European Commission
Directorate General for Humanitarian Aid and Civil Protection
ECHO A5, Civil Protection Policy Unit
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Action H.2: List of relevant caving equipment which will be tested

According to the plan of the EU Proteus project we have made a list of the equipment that is used in caving as well as at cave rescue manoeuvres. List was done based on experiences of instructors of Cave Rescue Service of Slovenia and also based on analysis of the causes of accidents in the caves.

The listed equipment will be tested (and destroyed) within the series of tests with three aims:

1. Try to uncover the gradual deterioration of personal common protective equipment against falls from a height. This is why we categorised all equipment into three categories based on the amount of its use. With the aim of achieving some statistical confidence more repetitions of the same test will be needed. Eventually, by means of statistical modelling (mixture of numeric and categorical explanatory variables) an evaluation of the influence of deterioration factors will be possible.

2. Think about realistic scenarios of abuse and misuse of the equipment in common caving and functionally test them. Then evaluate their hazard.

3. Test possible improvements in equipment and evaluate their safety.

In the end all results should be evaluated on one side from the point of view of common caving techniques (rigging and progression) and on the other from the point of view of special rescue techniques. Safety factors should be defined a priori and results compared against them.

In order to improve knowledge and experience in the field of equipment testing, we further educated at the Meeting at the Italian technical commission from CNSAS (Commissione nazonale soccorso alpino e speleo) (see Annex 2).

Attachments:
Annex 1: List of equipment that will be tested
Annex 2: Report of a Meeting at the Italian technical commission from CNSAS

Best regards,

Ljubljana, 28.9.2012

Prepared by: Miha Staut

Project Manager:

Maks Merela

Annex 1: List of equipment that will be tested

Item description	quantity*	status
Rope Edelrid Superstatic 10 mm	40	new
Rope Edelrid Superstatic 10 mm	15	used
Rope Edelrid Superstatic 10 mm	70	very used
Rope Edelrid Superstatic 9 mm	15	new
Rope, Singing rock Icon, 9.3 mm	20	new
Beal Pure Dyneema, 5 mm	15	very used
Beal Pure Dyneema, 5 mm	10	new
Carabiner – same type	15	very used
Carabiner – same type	5	new
Raumer Handy	1	new
hanger plate – coudee	6	very used
hanger plate – vrilee	6	very used
ring	6	very used
Amarrage souple	6	very used
Spit	10	new
Raumer spit for drilling machine	10	new
Raumer inox expansion anchor 8 mm	10	new
Hilti expansion anchor 8 mm	10	new
Raumer Multi monti 7,5 mm	10	new
expansion anchors – different types	20	new
webbing (knotted)	10	new
webbing (knotted)	5	very used
rope slings (knotted)	5	new
rope slings (knotted)	5	used
rope slings (knotted)	5	very used
Petzl Stop descender	1	new
Petzl Stop descender	1	very used
Petzl Simple descender	1	very used
Petzl rope clamp	1	new
Petzl rope clamp	1	very used
Petzl Croll	1	very used
Pulley Petzl Rescue	1	very used
Pulley Pezl Fixe	1	very used
Large diameter dyneema splice	1	new
Large diameter cable with terminations	5	new

* quantities for ropes are expressed in metres

Annex 2: Report of a Meeting at the Italian technical commission from CNSAS

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Action H.2: Report of a Meeting at the Italian technical commission from CNSAS (Commissione nazonale soccorso alpino e speleo)

Date: 22., 23.9. 2012, Padriciano, Italy

Upon reception of an invitation from the coordinator of the Italian technical commission from CNSAS (Commissione nazonale soccorso alpino e speleo) to their annual meeting in Trieste, the head of our technical commission decided to attend a part of their programme. The first day they had some PPE and other material testing in programme. They were specifically focused on trying to get the common rigging equipment lighter but still acceptable by their interior safety standards. They thus experimented on the usability of 5 mm dyneema cords for treble equalisation anchors. With the tests they performed, it seemed to give satisfactory results. The concept has to be tested more thoroughly though.

After dusk we sat down and discussed issues concerning safety (related to obeying or not the EN norms), the differences in techniques adopted by our and their doctrine and the evolution of safety material used in caving.

The next day they did not have any testing in programme. They were split in working groups each developing some new prototype or already standard production devices for use in cave rescue. Among them: the evolution of the new Alp Design stretcher and the integration of a special helmet fixed onto the stretcher that accepts KED and may be removed without moving the head of the injured in tight spaces; an evolution to their transceiver system for cave communication; the evolution of their dynamic testing software. After that I showed them some of the devices adopted by our cave rescue methodology and some that might become adopted and we confronted advantages and weaknesses compared to their techniques.

Best regards

Koper, 24.9.2012

Prepared by: Miha Staut

Project Manager:

Maks Merela