



INDUSTRIAL WORKING AT HEIGHT

About Rescue 3 Europe

Rescue 3 Europe develops state of the art technical rescue courses, providing internationally recognised accreditation for organisations and individuals operating in high risk environments.

As an international accrediting body, Rescue 3 provide up to date best practice guidance that is constantly evolving in line with new research and testing. All changes and developments of Rescue 3 courses go through a process of peer review and oversight by a steering committee made up of industry experts from all over the world.

Rescue 3 training providers deliver courses worldwide, in multiple disciplines, including: rope, water, boat, ice and confined space rescue. Our large suite of courses have been adopted by mountain rescue teams, wind turbine operators, fire and rescue services, ambulance teams, utilities providers, and military personnel.

Within each discipline, Rescue 3 accredited courses cover every level of operations, whether this is at an awareness level, avoiding risks and applying simple safe systems of work; or at more advanced levels where practitioners must acquire high levels of personal skills and understanding to access and navigate difficult environments.

For over four decades Rescue 3 has provided the standard for technical rescue training, offering guidance and support for maintaining best practice.





The course learning outcomes are provided as pre- and post-course reference for people involved in the delivery of Rescue 3 courses (eg Rescue 3 training providers, instructors and students). They are not to be used for any other purpose without the express written permission of Rescue 3 Europe.

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INDUSTRIAL WORKING AT HEIGHT COURSES

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Work at Height Awareness (WAHA)

Course overview and target audience

The Work at Height Awareness (WAHA) course provides insight into the dangers that workers face when working at height and the current legislation in this area. The course is for work planners and managers who are responsible for people working at height, but who do not work at height themselves. It can also be used by people undertaking site inspections behind barriers, but who don't require personal work restraint or fall arrest.

Contact hours 3.5 hours (0.5 days)	Prerequisites Minimum age: 18
Qualification valid for 3 years	Accredited by Rescue 3 Europe

Taught by

- Work at Height Awareness Instructor (WAHAI)
- Safe Working at Height Instructor (SWAHI)
- Co-Worker Rescue at Height Instructor (CWRHI)

Assessment

The assessed elements of this course are:

- Foundation knowledge



Work at Height Awareness (WAHA) skill sheet contents

Theory
1. Rescue 3 philosophy
2. Training standards and legislation
3. Medical considerations
4. Personal equipment
5. Safe systems of work
6. Risk assessments
7. Site control
8. Loads and forces
9. Safety checks
10. Communications
11. Rope protection considerations
12. Work restraint considerations
13. Fall arrest considerations



Work at Height Awareness (WAHA) learning outcomes and key teaching points

	Skill sheet element		Learning outcome	Key teaching points
1	Rescue 3 philosophy	1.1	Recall the steps required in order to develop judgement.	Training. Practice. Experience. Judgement.
		1.2	Explain the order of priorities when working at height.	Avoid working at height > Prevent falls > Minimise consequences of falls.
2	Training standards and legislation	2.1	Recognise the different training courses within the Rescue 3 scheme.	Rope rescue courses. Confined space rescue courses. Water rescue courses. Boat rescue courses. Industry level courses.
		2.2	Recall the remit and role of an individual trained to this level.	Work at Height Awareness (WAHA) remit and role. People who need an understanding of work at height, but who do not work at height themselves, eg managers and work planners. It may also be used by people undertaking site inspections behind barriers, but who don't require personal work restraint or fall arrest.
		2.3	State how the Rescue 3 scheme fits within national and international standards.	Rescue 3 scheme, NFPA, applicable local standards.
		2.4	Recall applicable safe working at height legislation.	Multinational, national and/or local legislation.
3	Medical considerations	3.1	Identify signs/symptoms and treatment for common medical issues found in a vertical environment.	Suspension-induced syncope, trauma.
		3.2	Identify individuals at risk for common medical issues found in a vertical environment, and control measures to minimise these.	Casualty, rescuers, bystanders. Control measures: PPE, training, site zoning.



