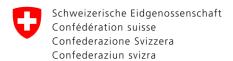
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Type approval of safety nets for protection against rockfall

Test Certificate No. S 13-2

System description							
System designation		RXE	-2000				
Address of manufacturer		Geol	orugg AG, Aachstrass	e 11, 8592 Ro	manshorn		
System description	on						
Energy class		2000 kJ					
- Posts:	profile		HEA 200				
	length a _l		5.46 m				
	interval a _s		10 m				
Support ropes:	type		6x36 W-S + SE, 177	0 N/mm ²			
	diameter		22 mm				
– Stop ropes:	type		6x36 W-S + SE, 1770 N/mm ²				
	diameter		22 mm				
Net: type ROCCO 12/3/350 rir			ng net (12 win	dings)			
	diameter		Ring diameter 350 m	nm, wire diam	eter 3 mm		
	mesh		-				
	height h _v		5 m				
 System drawing 	S						
Description				No.	Date		
System handbook RXE-2000			- DVE 0000	EKLS/01	19.07.2013		
Maintenance handbook RXE-1000 to Technical documentation RXE-2000				EKLS/01 EKLS/02	10.04.2013 03.09.2013		
Davis January	tation.						
Basic documen	itation						
• Field test							
WSL test report (EOTA) Date		20.08.2013		Report no. 13-09			
Overall assessment	ent						
		15.10.2013		Report no. S 13-2			
EKLS (FECAR)							
Test results							
Preliminary test of outer part							
Penetration of test body					yes ☐ / no ⊠		
•		See	test 03-4 (same type)		, oo / no		
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Preliminary energy test (50%)	1000 kJ					
 Penetration of test body 	yes ☐ / no ⊠					
- Braking time t _s	0.30 s					
- Braking distance b _s	5.2 m					
Sum of the tensile forces in the 5 upper cables	430 kN					
 Sum of the tensile forces in the 4 lower cables 	260 kN					
 Maximum of the tensile forces in a stay cable 	150 kN					
List of damaged elements						
-						
- Assessment of repairs						
The net was completely replaced. The work took 100 man hours.						
Main energy test (100%)	2000 kJ					
 Penetration of test body 	yes 🗌 / no 🔀					
- Braking time t _s	0.36 s					
- Maximum permissible braking distance b _s	10.0 m					
 Measured braking distance b₅ 	6.5 m					
- Minimum permissible residual braking height h _n	2.5 m					
 Measured residual braking height h_n 	3.11 m					
 Sum of the tensile forces in the upper cables 	540 kN					
 Sum of the tensile forces in the lower cables 	265 kN					
Maximum of the tensile forces in a stay cable	285 kN					
 List of damaged elements 						
Assessment of special criteria						
 Comments on assembly and on the assembly instructions 						
The assembly cost is standard for a system of this energy class.						
 Comments on adaptability to the terrain 						
Adaptability to the terrain is normal.						
 Comments on design complexity 						
The system has two stop ropes in addition to the support ropes. An intermediate retaining rope is required every 60 m in accordance with the regulations. 9 ropes must be anchored there.						
- Comments on anticipated service life						

The anticipated service life is ascertained as adequate.

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Overall assessment ☐ Test passed with reservations

Tested according to the following guidelines: GERBER, W. 2001: Guideline for the approval of rockfall protection kits. Environment in practice. Swiss Agency for the Environment, Forests and Landscape (SAEFL), Swiss Federal Research Institute WSL. Berne, 39 pages. Revised June 2006.

RESERVATION: Should deficiencies arise following certification of the safety net, FOEN may revoke product release and delete it from the type approval list.

Date Name, position Signatures

22.10.2013 Dr. Josef Hess, Vice-Director

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