



*Fach- und Interessenverband für
seilunterstützte Arbeitstechniken e.V.*

Examination Guidelines for Rope Access

Version 12.0

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0. Area of application

These examination guidelines apply to Rope Access of all types except:

- a) Rope climbing techniques in tree care
- b) Rigging in event technology
- c) Rope techniques in self-exploration pedagogy (incl. Ropes Courses)
- d) Regular rescues from heights and depths
- e) Canyoning
- f) Sport uses of rope techniques
- g) Cave exploration
- h) Use of PPE against falls from a height and connected rescue measures

1. General

1.1 Conformity with standards

- 1.1.1 Rope Access with kernmantel rope technology may be conducted in accordance with FISAT's Safety and Work Guidelines. Other procedures may be followed if codified in the guidelines of other countries' guidelines and in accordance with recognized technical standards.
- 1.1.2 Rope Access may only be conducted by properly trained and certified users.

1.2 Terms / Definitions

- 1.2.1 The basic user qualification is Level 1 Rope Access Technician.
- 1.2.2 Users with the next higher qualification Level 2 are designated as Rope Access Technicians.
- 1.2.3 Users with qualification Level 3 are designated as Rope Access Supervisors.

1.3 Requirements for equipment used

- 1.3.1 Equipment used for Rope Access must be in conformity with valid standards, bear the CE symbol, and exclude endangerment of the user.
- 1.3.2 Necessary additional PPE must be worn. In addition to top-quality equipment, sufficient protective clothing must be worn. Wearing a hardhat is mandatory.

1.4. General safety rules

- 1.4.1 Examinations must be pre-planned and conducted so as to exclude danger.
- 1.4.2 Individuals under the influence of alcohol, drugs, or medications are to be excluded from the examination.
- 1.4.3 Prior to each examination, instruction in accident prevention must be given and documented. Responsibility for this lies with the firm conducting the training program.
- 1.4.4 Before admittance to the examination, the candidate must document adequate health conditions. Physically suitable are, for example employees for whom there are no health concerns about working in areas with danger of falling.

1.5 **Basic principles of the examinations**

- 1.5.1 The examination must be taken in the German language. Upon special application to the certification section of FISAT, the examination may also be conducted in the English language.
- 1.5.2 Examinations are not public. Besides the candidate, only the presence of the examiner and the trainer are allowed. Exceptions can only be made upon application to the office of FISAT, Plautstraße 80, 04179 Leipzig, Germany.
- 1.5.3 The examination is divided into two sections, one theoretical and one practical.

The following applies to all examinations:

If a section of the examination is not passed, that section (theoretical or practical) must be repeated. The examiner is authorized to present individual candidates with special tasks for examination in case of doubt.

Subsections of the examination Level 1 are:

- a) Theory
- b) Practical:
 - Vertical access techniques
 - Rescue

Should a candidate fail one subsection of the practical examination, the entire practical examination must be repeated.

Subsections of the examination Level 2 are:

- a) Theory
- b) Practical:
 - Anchoring techniques
 - Vertical access techniques
 - Horizontal access techniques
 - Rescue

Should a candidate fail one subsection of the practical examination, the entire practical examination must be repeated.

Subsections of the examination Level 3 are:

- a) Theory
- b) Implementation planning – Elaboration of an access and rescue concept
Upon failure of one section, that one alone must be repeated.
- c) Practical:
 - Vertical access techniques
 - Horizontal and diagonal access techniques
 - Lead ascent access technique
 - Pulley systems
 - Rescue

Should a candidate fail one subsection of the practical examination, the entire practical examination must be repeated.

- 1.5.4 In order to receive certification of successfully completing the examination, the candidate must pass each and every subsection. A repeat examination for sections not passed can take place no earlier than one week after the original examination. All sections of the examination must have been passed within 12 months. Within this period of time, three repeat examinations may be taken with a time lapse of one, two, and four weeks after the previous examination. Should the examination not be passed by the third repeat exam, it can only be repeated again at the earliest twelve months after the last examination taken.
- 1.5.5 Certificates and identification cards are centrally issued by the FISAT office and sent to the candidate or his company after successfully passing the entire exam. Upon completion of

the exam, candidates receive a certification of participation with the results, passed or failed, for the individual subsections of the examination. Examination certifications are issued by the examiner and, if the exam is passed, serve as a temporary certification until the receipt of the examination certificate and identification card.