	Skill sheet element		Learning outcome	Key teaching points
4	Personal equipment	4.1	Identify personal protective equipment (PPE) for working at height.	Anchor point, connection and harness. Types of connections including fall arrest kit, lanyard, fall arrest lanyard, lanyard for work positioning or restraint, fall arrest blocks, karabiners, maillons, hooks, rope, backup devices. Other equipment including helmet, tool lanyards, foot loops, rescue harness, gloves, eye protection, rope protection.
		4.2	Recall national and international standards for PPE.	EN standards, applicable local standards.
		4.3	Recall appropriate pre-use checks and buddy checks for donning PPE.	EN standards, PPE inspection, buddy checks.
		4.4	Recall post-use care and inspection procedures for personal equipment.	PPE inspection, storage and care.
5	Safe systems of work	5.1	Recall the common components of a safe system of work.	Hazard assessment, risk assessment, method statement, rescue plan, dynamic risk assessment, site briefing, review.
6	Risk assessments	6.1	Identify the elements of an effective generic and site-specific risk assessment.	Identify the hazards, decide who might be harmed and how, evaluate the risks and decide on precaution, record your findings and implement them, review your assessment and update if necessary.
		6.2	Identify the elements of an effective dynamic risk assessment.	Is written risk assessment relevant to conditions/site/personnel? Weather considerations etc.



	Skill sheet element		Learning outcome	Key teaching points
7	Site control	7.1	Recall appropriate site control measures to protect personnel and bystanders.	Site zoning, team roles.
		7.2	Identify issues and hazards of bystanders in the exclusion zone.	Crowd control, bystander safety.
		7.3	Identify how and when to contact the emergency services in the event of an incident.	Emergency service contact details, 112 Europe-wide emergency number, rescue capability of relevant bodies, phone access, mobile signal, radios.
8	Loads and forces	8.1	Differentiate between mass and force.	Force = mass x acceleration.
		8.2	Identify SI base units and derived units used in rope rescue.	Metre (length), second (time), kilogram (mass), Newton (force), metre per second per second (acceleration).
		8.3	Describe the differences between static and dynamic forces.	Static = non-moving, eg being held in space. Dynamic = moving, eg an uncontrolled event.
		8.4	Recall the maximum arrest force applicable by legislation.	Eg 6kN within the European Union and 8kN within North America.
9	Safety checks	9.1	Identify the components of a safety check.	Correct equipment, compatible, condition, age, records and traceability, fastened correctly, PPE fit, anchors, ground clearance, site.
10	Communications	10.1	Recall potential communication problems when working at height.	Wind, distance, clothing.
		10.2	Recall basic communication options when working at height, including being able to raise alarm in the event of an emergency.	Whistle and air horns, radios, mobile phones.



	Skill sheet element		Learning outcome	Key teaching points
11	Rope protection considerations	11.1	Recall appropriate use of rope protection.	Comparison of commercially-available products, and improvised products (eg canvas, fire hose etc).
12	Work restraint considerations	12.1	Identify when work restraint equipment is used, its merits and limitations.	Prevents an operative from reaching an edge.
13	Fall arrest considerations	13.1	Identify when fall arrest equipment is used, its merits and limitations.	Where there is a risk of a fall, but work restraint isn't appropriate (eg when climbing a structure, ascending/descending fixed ropes). Consideration of maximum arrest force, and arrest distance.



Safe Working at Height (SWAH)

Course overview and target audience

The Safe Working at Height (SWAH) course provides insight into the dangers that workers face when working at height and the current legislation in this area. Often, workers are faced with working at height during their jobs. Employment regulations clearly state that this must be done safely. During this course, students will learn how to properly use a variety of fall arrest resources, such as harnesses, lines, lanyards and industrial fall arresters.

Contact hours 6 hours (1 days)	Prerequisites Minimum age: 18
Qualification valid for 3 years	Accredited by Rescue 3 Europe

Taught by

- Safe Working at Height Instructor (SWAHI)
- Co-Worker Rescue at Height Instructor (CWRHI)
- Rope Rescue Operator Instructor (RROI)
- Rope Rescue Technician Instructor (RRTI)
- Rope Rescue Specialist Instructor (RRSI)

Assessment

The assessed elements of this course are:

- Foundation knowledge
- Use of work restraint
- Anchors
- Emergency descending (if used by agency)



Safe Working at Height (SWAH) skill sheet contents

Theory
1. Rescue 3 philosophy
2. Training standards and legislation
3. Medical considerations
4. Personal equipment
5. Safe systems of work
6. Risk assessments
7. Site control
8. Loads and forces
9. Safety checks
10. Communications
Practical
11. Knots
12. Anchor systems
13. Rope protection
14. Work restraint
If used by agency
15. Fall arrest (if used by agency)
16. Work positioning (if used by agency)
17. Emergency descending (if used by agency)
18. Climbing with lanyards (if used by agency)
19. Ladders (if used by agency)
20. Improvised roof safety systems (if used by agency)

'If used by agency' skills must be taught if a student's agency uses these skills operationally. Otherwise, they may be omitted by the training provider.



