Interaktives Lernprogramm für Arbeit und Rettung in absturzgefährdeten Bereichen
e-RESCUE
Interactive training program for work and rescue in fall endangered areas

LU/03/B/C/PP-156000

LEONARDO DA VINCI
PROGRAMME

AG Training / WG Ausbildung

Draft

Definition of the skills necessary for the Course of Safe Working in fall endangered areas (protection against fall)

Permanence of training (education): 24 hours

Aim of training (training target): The member of the course must
- know the tasks, possibilities and limits of the fire brigade in case of intervention in fall endangered areas
- know the "set of devices for protection against fall" (GAS)
- know securing techniques with the "set of devices for protection against fall" and be able to use in case of exercise or incident independent, correct and without delay
- be able to do rescue and self-rescue at exercises independent and correct
- know the possibilities of employment and use but also the limits of the fire brigade-rope and fire brigade-holding belt
- be able to do a basic person-rescue independent, correct and without delay (defined actions)
- know exactly the difference between protection against fall and the special rescue and be able to value it

Emphasis of the training (key course element):
- Laws and regulations,
- Theory of material and devices (Personal protection equipment against fall)
- Prevention of accidents during incidents and exercises (suspensions trauma, …)
- anchor points/fixing points
- chain of safeguards (kinds of belay in fall endangered areas)
- rescue / self-rescue

Prerequisites (conditions):
- Completed qualification of fire fighter
- Physical ability to work with self contained breathing apparatus > medical examination (in Germany according to G 26/3)
- Physical ability to work in height

Nr.	Thema/content	Hours	Main learning target the member of the training shall..	Training contents	Training methods
1.	Theory				
1.1	Main terms/Definitions	1	Know and be able to explain definitions and terms of "protection against fall"	Fall factor, Impact force, italian hitch, Protection against fall (AS), Special rescues from heights and depths (SRHT), …	Training discussion
1.2	Tasks, possibilities and limits at incidents in fall endangered areas	1	Know the difference concerning the use of fire brigade holding belt / fire brigade rope and set of devices for protection against fall (GAS) Know the difference between AS (Protection against fall) and SRHT (Special rescues from heights and depths)	Possibilities and limits of employment Differences between to hold (back), to catch a fall, rescue/self-rescue and Special rescues from heights and depths (SRHT) specialities	Training discussion
1.3	accident prevention regulation	1	Know accident prevention regulation/ is able to transfer to incident situations	General behaviour during the training/incident Behaviour at exercise objects Handling with the equipment Behaviour in special situations Suspensions trauma Working material AS (protection against fall) FwDV 1/2 Kapitel 14 und 15 GUV-R 198; GUV R-199 GUV V C53; GUV- G 9102	Training discussion

e-RESCUE – WG TRAINING - AG AUSBILDUNG

Fähigkeiten Sicheres Arbeiten im absturzgefährdeten Bereich/ skills safe working on fall endangered areas   Page / Seite 2

Nr.	Theme / content	Hours	Main learning target the member of the training shall..	Training contents	Training methods
1.4	Personal protection equipment (PSA)against fall				
1.4.1	Theory of ropes	2	Know kinds of ropes and be able to describe and explain its limitations of use Be able to describe and explain interventions with ropes Be able to do a correct maintenance and to make out proofs of ropes and also recognize damaged ropes	kinds of ropes and properties Construction/ production of the rope Technical figures, characteristics Maintenance/ Service / elimination Handling of ropes Limits for loads, forces, … Possibilities of damage / protection	Training methods Experiments to tear/break ropes e-learning
1.4.2	Material and tool science		be able to declare and describe material and tools for doing rescue and self-rescue as well as GAS (set of devices for protection against fall) maintenance/Service according to the norms/ regulations, knowledge of the proof of done service recognize defect tools and devices	Fire brigade holding belt / ~ rope harness to catch fall/ to fix to rope EN 361 dynamic ropes EN 892 slings Carbines for intermediate belay, fixing points HMS Carbines with twin lock Rescue triangle Self safeguard (Form: Y or V) technical data purpose of use Maintenance/ Service / elimination	

e-RESCUE – WG TRAINING - AG AUSBILDUNG

Fähigkeiten Sicheres Arbeiten im absturzgefährdeten Bereich/ skills safe working on fall endangered areas   Page / Seite 3

Nr.	Theme / content	Hours	Main learning target the member of the training shall..	Training contents	Training methods
1.5	knots	1	Declare different knots and describe the use Knows fundamental principles by making and using knots	Construction and function possibility of use Kind of knots Clove hitch bowline larks foot thumb knot/ overhand figure of eight knots italian hitch	Training discussion Teamwork e-learning
1.6	Technique of safeguards	2	know and use the kinds of safeguard and its differences at training and in the case of intervention and be able to transfer it to similar situations know and use safeguard principles	Kinds of belay: Chain of belay directly belay indirectly belay static belay dynamic belay construction / function physical effects particularities principles of belay	Training discussion e-learning
1.7	Written examination	1			examination

e-RESCUE – WG TRAINING - AG AUSBILDUNG

Fähigkeiten Sicheres Arbeiten im absturzgefährdeten Bereich/ skills safe working on fall endangered areas   Page / Seite 4