- 1.5.6 The ID cards are valid only for the areas of Rope Access and bear a serial number. IDs and certificates are valid for 12 months from the date of the examination and, after passing a refresher course, will be revalidated by the FISAT office and sent to the candidate.
- 1.5.7 Candidates may appeal examination results. Prerequisite for this is receipt of the appeal in the offices of FISAT, Plautstraße 80, 04179 Leipzig, Germany. In the case of an appeal, the exam results will be evaluated by three independent certifiers and a decision made about the result.

1.6 Quality assurance

- 1.6.1 FISAT's certification team may revoke qualification certifications in the case of flagrant violations of safety and work guidelines.
- 1.6.2 With receipt of certification from a certification team, the candidate acknowledges the certification team's right to demand return of ID cards and certificates.

1.7 Formalities

In order to ensure the legality of the certification process, candidates are to be informed about their right to appeal under point 1.5.7 and about possible quality assurance measures, in particular under point 1.6.2, prior to the examination.

2. Admission/Permission

2.1 Admission to examinations

- 2.1.1 Individuals who have not immediately before completed a training program are also permitted to take the examination. Thus, technicians trained within a company and those without schooling may also participate. They are subject to the same examination requirements.
- 2.1.2 Only preregistered candidates may take the examination. Registration of candidates is conducted by the companies carrying out training programs.
- 2.1.3 On the day of the examination, the certifying examiner verifies:
 - Documentation of physical suitability:
Physically suitable are, for example, employees for whom there are no health concerns about working in areas with danger of falling.
 - Documentation of valid first-aid training.
 - Documentation of the minimum experience required for admission to the examination Level 3.

2.2 Admission prerequisites for Level 1 Rope Access Technician

- 2.2.1 The candidate must be at least 18 years old.
- 2.2.2 A valid certification of first-aid training no more than 24 months old.
- 2.2.3 The candidate must certify having undergone a medical check-up for this activity (e.g. in conformity with BGG 504, medical check-up regulation G41).

2.3 Admission prerequisites for Level 2 Rope Access Technician

- 2.3.1 The candidate must be at least 18 years old.
- 2.3.2 A valid certification of first-aid training no more than 24 months old.
- 2.3.3 The candidate must certify having undergone a medical check-up for this activity (e.g. in conformity with BGG 504, medical check-up regulation G41).
- 2.3.4 The candidate must have passed the examination for Level 1. Validation of Level 1 qualification may not be more than 6 months prior.

2.4 Admission prerequisites for Level 3 Rope Access Supervisor

- 2.4.1 The candidate must be at least 21 years old.
- 2.4.2 A valid certification of first-aid training no more than 24 months old.
- 2.4.3 The candidate must certify having undergone a medical check-up for this activity (e.g. in conformity with BGG 504, medical check-up regulation G41).
- 2.4.4 The candidate must have passed the examination for Level 2. Validation of Level 2 qualification may not have be more than 6 months prior.
- 2.4.5 At least 12 months must have elapsed since the examination for Level 2.
- 2.4.6 At least 250 days experience with the qualification as Level 2 Rope Access Technician must be documented. As documentation serves exclusively FISAT's Personal Safety Logbook for Rope Access.

3. Composition of the examination team

The examination team must be composed as follows:

Level 1

At least one external FISAT certifier who was not involved in the candidate's training and at least one trainer from the training firm.

The maximum number of candidates per certifier and examination is 10.

Level 2

At least one external FISAT certifier who was not involved in the candidate's training and at least one trainer from the training firm.

The maximum number of candidates per certifier and examination is 8.

Level 3

At least one external FISAT certifier who was not involved in the candidate's training and at least one trainer from the training firm.

The maximum number of candidates per certifier and examination is 6.