Safe Working at Height (SWAH) learning outcomes and key teaching points

	Skill sheet element		Learning outcome	Key teaching points
1	Rescue 3 philosophy	1.1	Recall the steps required in order to develop judgement.	Training. Practice. Experience. Judgement.
		1.2	Explain the order of priorities when working at height.	Avoid working at height > Prevent falls > Minimise consequences of falls.
2	Training standards and legislation	2.1	Recognise the different training courses within the Rescue 3 scheme.	Rope rescue courses. Confined space rescue courses. Water rescue courses. Boat rescue courses. Industry level courses.
		2.2	Recall the remit and role of an individual trained to this level.	Safe Working at Height (SWAH) remit and role.
		2.3	State how the Rescue 3 scheme fits within national and international standards.	Rescue 3 scheme, NFPA, applicable local standards.
		2.4	Recall applicable safe working at height legislation.	Multinational, national and/or local legislation.
3	Medical considerations	3.1	Identify signs/symptoms and treatment for common medical issues found in a vertical environment.	Suspension-induced syncope, trauma.
		3.2	Identify individuals at risk for common medical issues found in a vertical environment, and control measures to minimise these.	Casualty, rescuers, bystanders. Control measures: PPE, training, site zoning.



	Skill sheet element		Learning outcome	Key teaching points
4	Personal equipment	4.1	Identify personal protective equipment (PPE) for working at height.	Anchor point, connection and harness. Types of connections including fall arrest kit, lanyard, fall arrest lanyard, lanyard for work positioning or restraint, fall arrest blocks, karabiners, maillons, hooks, rope, backup devices. Other equipment including helmet, tool lanyards, foot loops, rescue harness, gloves, eye protection, rope protection.
		4.2	Recall national and international standards for PPE.	EN standards, applicable local standards.
		4.3	Select and demonstrate use of appropriate PPE for working at height, perform pre-use checks, donning and buddy checks.	EN standards, PPE inspection, buddy checks.
		4.4	Recall post-use care and inspection procedures for personal equipment.	PPE inspection, storage and care.
5	Safe systems of work	5.1	Recall the common components of a safe system of work.	Hazard assessment, risk assessment, method statement, rescue plan, dynamic risk assessment, site briefing, review.
6	Risk assessments	6.1	Identify the elements of an effective generic and site-specific risk assessment.	Identify the hazards, decide who might be harmed and how, evaluate the risks and decide on precaution, record your findings and implement them, review your assessment and update if necessary.
		6.2	Identify the elements of an effective dynamic risk assessment.	Is written risk assessment relevant to conditions/site/personnel? Weather considerations etc.
		6.3	Perform a dynamic risk assessment of a working area at height.	Is written risk assessment relevant to conditions/site/personnel? Weather considerations etc.



	Skill sheet element		Learning outcome	Key teaching points
7	Site control	7.1	Based on hazard recognition, apply appropriate control measures to protect personnel and bystanders.	Site zoning, team roles.
		7.2	Install and mark site zones.	Methods of marking site zones.
		7.3	Identify issues and hazards of bystanders in the exclusion zone.	Crowd control, bystander safety.
		7.4	Identify how and when to contact the emergency services in the event of an incident.	Emergency service contact details, 112 Europe-wide emergency number, rescue capability of relevant bodies, phone access, mobile signal, radios.
8	Loads and forces	8.1	Differentiate between mass and force.	Force = mass x acceleration.
		8.2	Identify SI base units and derived units used in rope rescue.	Metre (length), second (time), kilogram (mass), Newton (force), metre per second per second (acceleration).
		8.3	Describe the differences between static and dynamic forces.	Static = non-moving, eg being held in space. Dynamic = moving, eg an uncontrolled event.
		8.4	Recall the maximum arrest force applicable by legislation.	Eg 6kN within the European Union and 8kN within North America.
9	Safety checks	9.1	Identify the components of a safety check.	Correct equipment, compatible, condition, age, records and traceability, fastened correctly, PPE fit, anchors, ground clearance, site.
		9.2	Perform a safety check.	Correct equipment, compatible, condition, age, records and traceability, fastened correctly, PPE fit, anchors, ground clearance, site.
10	Communications	10.1	Recall potential communication problems when working at height.	Wind, distance, clothing.
		10.2	Recall basic communication options when working at height, including being able to raise alarm in the event of an emergency.	Whistle and air horns, radios, mobile phones.



