per session) on artificial surfaces in the past twelve (12) months. In addition, evidence must be supplied of 'in-house' or external vertical rescue training within the past twelve (12) months, or participation in vertical rescue of 'real' clients.

Newly trained outdoor leaders require verifiable evidence of guiding a minimum of six (6) climbing sessions (minimum of three (3) hours per session) on artificial surfaces.

Single Pitch Climbing Instructor (Artificial Surfaces):

Critical aspects of a Single Pitch Climbing Instructor (artificial surfaces) skills, knowledge and experience include the Single Pitch Climbing Guide (Artificial Surfaces) experience, knowledge and skills **PLUS:**

Skills to:

- Plan an instructional session for teaching single pitch climbing skills on artificial surfaces
- Select appropriate resources required to teach single pitch climbing skills on artificial surfaces
- Establish a positive learning environment

- Introduce, conduct and conclude and evaluate an instructional climbing session
- Apply appropriate teaching techniques for climbing, recognising different client abilities and teaching to suit individual needs
- Provide constructive feedback which enhances the client's learning
- Demonstrate single pitch climbing techniques or skills (top rope and lead) accurately
- Apply knowledge of safety practices to conduct a safe instructional session in accordance with risk management plans, industry guidelines and occupational health and safety requirements

Ability to demonstrate and/or teach the following:

- Independent selection of climbing equipment appropriate to the situation
- Underpinning knowledge about climbing equipment (advantages, disadvantages, limitations, Australian and international standards, manufacturer's recommendations, industry accepted practice, storage and maintenance requirements)
- Information about climbing sites (appropriate to skill level) and the ethics and philosophy of climbing
- Environmental impacts of climbing and ways to minimise
- Hazards associated with climbing and ways to minimise risk
- Selection of fixed anchors (eg. beams, eye bolts, chains)
- Rigging of belays using single and multiple anchors
- Establishment of belay systems at the top and bottom of pitches
- Belaying technique to accommodate different abilities and situations
- Knowledge of, and ability to perform, vertical rescue techniques appropriate to single pitch climbing on artificial surfaces
- Maintenance of a client's physical and emotional safety during a climbing session

In order to demonstrate currency, an applicant seeking registration must have verifiable evidence of instructing a minimum of four (4) climbing sessions on artificial surfaces (minimum of three (3) hours per session) in the past twelve (12) months. In addition, evidence must be supplied of 'in-house' or external vertical rescue training within the past twelve (12) months, or participation in vertical rescue of 'real' clients.

Newly trained outdoor leaders require verifiable evidence of instructing a minimum of six (6) climbing sessions on artificial surfaces (minimum of three (3) hours per session).

Multi Pitch Climbing Instructor (Artificial Surfaces):

Critical aspects of a Multi Pitch Climbing Instructor (Artificial surfaces) skills, knowledge and experience include the Single Pitch Climbing Instructor (Artificial Surfaces) experience, knowledge and skills **PLUS:**

Advanced climbing techniques to lead climb and belay in multi pitch situations on artificial surfaces demonstrating the ability, in particular, to:

- retreat from pitches
- conduct safe change over techniques at belay stations
- efficiently handle rope at the belay stations
- lead climb on multi pitches with different climbing parties with differing abilities
- safely and efficiently lead on sight multi pitch climbs using a high level of rope management and belay construction
- select anchors and establish a broad range of belay systems to accommodate different belayer and climber abilities, types of anchor and location requirements
- efficiently manage belay stations for multi pitch climbs on artificial surfaces
- second a route
- use a variety of different belay systems and knots in routine and non - routine situations
- establish safety systems suitable to the climbing situation

Skills to demonstrate and teach the following:

- technical knowledge of lead climbing equipment and its use (in an artificial environment)

- care and maintenance of climbing equipment
- common calls used between climbers and belayers in multi pitch situations
- belay techniques appropriate to multi pitch lead climbing on artificial surfaces
- multi pitch lead climbing techniques and procedures
- risk management strategies
- emergency procedures in the event of a fall and rescue procedures
- maintenance of a client's physical and emotional safety during a climbing session

In order to demonstrate currency, an applicant seeking registration must have verifiable evidence of instructing a minimum of four (4) multi pitch climbing sessions on artificial surfaces (minimum of three (3) hours per session) in the past twelve (12) months. In addition, evidence must be supplied of 'in-house' or external vertical rescue training within the past twelve (12) months, or participation in vertical rescue of 'real' clients.