For examinations of more than one level, the highest candidate level determines the maximum number of candidates allowed.

4. Course of the examination

4.1 Theoretical examination

4.1.1 The theoretical examination is in writing on examination sheets provided by the certification team. Questions may partially consist of multiple-choice questions.

Attempted cheating results in exclusion from the examination.

For all theoretical examinations, a score of at least 75% correct must be achieved.

4.1.2 Level 1 and 2

The number of points possible ranges from 80 to 150.

Candidates have 90 minutes to answer the questions.

4.1.3 Level 3

The number of points possible ranges from 80 to 150.

Candidates have 90 minutes to answer the questions and an additional 60 minutes for preparation of a job plan. Theory and job-planning are considered two separate subsections and are separately scored.

4.2 Practical examination

4.2.1 The practical examination takes place at a suitable practice object in accordance with Appendix 2.

For this purpose, an object may be chosen that was also used in the training program.

4.2.2 The examiner may reject the object if it is unsuitable for the required task. Minimum requirements for the examination site are governed by Appendix 2 of the Examination Guidelines.

4.2.3 At least one equipped trainer must have visual and aural/oral contact with candidates on the examination site.

4.2.4 The training company is responsible for measures to ensure the safety of all parties.

4.2.5 The examination area is to be cordoned off in such a way that no one can be endangered. Materials are to be secured against falling.

4.2.6 In fall-danger zones, each individual is responsible for sufficient self-safety measures.

4.2.7 The practice area is to be closed to access from outside individuals.

4.2.8 The trainer must be able to take immediate action.

4.2.9 All demonstrations must occur under the certifier's direct supervision and observation.

Level 1

(a) Candidates are to be divided into pairs by the certifier to complete the practical task together. The task assigned must be completed by the given "active" candidate.

(b) The certifier may provide for the setup of stations.

(c) The examination course must be so designed that the certifier can control and judge the candidate at all times.

(d) Performance in the practical examination is to be recorded on a certifying team form.

Level 2

(a) Candidates are sent to the various examination tasks individually and must complete them in accordance with the certifier's guidelines.

(b) For examination of rescue, the candidates are to be divided into pairs by the certifier.

(c) The tasks assigned must be completed by the given "active" candidate.

- (d) Examination courses are to be coordinated with the certifier before the examination begins and to be erected according to his guidelines.
- (e) As needed, the certifier can demand additional sets of ropes in order to ascend or descend to the examination stations himself.
- (f) Performance in the practical examination is to be recorded on a certifying team form.

Level 3

- (a) Candidates are sent to the various examination tasks individually and must complete them in accordance with the certifier's guidelines.
- (b) Examination courses are to be coordinated with the certifier before the examination begins and to be prepared according to his guidelines.
- (c) As needed, the certifier can demand additional sets of ropes in order to ascend or descend to the examination stations himself.
- (d) Performance in the practical examination is to be recorded on a certifying team form.

5. Content of the examinations

5.1 Level 1

- (a) Knowledge of relevant terminology.
- (b) Basic knowledge of relevant requirements for working at high altitudes and in fall-danger zones including the most important provisions of the guidelines, especially for individual prerequisites. (Not including prerequisites for construction sites, danger determination, and instruction)
- (c) Basic knowledge about material and equipment, its usage (incl. storage and care) and its specific characteristics.
- (d) Basic knowledge of knot tying principles.
- (e) Basic knowledge of possible anchor points, artificial anchors and attachments (only breaking loads & examples)
- (f) Knowledge of the use of rope protection.
- (g) Basic knowledge of the physics of falling and of the principles of safety techniques and theory.
- (h) Basic knowledge of the problematics of orthostatic shock.
- (i) Theoretical knowledge of simple rescuing.
- (j) Putting on equipment.
- (k) Knots
 - Figure-of-eight knot, loop, and follow-through.
 - Figure-of-nine loop and follow-through
 - Double fisherman knot
 - Clove hitch knot and loop
 - Prusik knot
- (l) Climbing and descending with descender devices
- (m) Climbing with rope clamps
- (n) Shift from climbing to descending and vice versa
- (o) Climbing and descending with auxiliary methods
- (p) Rescuing to the ground (standard rescue)
- (q) Safe use of PPE against falling
- (r) Transfer from one set of ropes to another
- (s) Rescue from shock-excited fall protection system