	Skill sheet element		Learning outcome	Key teaching points
11	Knots	11.1	Identify, tie and check appropriate knots for working at height, or connect to pre-sewn terminations.	Eg sewn termination, overhand on a bight, figure of 8 on a bight, rethreaded figure of 8, clove hitch.
		11.2	Recall factors affecting knot choice for working at height.	Ability to release under load. Ease of tying. Appropriate for task. Ease of checking.
12	Anchor systems	12.1	Identify use of anchor systems when working at height.	Load sharing (compared to load distributing). Unquestionably sound anchors (aka bombproof). Strength requirements.
		12.2	Select an appropriate single anchor point.	Rated and tested or unquestionably sound anchor (aka bombproof anchor). Use of appropriate rope/webbing/strop and rope protection.
		12.3	Select and create an appropriate 2-point load-sharing anchor.	Internal angle, alignment.
		12.4	Identify agency use or non-use of artificial anchor points (if used by agency).	Agency policy and standard operating guidelines.
		12.5	Identify, install and check temporary artificial anchor points (if used by agency).	Artificial door traverse anchors, artificial beam clamp anchors.
13	Rope protection	13.1	Select, install and check appropriate rope protection.	Comparison of commercially-available products, and improvised products (eg canvas, fire hose etc). (Rope protection is sometimes known as edge protection).
14	Work restraint	14.1	Identify when work restraint equipment is used, its merits and limitations.	Prevents an operative from reaching an edge.
		14.2	Select, install and check appropriate work restraint equipment.	Consider multiple edges. Anchor/edge alignment. Suitability of anchor.



	Skill sheet element		Learning outcome	Key teaching points
15	Fall arrest (if used by agency)	15.1	Identify when fall arrest equipment is used, its merits and limitations (if used by agency).	Where work restraint isn't appropriate (eg when climbing a structure), and where there is likelihood of a fall.
		15.2	Demonstrate use of a fall arrest system (if used by agency).	Eg use of scaffold hooks with shock absorbing lanyard or self-retracting lifeline/fall arrest block. Maximum arrest force as defined in legislation.
16	Work positioning (if used by agency)	16.1	Identify when combined work positioning and fall arrest equipment is used, its merits and limitations (if used by agency).	Work positioning utilised during resting on long ascent, or when required to work in suspension.
		16.2	Demonstrate resting during an ascent with a combined work positioning and fall arrest configuration (if used by agency).	Body weight supported until work positioning lanyard is in place in addition to fall arrest.
17	Emergency descending (if used by agency)	17.1	Identify hazards and control measures associated with pre-installed escape devices (if used by agency).	Anchor, edges, rope tangles, integrity of automated system, landing area.
		17.2	Perform an emergency descent using a pre-installed escape device, (if used by agency).	Follow instructions on pre-installed escape device.
18	Climbing with lanyards (if used by agency)	18.1	Identify when lanyards are used, their hazards and control measures (if used by agency).	When there's not a pre-installed fall arrest system. Anchor integrity, fall arrest distance, fall factor and secondary impacts and strikes, maximum arrest force (6kN). Control measures: correct use of PPE, awareness of hazards, minimising fall distance.
		18.2	Demonstrate climbing with a lanyard in ascent and descent (if used by agency).	Ascend and descend a suitable structure with lanyards, eg ladder.