Nr.	Theme / content	Hours	Main learning target the member of the training shall..	Training contents	Training methods
2.1	Preparation of exercises	1	Be introduced to significant problems and specifications of different exercises and incidents Get a introduction for objects especially of the locality	Analysis of endangered of objects	Practice instruction
2.2	knots	2	Be able to use and have command over the knots for securing against fall in every situation	Construction of knots Fixing to rope Fixing to anchor points To tie Clove hitch bowline larks foot thumb knot/ overhand figure of eight knots italian hitch	Practice instruction
2.3	Safeguard in fall endangered areas	5	Be able to do activities of Safeguard in fall endangered areas and to have command over it	Dangers while doing belay Principles of belay Kinds of belay Construction of the chain of belay Self safeguard Fixing points Employment/ engagement in heights	Practice instruction Exercises of incidents

e-RESCUE – WG TRAINING - AG AUSBILDUNG

Fähigkeiten Sicheres Arbeiten im absturzgefährdeten Bereich/ skills safe working on fall endangered areas   Page / Seite 5

Nr.	Theme / content	Hours	Main learning target the member of the training shall..	Training contents	Training methods
2.4	Rescue and self-rescue	4	• Be able to recognize the dangers of heights and depths • Have command over rescue and self-rescue and be able to do it independent and explain it	• Dangers during rescue actions • Fifing points • Limits of the possibilities to do rescues • Rescue after a fall into the rope • Self-rescue • Self-safeguard	• Practice instruction • Exercises of incidents
2.5	Control of the equipment	1	Be able to check independent the existing equipment after exercises and incident	Control of the equipment Giving back tools and materials	Practice instruction
	Total theory/practice	11/ 13			
	total	24			

The wording of the main learning target is taken over from the fire-brigade regulation 2 (FwDV 2) (see attachment).

e-RESCUE – WG TRAINING - AG AUSBILDUNG

Fähigkeiten Sicheres Arbeiten im absturzgefährdeten Bereich/ skills safe working on fall endangered areas   Page / Seite 6

Level of training target (training aim stages) in the realization range (source: FwDV 2)

Within the fore mentioned training aim ranges there are 4 different Levels of training targets (training aim stages)

Level of training target 1   **knowledge,**   in the sense of "being able to name"
Level of training target 2   **understanding,** in the sense of "being able to describe and/or explain with own words"
Level of training target 3   **practise,**   in the sense of "being able to transfer anything witch was understood once to similar situations"
Level of training target 4   **evaluation,**   in the sense of "being able to value and justice new situations, the value of material, methods and procedures for certain situations"

For reaching the respective Level of training target (training aim stages) following methods of instruction are necessary:

LTT:	target	Method of instruction	wording
LTT 1:	knowledge	Minimum lecture Training discussion if there is enough time	- must be able to name, - must be able to show/ reproduce
LTT 2:	understanding	Training discussion Work in team/ with partner	-have to be able to explain, -have to be able to describe
LTT 3:	Use/ practise	Work in team/ with partner exercise, exercise with divided parts, Specimen of instruction	Have to be able to transfer and to use to similar situations the subjects with were taught
LTT 4:	evaluate	Work in team/ with partner exercise , exercise with divided parts	- must be able to judge the subjects with were taught, - must be able to derive measures

e-RESCUE – WG TRAINING - AG AUSBILDUNG

Fähigkeiten Sicheres Arbeiten im absturzgefährdeten Bereich/ skills safe working on fall endangered areas   Page / Seite 7

Level of training target (training aim stages) in the action / behaviour range (source: FwDV 2)

If the aim of the training is in the range of action/behaviour, there are also 4 different Levels of training target (training aim stages)

Level of training target 1   **Imitation**,   in the sense of "being able to do activities and handle the same grips, which are demonstrated by the instructor "
     (However it can never be the purpose of fire-brigade training, that the course participant can only copy activities!)
Level of training target 2   **Independent acting**,   in the sense of "being able to independent proceed of activities"
Level of training target 3   **Precision**,   in the sense of "being able to do activities not only independent and correct, but beyond that briskly and accurately"
Level of training target 4   **Automation of action**,   in the sense of "being able to do activities in every situation fast, without error and absolutely safe"

For reaching the respective training aim stages methods of training the following specified methods of instruction are necessary:

LTT:	Target	Method of instruction	wording
LTT 1:	Imitation	Practice instruction	must be able to copy actions
LTT 2:	Independent acting	Practice instruction (PU step 3*) Station training	must be able to accomplish or proceed entirely courses of action without instructions ;
LTT 3:	Precision	Practice instruction (PU step 4*) Station training	must be able to accomplish and explain technically correctly and independently entire courses of action s
LTT 4:	Automation of action	Practice instruction (PU step 4*) Station training Operation exercises Exercises on model	must be able to have command over courses of action in every situation

e-RESCUE – WG TRAINING - AG AUSBILDUNG

Fähigkeiten Sicheres Arbeiten im absturzgefährdeten Bereich/ skills safe working on fall endangered areas   Page / Seite 8