5.2 Level 2

- (a) Good knowledge of relevant terminology.
- (b) Basic knowledge of danger determination, instructing in work-safety and health protection, and securing the job-site.
- (c) Competence in acting in case of accidents and other unforeseen events.
- (d) Precise knowledge about material and equipment
- (e) Good knowledge of knot tying principles
- (f) Good knowledge of possible anchor points and advanced anchoring techniques, as well as of artificial anchors and attachments.
- (g) Knowledge of the physics of falling and safety techniques
- (h) Knowledge of medical aspects
- (i) Knowledge for evaluating anchor points and necessary anchoring techniques including knowledge about transportable anchors and attachments.
- (j) Theoretical knowledge about standard rescue, rescuing to above, rescuing from structures difficult to maneuver in
- (k) Selecting and putting on equipment
- (l) Knots
 - Bowline follow-through
 - Mickey-Mouse knot
 - Butterfly
 - Italian hitch knot and loop
 - Klemmheist knot
- (m) Climbing and descending with auxiliary equipment
- (n) Climbing and descending via transfer points
- (o) Horizontal movement in all variations.
- (p) Positioning beyond the fall-danger line with anchor points.
- (q) Rescuing to above, active & passive rescuing from horizontal rope-ways and structures
- (r) Setting-up ropes
- (s) Basic knowledge of pulley systems and their assembly
- (t) Safe use of PPE against falling

5.3 Level 3

- (a) Detailed knowledge of relevant terminology.
- (b) Very good knowledge of relevant regulations for Rope Access and fall-danger zones including the most important provisions of the guidelines, in particular prerequisites for personnel employed.
- (c) Knowledge of the relevant subsections of Rope Access in the "BetriebsSicherheitsVerordnung", TRBS 2121 Teil 3, BGI 772, BGR 198/199 and the current Safety Guidelines of FISAT Knowledge about needs in job-site preparation and personnel planning.
- (d) Knowledge about what is needed to operate a job-site with rope-supported work techniques and supervision thereof.
- (e) Detailed knowledge of the preparation of a danger determination analysis, skills in danger analysis, determination of endangerment, and the preparation of company instructions.
- (f) Ability to conduct general and specific instruction sessions.
- (g) Detailed knowledge about material and equipment, selection thereof, and its specific characteristics, in particular also of components and auxiliary devices employed.
- (h) Knowledge of knot tying principles
- (i) Knowledge in the evaluation of anchor points and necessary anchoring techniques including knowledge about transportable anchors and attachments.
- (j) Knowledge of the physics of falling and safety techniques.
- (k) Knowledge of medical aspects

- (l) Rescuing to the ground, to above, from structures difficult to maneuver in, via transfer points and rope extensions, and from highlines.
- (m) Rescue planning and implementation on site
- (n) Advanced knowledge of pulley systems
- (o) Securing third parties, lead ascent techniques
- (p) Safe use of PSA against falling

6. Scoring criteria and keys

6.1 Theoretical section

- 6.1.1 The theoretical section of the examination for high-altitude works is scored according to a point key.
- 6.1.2 Questions are grouped in various point categories according to their relevance to safety; the number of points possible must be indicated on the examination sheet after each question.
- 6.1.3 The certifier grants points for correspondence to the answers in the solution key.
- 6.1.4 The certifier has a certain leeway in this consisting of up to the maximum number of points available for the question. He may also grant half points.
- 6.1.5 At least 75% of the possible number of points must be achieved, otherwise the theoretical examination cannot be considered passed.