	Skill sheet element		Learning outcome	Key teaching points
19	Ladders (if used by agency)	19.1	Recall legislation applicable to use of ladders (if used by agency).	Applicable multinational, national and/or regional legislation.
		19.2	Identify hazards and control measure of using ladders (if used by agency).	Falls, potentially without fall arrest. Short duration. Pre-use checks. Ladders should be inspected, tagged and traceable. Level and stable at base and top of ladder. Is ladder secured/anchored? Appropriate height for task. Only carrying light materials/tools.
		19.3	Demonstrate climbing a ladder (if used by agency).	Pre-use checks. Level and stable at base and top of ladder. Is ladder secured/anchored? If co-worker footing ladder, stand on bottom rung with both feet. Ladder at 75 degree angle. Maintain 3 points of contact. Face ladder when ascending/descending. Don't work off top 3 rungs. Don't overreach.
20	Improvised roof safety systems (if used by agency)	20.1	Identify the uses, components and requirements of improvised roof safety systems (if used by agency).	Anchors, suitability for intended use (fall arrest or work restraint), releasability, rope protection/use of non-textile sections.
		20.2	Demonstrate (as part of a group) the rigging and use of an improvised roof safety system (if used by agency).	Rope tensioned across or over roof to provide intermediate anchor points for work restraint or fall arrest. Requirement for system to be releasable if used for fall arrest to allow for user to be lowered to the ground if needed following a fall. Areas of potential rope damage (roof ridge/edges) to be protected to prevent rope damage or rope isolated by non-textile section (eg steel strop) to prevent damage.



Co-Worker Rescue at Height (CWRH)

Course overview and target audience

Everyone who works at height may be faced with a colleague who has fallen and is hanging helplessly in his fall protection system. The Co-Worker Rescue at Height course teaches participants to deal with that situation. Using simple techniques and industry standard equipment, you will learn how you can free a colleague from a dangerous situation after they have dropped into their fall arrest system. The rapid release of this trapped person must be your highest priority, to prevent further injury. In accordance with the law on working conditions and the consequent duty of care, an employer is required to prepare employees for this possible scenario. Generally, with a few simple tools, this problem can easily be solved.

Contact hours 12 hours (2 days) or 6 hours (1 day) add-on to in-date SWAH qualification	Prerequisites Minimum age; 18
Qualification valid for 3 years	Accredited by Rescue 3 Europe

Taught by

- Co-Worker Rescue at Height Instructor (CWRHI)
- Rope Rescue Operator Instructor (RROI)
- Rope Rescue Technician Instructor (RRTI)
- Rope Rescue Specialist Instructor (RRSI)

Assessment

The assessed elements of this course are:

- Foundation knowledge
- Emergency descending (if used by agency)
- Individual pick-offs
- Knots and anchors



Co-Worker Rescue at Height (CWRH) skill sheet contents

Theory	
1. Rescue 3 philosophy	
2. Training standards	
3. Medical considerations	
4. Personal equipment	
5. Technical equipment	
6. Safe systems of work	
7. Risk assessments	
8. Incident size-up	
9. Incident management and site control	
10. Loads and forces	
11. Safety checks	
12. Communications	
Practical	
13. Knots	
14. Anchor systems	
15. Rope protection	
16. Work restraint	
17. Fall arrest	
18. Work positioning	
19. Connecting a casualty on a line using a telescopic pole	
20. Lifting and lowering a casualty using a pre-installed device	
21. Casualty care	
22. Individual pick-offs	
If used by agency	
23. Emergency descending (if used by agency)	
24. Climbing with lanyards (if used by agency)	
25. Ladders (if used by agency)	
26. Improvised roof safety systems (if used by agency)	

'If used by agency' skills must be taught if a student's agency uses these skills operationally. Otherwise, they may be omitted by the training provider.