6.2 Practical section

- 6.2.1 Level 1
Each candidate receives a credit of 100 points at the beginning of the practical examination. Performance is documented with an objective evaluation form. On the form, only errors are recorded; all other requirements are considered to have been correctly fulfilled. The recorded error points are documented on the examination form. The practical examination is considered passed when at least 10 points remain after completion of all tasks and/or stations.
- 6.2.2 Level 2
Each candidate receives a credit of 100 points at the beginning of the practical examination. Performance is documented with an objective evaluation form. On the form, only errors are recorded; all other requirements are considered to have been correctly fulfilled. The recorded error points are documented on the examination form. The practical examination is considered passed when at least 20 points remain after completion of all tasks and/or stations.
- 6.2.3 Level 3
Each candidate receives a credit of 100 points at the beginning of the practical examination. Performance is documented with an objective evaluation form. On the form, only errors are recorded; all other requirements are considered to have been correctly fulfilled. The recorded error points are documented on the examination form. The practical examination is considered passed when at least 30 points remain after completion of all tasks and/or stations.

6.3 Error evaluation in the practical section

Possible errors in the practical section are subdivided into categories according to severity of the error:

6.3.1 Slight errors

Errors which do not place the candidate in a critical situation.
For a slight error, the certifier issues 10-25 error points.

6.3.2 Critical errors

Errors which place the candidate in a dangerous situation but do not directly endanger him or third parties.
For a critical error, the certifier issues 50-75 error points.

6.3.3 Safety-relevant errors

Errors which place the candidate in a dangerous situation or directly endanger third parties.
For a safety-relevant error, the certifier issues 100 error points.

7. Exceptions

7.1 Generalities

When a certification is conducted in a training company for the first time, two FISAT certifiers must be present.

7.2 Admission

Equivalent qualifications from other organizations may also be accepted as prerequisites for admission to the examination Level 2 or Level 3. Decisions as to their recognition is made on a case-by-case basis by application to the office of FISAT, Plautstraße 80, 04179 Leipzig, Germany.

7.3 Theoretical evaluation

7.3.1 Should a candidate achieve a score no more than max. 5% below a passing score, the certifier can conduct an oral repeat examination for this section to determine whether the candidate has passed.

7.3.2 Thereby, the certifier may fall back on questions from the examination catalogue or formulate questions himself.

7.3.3 It is entirely up to the certifier then to declare whether this section of the examination has been passed or not.

7.3.4 For candidates with difficulty formulating in writing, the theoretical examination can also be conducted orally.

7.4 Prerequisites for admission to the examination Level 3, Rope Access Supervisor

7.4.1 Until June 30, 2012, no minimum experience with the Level 2 qualification must be documented.

7.4.2 From July 1, 2012, through December 31, 2012, at least 100 days experience with the level 2 qualification must be documented. As documentation serves exclusively FISAT Personal Safety Logbook for Rope Access.

- 7.4.3 From January 1, 2013, on, at least 250 days experience with the level 2 qualification must be documented. As documentation serves exclusively FISAT Personal Safety Logbook for Rope Access.

8. Refresher courses

- 8.1 Every FISAT certified Rope Access Technician must document an annual refresher course corresponding to his qualification level.
- 8.2 Not passing the examination for a higher level counts as a refresher course.
- 8.3 If such a refresher course is not documented within 6 months after expiration of the qualification, the entire examination for that qualification level must be repeated.
- 8.4 For reasons of quality assurance, refresher courses may only be conducted by FISAT certifiers.
- 8.5 Refresher courses are only allowed for pre-registered individuals. Registration is conducted by the training companies.
- 8.6 Refresher courses cannot be conducted simultaneously with certification examinations.
- 8.7 Refresher courses serve to review and deepen theoretical and practical knowledge of certified Rope Access Technicians as well as to teach new information. For Rope Access Supervisors, knowledge concerning elaboration of danger assessments is extended. The time frame of the course is 8 hours.
- 8.8 Should the certified Rope Access Technician's theoretical knowledge or practical skills demonstrated not be in accordance with valid FISAT guidelines, the certifier may deny prolongation of the ID and certification.
A repeat course is possible only after at least one week. Should sufficient skills still not be determined in this repeat refresher course, an examination for the given qualification level must be repeated in total and completely.
- 8.9 The Rope Access Technician can appeal the decision within two weeks. Receipt of the appeal in the office of FISAT is determining: FISAT, Plautstraße 80, 04179 Leipzig, Germany.
Appeals will be considered by three independent certifiers who decide on the result.
- 8.10 The candidate must certify having undergone a medical check-up for this activity (e.g. in conformity with BGG 504, medical check-up regulation G41) and present valid documentation of a first-aid course not older than 24 months.
- 8.11 Permissible number of participants for refresher courses
- Level 1 – 10 participants
Level 2 – 8 participants
Level 3 – 6 participants
- For refresher courses for more than one level, the highest level determines the maximum number of participants allowed.
- 8.12 To ensure feasibility of practical drills, it is recommended that refresher courses for level 2 and 3 always have at least 2 Rope Access Technicians of the same qualification level participating.
- 8.13 Content of refresher courses is to be documented on a form by the certifier for each individual participant.