Co-Worker Rescue at Height (CWRH) learning outcomes and key teaching points

	Skill sheet element		Learning outcome	Key teaching points
1	Rescue 3 philosophy	1.1	Recall the steps required in order to develop judgement.	Training. Practice. Experience. Judgement.
		1.2	Explain the order of priorities when working at height.	Avoid working at height > Prevent falls > Minimise consequences of falls. Self > team > victim.
2	Training standards	2.1	Recognise the different training courses within the Rescue 3 scheme.	Rope rescue courses. Confined space rescue courses. Water rescue courses. Boat rescue courses. Industry level courses.
		2.2	Recall the remit and role of an individual trained to this level.	Co-Worker Rescue at Height (CWRH) remit and role.
		2.3	State how the Rescue 3 scheme fits within national and international standards.	Rescue 3 scheme, NFPA, applicable local standards.
		2.4	Recall applicable safe working at height legislation.	Multinational, national and/or local legislation.
3	Medical considerations	3.1	Identify signs/symptoms and treatment for common medical issues found in a vertical environment.	Suspension-induced syncope, trauma.
		3.2	Identify individuals at risk for common medical issues found in a vertical environment, and control measures to minimise these.	Casualty, rescuers, bystanders. Control measures: PPE, training, site zoning.



	Skill sheet element		Learning outcome	Key teaching points
4	Personal equipment	4.1	Identify personal protective equipment (PPE) for working at height.	Anchor point, connection and harness. Types of connections including fall arrest kit, lanyard, fall arrest lanyard, lanyard for work positioning or restraint, fall arrest blocks, karabiners, maillons, hooks, rope, backup devices. Other equipment including helmet, tool lanyards, foot loops, rescue harness, gloves, eye protection, rope protection.
		4.2	Recall national and international standards for PPE.	EN standards, applicable local standards.
		4.3	Select and demonstrate use of appropriate PPE for working at height, perform pre-use checks, donning and buddy checks.	EN standards, PPE inspection, buddy checks.
		4.4	Recall post-use care and inspection procedures for personal equipment.	PPE inspection, storage and care.
5	Technical equipment	5.1	Identify technical equipment used for working at height.	Eg telescopic pole, rescue harness.
		5.2	Recall national and international standards for technical equipment.	EN standards, applicable local standards.
		5.3	Recall post-use care and inspection procedures for technical and team equipment.	Equipment inspection, storage and care.



	Skill sheet element		Learning outcome	Key teaching points
6	Safe systems of work	6.1	Recall the common components of a safe system of work.	Hazard assessment, risk assessment, method statement, rescue plan, dynamic risk assessment, site briefing, review.
		6.2	List the four components of a generic pre-plan.	Management, personnel, training, equipment.
		6.3	Identify sources of information useful for generic and task-/ location-specific pre-planning.	Weather forecasts, mapping, other relevant agencies, location of rescue and first aid equipment, post-rescue documentation.
		6.4	Describe key information that should be included within a pre-plan.	Site-specific risk assessment, general risk assessment, access or egress to site, topography, response plan.
7	Risk assessments	7.1	Identify the elements of an effective generic and site-specific risk assessment.	Identify the hazards, decide who might be harmed and how, evaluate the risks and decide on precaution, record your findings and implement them, review your assessment and update if necessary.
		7.2	Identify the elements of an effective dynamic risk assessment.	Is written risk assessment relevant to conditions/ site/personnel? Weather considerations etc.
		7.3	Perform a dynamic risk assessment of a working area at height.	Is written risk assessment relevant to conditions/ site/personnel? Weather considerations etc.
8	Incident size-up	8.1	Demonstrate use of size-up models.	CHALET and METHANE.
		8.2	Explain the phases of a successful rescue.	Locate. Access. Stabilise. Transport.
		8.3	List rescue options.	Eg lowering, raising, individual pickoff.
		8.4	Select an appropriate plan of action for a given incident.	Dynamic risk assessment. Briefing models, eg STAR.



	Skill sheet element		Learning outcome	Key teaching points
9	Incident management and site control	9.1	Based on hazard recognition, apply appropriate control measures to protect personnel and bystanders.	Site zoning, team roles.
		9.2	Install and mark site zones.	Methods of marking site zones.
		9.3	Identify issues and hazards of bystanders in the exclusion zone.	Crowd control, moral pressure, bystander safety.
		9.4	Identify how and when to contact the emergency services in the event of an incident.	Emergency service contact details, 112 Europe-wide emergency number, rescue capability of relevant bodies, phone access, mobile signal, radios.
10	Loads and forces	10.1	Differentiate between mass and force.	Force = mass x acceleration.
		10.2	Identify SI base units and derived units used in rope rescue.	Metre (length), second (time), kilogram (mass), Newton (force), metre per second per second (acceleration).
		10.3	Describe the differences between static and dynamic forces.	Static = non-moving, eg being held in space. Dynamic = moving, eg an uncontrolled event.
		10.4	Recall the maximum arrest force applicable by legislation.	Eg 6kN within the European Union and 8kN within North America.
11	Safety checks	11.1	Identify the components of a safety check.	Correct equipment, compatible, condition, age, records and traceability, fastened correctly, PPE fit, anchors, ground clearance, site.
		11.2	Perform a safety check.	Correct equipment, compatible, condition, age, records and traceability, fastened correctly, PPE fit, anchors, ground clearance, site.