9. Literature – References

TRBS 2121-3	Technical rules for job safety TRBS 2121 part 3 Danger of falling for individuals – provision and use of access and positioning techniques involving the use of ropes –
BGI 772	Rules for safety and health protection in the usage of manually controlled work seats from the expert committee construction of the BGZ
BGR 198/199	PPE against falling, PPE for rescuing
BSV	Company safety regulations
FSR-SZP	Safety and Work Guidelines for Rope Access
IRATA	General Requirements for Certification of Personnel Engaged in Industrial Rope Access Methods
IRAA	General Requirements for Certification of Personnel Engaged in Industrial Rope Access Methods

Appendix 1

Evaluation criteria for practical exams SZP Level 1, 2, and 3

– Component of the Examination Guidelines –

The examination ends only upon dismissal by the examiner and his departure from the training site. Candidates are liable for any incorrect usage of Rope Access (even after passing the exam).

In the practical section, each candidate has an account with 100 points. Points are deducted for errors. In order to pass the exam, the following minimum amount of points is necessary:

- Level 1: at least 10 points
- Level 2: at least 20 points
- Level 3: at least 30 points

Errors are divided into 3 main categories:

- Non-critical/slight errors 10 - 25 points deducted
- Critical errors: 50 - 75 points deducted
- Safety-relevant errors: 100 points deducted

Candidates attempting to assist another fellow candidate will be considered to have cheated themselves. At the discretion of the examiner, points may be deducted and/or the candidate excluded from the examination.

What tasks must be fulfilled?

General:

- Complete harness / or certified combination,
The working harness must have at least one abdominal and one sternal grommet. The candidate must, in case of doubt, be able to document that the harness is certified.
- All knots with safety knots (exception: double fisherman knot, prusik knot, and all knots along the course of the rope),
- Constant redundancy (except PPE usage),
- All karabiners used must have closure safeguards. Karabiners used must have a closed gate strength of at least 22 kN.
- Usage of rope protection in erection of rope courses and stretches according to risk assessment.
- V positioning according to risk assessment.
Danger arising from falling against structures must be absolutely excluded.
- Only knots in accordance to the examination guidelines are permissible.

Techniques using personal safety equipment against falls (PSAgA)

- Y-fall-arrest equipment, attachment with a sternal grommet, no usage of 2x I-fall-arrest equipment.
- Cautious anchoring with minimal fall factor, exception: when moving along structures with no anchoring points above,
- On vertical or diagonal structures anchor loops are to be fastened with klemmheist knots in order to avoid a high fall factor.

Vertical techniques:

- Descenders on an abdominal grommet or work seat
- Karabiner closures for descenders must be directed downwards and towards the body.
- Back-up device and fall-arrest systems on a sternal grommet,
- Descent always with rerouting of the braking rope from the descender,
- When interrupting descent, the descender must be locked.
- When ascending with rope clamps, a connection between harness and hand ascent clamp is mandatory
- When positioning and ascending with rope clamps, according to the level of danger, the clamp must be secured with karabiners in the upper holes (e.g. oblique load).

Horizontal techniques:

- Moving beneath structures with static connection and fall arrest system for safety (recommendation: use a dynamic means of connection and no static connections),
- Moving beneath from point to point (traversing) with two forms of connection and a third connection as safety backup,
- Ropeway with two spanned ropes, spanning ropes with a loose pulley and two people,
- Moving along an oblique ropeway, always redundant (2 fall-arrest systems, 2 systems against uncontrolled starting),
- Moving along a ropeway: As a rule, both ropes must be used simultaneously. Exception: moving from below

Pulley systems:

- Definitions: loose pulley, fixed pulley, power pulley, factor pulley, combined pulleys, direct, indirect, reversal brakes
- Construction and explanation of a pulley system according to instructions (e.g. Indirect fourfold factor pulley with reversible reverse brake), attention to parallel rope course
- Rope clamps as reverse brakes must be installed on the burden free end of the pulley system. No rope clamps with teeth may be used to place a pulley system on a load bearing system if the load exceeds the load of one person.
- How large are the required theoretical pull forces (without loss for friction)?
- What loads are placed on the anchor point?
- A maximum load of 250 kg may be moved, no more.

Lead ascent:

- Insure that training and testing of lead ascent is always with second safety backup (top rope or control rope).
- Lead ascent with dynamic rope, single strand (using a semi-static rope only when below a fall factor of 0.3),
- Direct attachment of the lead climber is sternal or sternal/abdominal,
- Self-blocking backup devices for safety,
- Safety person must be secured against pull and at all times be able to release himself from the system without any difficulty.
- Interim backup with loops according to danger assessment (eventually with protection) and karabiners with locking mechanism,
- Distance between interim backups according to danger assessment (max. 3m, max. catch impact 6kN),
- Redundant rope end wraps,
- Minimum lead climb path vertically and/or horizontally 8m

- Lead climber may use rope shorteners/connection devices for support and to free up his hands,
- Partner check prior to lead ascent
- Clear communication; command: Stand = lead climber is secured,
- End knots in rope and rope guidelines (rope must have free play),
- Pay attention to rope run course,
- Safety person: visual contact with the lead climber, secure operation of the safety device,
- Rescue of lead climber on free play rope up to a max. of rope midpoint: by direct lowering; with rope free play beyond rope midpoint: by ascent to the helpless person by means of PPE against falling and active/passive rescue,
- Each candidate will be examined as lead climber and as safety person.

Rescue:

- The rescue load is to be attached to the load bearing karabiner of the rescuer's descent device.
- The braking rope of the descent device is to be diverted.
- When lowering with a descent device, the breaking rope must be diverted.
- For standard active rescue to the ground, both safety devices remain on the ropes.
- Rescue from horizontal rope paths or structures, active or passive; rescue ropes can also be attached directly without karabiners (only with secured clove hitch),
- Passive rescue with descent device and HMS-backup; Load system and backup system may be attached to the helpless person with karabiners,
- For active rescue from PPE/structure/ropeway, use only safety devices suitable for double body loads. Attention: redundant connection between rescuer and helpless person. The operation of fall arrest systems may not be impeded.
- Rescue upwards with pulley system: reversible reverse movement brake; exception: when first pulling on the rescue load to create a rope loop for installation of the reversible reverse movement brake,
- For rescue upwards, the helpless person's backup rope must be shortened by means of a self-blocking backup/descent device, traveling safety device, HMS with slip knots or clamp knots (at least 7-8mm). Ensure simplicity and visibility of the pulley system.
- Oblique ropeway rescue: active, rescuer approaches from above or below, rescue downwards to the anchor point of the ropeway
- To ascend in emergencies (rescue) the rescuer may use the helpless person's load bearing system as backup system and his backup system as load system.

What requires particular attention?