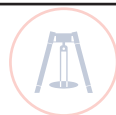
	Skill sheet element		Learning outcome	Key teaching points
12	Communications	12.1	Recall potential communication problems when working at height.	Wind, distance, clothing.
		12.2	Recall basic communication options when working at height, including being able to raise alarm in the event of an emergency.	Whistle and air horns, radios, mobile phones.
13	Knots	13.1	Identify, tie and check appropriate knots for working at height, or connect to pre-sewn terminations.	Eg sewn termination, overhand on a bight, figure of 8 on a bight, rethreaded figure of 8, clove hitch.
		13.2	Recall factors affecting knot choice for working at height.	Ability to release under load. Ease of tying. Appropriate for task. Ease of checking.
14	Anchor systems	14.1	Identify use of anchor systems when working at height.	Load sharing (compared to load distributing). Unquestionably sound anchors (aka bombproof). Strength requirements.
		14.2	Select an appropriate single anchor point.	Rated and tested or unquestionably sound anchor (aka bombproof anchor). Use of appropriate rope/webbing/strop and rope protection.
		14.3	Select and create an appropriate 2-point load-sharing anchor.	Internal angle, alignment.
		14.4	Identify agency use or non-use of artificial anchor points (if used by agency).	Agency policy and standard operating guidelines.
		14.5	Identify, install and check temporary artificial anchor points (if used by agency).	Artificial door traverse anchors, artificial beam clamp anchors.
15	Rope protection	15.1	Select, install and check appropriate rope protection.	Comparison of commercially-available products, and improvised products (eg canvas, fire hose etc.).
16	Work restraint	16.1	Identify when work restraint equipment is used, its merits and limitations.	Prevents an operative from reaching an edge.
		16.2	Select, install and check appropriate work restraint equipment.	Consider multiple edges. Anchor/edge alignment. Suitability of anchor.



	Skill sheet element		Learning outcome	Key teaching points
17	Fall arrest	17.1	Identify when fall arrest equipment is used, its merits and limitations.	Where work restraint isn't appropriate (eg when climbing a structure), and where there is likelihood of a fall.
		17.2	Demonstrate use of a fall arrest system.	Eg use of scaffold hooks with shock absorbing lanyard or self-retracting lifeline/fall arrest block. Maximum arrest force as defined in legislation.
18	Work positioning	18.1	Identify when combined work positioning and fall arrest equipment is used, its merits and limitations.	Work positioning utilised during resting on long ascent, or when required to work in suspension.
		18.2	Demonstrate resting during an ascent with a combined work positioning and fall arrest configuration.	Body weight supported until work positioning lanyard is in place in addition to fall arrest. Load is taken by work positioning configuration, not fall arrest.
19	Connecting a casualty on a line using a telescopic pole	19.1	Identify when a casualty would be connected to a line using a telescopic pole, its merits and limitations.	Doesn't necessitate rescuer being in work positioning. Individual vs team-based rescues. Raising vs lowering.
		19.2	Connect a casualty to a line, using a telescopic pole.	Doesn't necessitate rescuer being in work positioning. Individual vs team-based rescues. Raising vs lowering.
20	Lifting and lowering a casualty using a pre-installed device	20.1	Identify when a casualty would be lifted or lowered using a pre-installed device, its merits and limitations.	In an emergency, main line for single person load and safety line for rescue-sized load. Considerations for safety line based on hazard. Requirement for safety line during training.
		20.2	Lift a casualty using a pre-installed device.	Perform a casualty raise. Requirement for safety line during training.
		20.3	Lower a casualty using a descent control device.	De-weight casualty using pre-rigged external MA system, and perform a casualty lower with a descent control device. Requirement for safety line during training.



	Skill sheet element		Learning outcome	Key teaching points
21	Casualty care	21.1	Identify personnel at risk to suspension-induced syncope, and control measures to minimise this.	Casualties, workers. Pre-rigged systems allowing worker in suspension to be lowered to ground.
		21.2	Demonstrate appropriate casualty care for suspected suspension-induced syncope.	Rescue as soon as safely possible. Footloops for suspension relief. If unable to immediately release conscious casualty, raise legs. Standard first aid DR CABG protocols (danger, response, catastrophic haemorrhage, airway, breathing, circulation).
22	Individual pick-offs	22.1	Identify when an individual pick-off would be performed, its merits and limitations.	Absence of a rescue team. Task-loads the rescuer. Fast and light approach.
		22.2	Identify hazards and control measures associated with descending.	Redundancy, rope failure on edges, pre-rigging for rescue.
		22.3	Demonstrate personal descending using two rope (main and safety) system.	With auto-locking descender, and auto-locking backup device. Use of external belay to replace autolocking backup device.
		22.4	Demonstrate an individual pick-off.	Practical session in line with Rescue 3 Europe instructor video 'Individual pickoff' and Safe Working at Height and Co-Worker Rescue field guide. Anchor points and equipment suitable for 2-person load. Descend to casualty on descent control device with fall arrest backup on separate set of ropes. Use of pre-rigged haul system, and lanyard/cowstail to ensure 2 points of contact for casualty whilst releasing them from their system. Descend to ground. Discussion of use of patient harness for non-suspended victim.
		22.5	Identify when individual pick-off equipment with a pre-installed escape and rescue device is used.	Major emergency, eg oil rig or wind turbine on fire.



	Skill sheet element		Learning outcome	Key teaching points
23	Emergency descending (if used by agency)	23.1	Identify hazards and control measures associated with pre-installed escape devices (if used by agency).	Anchor, edges, rope tangles, integrity of automated system.
		23.2	Perform an emergency descent using a pre-installed escape device (if used by agency).	Follow instructions on pre-installed escape device.
24	Climbing with lanyards (if used by agency)	24.1	Identify when lanyards are used, their hazards and control measures (if used by agency).	When there's not a pre-installed fall arrest system. Anchor integrity, fall arrest distance, fall factor and secondary impacts and strikes, maximum arrest force (6kN). Control measures: correct use of PPE, awareness of hazards, minimising fall distance.
		24.2	Demonstrate climbing with a lanyard in ascent and descent (if used by agency).	Ascend and descend a suitable structure with lanyards, eg ladder.
25	Ladders (if used by agency)	25.1	Recall legislation applicable to use of ladders (if used by agency).	Applicable multinational, national and/or regional legislation.
		25.2	Identify hazards and control measure of using ladders (if used by agency).	Falls, potentially without fall arrest. Short duration. Pre-use checks. Ladders should be inspected, tagged and traceable. Level and stable at base and top of ladder. Is ladder secured/anchored? Appropriate height for task. Only carrying light materials/tools.
		25.3	Demonstrate climbing a ladder (if used by agency).	Pre-use checks. Level and stable at base and top of ladder. Is ladder secured/anchored? If co-worker footing ladder, stand on bottom rung with both feet. Ladder at 75 degree angle. Maintain 3 points of contact. Face ladder when ascending/descending. Don't work off top 3 rungs. Don't overreach.



	Skill sheet element		Learning outcome	Key teaching points
26	Improvised roof safety systems (if used by agency)	26.1	Identify the uses, components and requirements of improvised roof safety systems (if used by agency).	Anchors, suitability for intended use (fall arrest or work restraint), releaseability, rope protection/use of non-textile sections.
		26.2	Demonstrate (as part of a group) the rigging and use of an improvised roof safety system (if used by agency).	Rope tensioned across or over roof to provide intermediate anchor points for work restraint or fall arrest. Requirement for system to be releasable if used for fall arrest to allow for user to be lowered to the ground if needed following a fall. Areas of potential rope damage (roof ridge/edges) to be protected to prevent rope damage or rope isolated by non-textile section (eg steel strop) to prevent damage.







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