- Blocking the descent device when interrupting descent,
- Transition from descent device to ascender breast clamp must be done smoothly, insufficient caution will be graded,
- No slack development when ascending on the backup rope,
- Using a connection between the harness and the hand ascent clamp during ascent with breast ascent clamps. This connection must be detachable in order to be able to detach the hand ascent clamp in emergencies for example.
- Placing an emergency call when beginning rescue (simulated),
- Careful handling of the helpless person during rescue,
- No lateral load on the closure of the load bearing karabiner from the descent device after taking on the rescue load,
- All connecting karabiners must be locked (karabiner: descent device, connection with the helpless person, safety device),
- During descent with the helpless person, the connection to the backup/safety device must be maintained above the arm,
- Helpless person can react: sitting position,

- Helpless person cannot react: stable side position; first lay him on his back, then position in the stable side position (as in the first-aid course).
- Transfer point/interim anchor: always ensure redundancy!
- Transfer point/interim anchor : consider lateral load on the karabiner
- When rescuing upwards: proper placement of the load-bearing system in the descent device,
- Ropeway: the free playing rope of the backup and descent devices must be secured.
- When traveling along ropeways, check for open karabiners. Transition with third backup,
- Lead ascent: there may never be any possibility of contact with the ground in the case of a free fall. Extreme free fall distances are to be avoided.

Appendix 2

Minimum requirements for exam sites

– Component of the Examination Guidelines –

In order to ensure undisturbed, smooth operation and conditions suitable for Rope Access for the candidates and the team of certifiers from FISAT, examination sites must meet the following minimum requirements.

In the cases of discrepancies in one or more points of these minimum requirements, the certifier is authorized, per point 4.2.2 of the examination guidelines and after consultation with a FISAT representative, to reject the examination site.

All costs arising there from are the responsibility of the training company.

General requirements:

- Easy accessibility, eventually with public transport as well.
- Entrances, pathways, and emergency exits must be free of obstacles and have sufficient lighting.
- In case of emergency, participants must be able to leave any and all parts of the site quickly and safely.

Organizational requirements:

- Examination sites should in general meet the requirements for worksites according to valid guidelines (sanitary facilities, ventilation, lighting).
- A first-aid box must be present at the examination site in accordance with DIN EN 13869 / 71, it must be clearly marked and accessible at all times.
- It must always be possible to place an emergency call in case of emergency.
- At least one contact participating in the training must be available on site at all times for clarification of any points open to discussion.

Technical requirements:

a) Theoretical exam:

- There must be a closed room of sufficient size for the number of candidates taking the exam to complete the written portion of the examination.
- Noise levels must be low enough to permit concentrated work.
- The examination room must have suitable temperature during the written exam.
- Seating must permit enough room between candidates to exclude any attempts at cheating.
- The examiner must have a separate workplace with seat from which he has a view of all candidates.

b) Practical exam:

- The practical exam site must provide protection for the candidates against extreme weather conditions (temperature, humidity, wind).
- The practical exam site must ensure that candidates are not disturbed by undue noise levels or harmful effects from gases, vapors, dust, etc.
- The floor/ground must be free of anything that could cause stumbling.
- Slipping or falling on the way to the rope paths must be excluded by means of appropriate measures.
- The practical exam site must provide for vertical rope courses with a minimum length of 5m and horizontal anchor points at a minimum height of 4.5m and/or prevent the candidate's hitting the floor/ground during fall in the backup/safety system. Appropriate measures must be taken.
- The practical exam site must provide for proper conduct of all content and techniques for the individual examination levels.
- Static load bearing of anchor point facilities must be in accordance with DIN EN 795. Anchor points that are naturally present (braces, beams, supports) must at least meet the requirements of DIN EN 795 class A (static load with 10kN for a period of 3 minutes without deformation).
- When using work scaffolding as anchor point facilities, the training company must provide the certifiers with a verifiable written documentation of its suitability. Individual anchor points must be indicated in the results of the suitability test. When using scaffolding as work scaffolding, it must be in accordance with TRBS 2121, part 1 or the user's protection against fall must be ensured by other appropriate means.
- For examinations outdoors, the certifier must be guaranteed access to a dry environment at all times to fill out the examination results form without having to interrupt the course of the examination to do so.
- In accordance with point 4.2.4 of the examination guidelines, immediate rescue of all participants by the training company must be ensured. This may be provided by the presence of a fully equipped trainer or by technical means, such as a cherry picker, ladders, or rolling scaffolds.
- The examination site must have sufficient natural or artificial light.