

## Rockfall Protection Net / Product – Data Sheet

• <b>System name</b>	GEOBRUGG RXE-500-LA
• <b>Address of manufacturer</b>	Geobruigg AG, Aachstrasse 11, 8590 Romanshorn

### Reference documents

(Sources 1, 2 and 3)

**BAFU (2018):** Grundlagen zur Qualitätsbeurteilung von Steinschlagschutznetzen und deren Fundation - Anleitung für die Praxis

(1) **Quality assessment by:** Report no.: 17-1 Date: 19.3.2018

Swiss Federal Institute for Forest, Snow and Landscape Research WSL,  
Zürcherstrasse 111, 8903 Birmensdorf

(2) **EOTA technical report (ETA):** Report no.: 16/0634 Date: 16.12.2016

Angle of block trajectory during European evaluation	90 Degree	Gradient Reference level	75 Degree
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(3) **Documentation Geobruigg AG:**

	No.	Date
Systemhandbuch RXE-500-LA	EKLS/06	16.1.2018
Berechnung der Ankerkräfte	AL	17.2.2017
Montagehandbuch	EKLS/03	24.11.2016
Wartungshandbuch	EKLS/02	23.11.2016
Auszug aus ER und ETA 16/0634	SEM	20.2.2017

### System description

(Sources 2 and 3)

**Specifications:**

			Source
– Energy absorption (MEL)	500 kJ	Level 2	(2)
– Nominal height	2.88 m		(2)
– Residual height	1.49 m	Class A	(2)
– Posts	Profile	HEA 120	(3)
	Steel quality	355	(3)
	Length	3.1 – 4.6 m	(3)
	Spacing for test	10 m	(3)
– Rope:	Standard	EN-12385-4	(3)
	Diameter	18 mm	(3)
– Net:	Type/name	ROCCO 7/3/300	(3)
	Standard	DIN 2078 (Draht)	(3)
	Rope diameter	3 mm	(3)
	Number of windings	7	(3)
	Ring diameter	300 mm	(3)
– Weight of heaviest inseparable component	95 kg (Post 4.6 m)		(3)

**Deceleration processes (SEL1, SEL2 und MEL)** *(Source 1 and 2)*

Test	m	d	v	w	t	Ek	Ew	En
	(kg)	(m)	(m/s)	(m)	(s)	(kJ)	(kJ)	(kJ)
SEL 1	580	0.68	25.0	4.12	0.254	181	23	204
SEL 2	580	0.68	25.1	3.39	0.196	182	19	201
MEL	1580	0.96	25.5	5.46	0.303	513	85	598

**Maximum forces in the ropes (SEL1, SEL2 und MEL)** *(Source 1 and 3)*

Rope (s)	To	Tu	Rhs 5	Rhs 6	Rhs 7	Rhs 8
Number of Ropes	1	1	1	1	1	1
Cells no.	Z103	Z102	Z104	Z107	Z108	Z109
SEL 1 (kN)	100	101	323	37	13	38
SEL 2 (kN)	114	116	39	44	-	49
MEL (kN)	99	94	45	55	17	49

**Anchor forces (MEL)** *(Source 1 and 3)*

Anchors	To+Tu	(To+Tu)_p	(To+Tu)_o	Rhs	Rhs_p	Rhs_o
Number of Ropes	2	2	2	2	2	22
Cells no.	Z102+Z103	Z102+Z103	Z102+Z103	Z1+Z3	Z1+Z3	Z1+Z3
Maximum force (kN)	184	61	175	61	61	-
Factor	1.3	1.3	1.3		1.3	1.3
Substitute load (kN)	239	80	228	80	80	-

**Points for assessment criteria**

*(Source 1)*

Criteria	maximum possible	minimum recommended	attained
A1: Priority criteria	16	16	16
A2: Assessment of the nets	10	8	10
A3.1: Technical documentation	15	12	15
A3.2: Assembly instructions	38	30	38
A3.3: Maintenance manual	19	15	19
Total	98	81	98

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**Designations for rockfall protection nets**

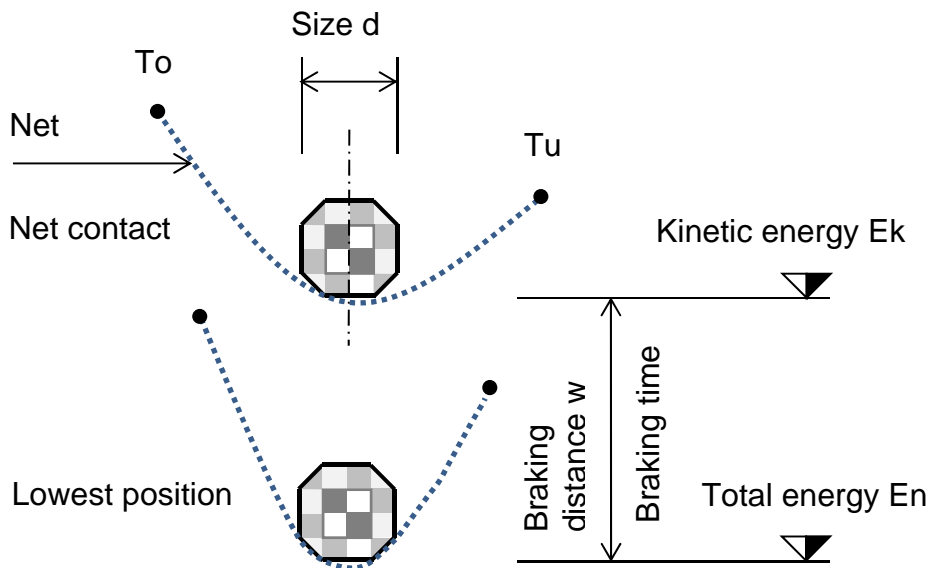
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	Unit	Designation
d	[m]	Edge length of test body
m	[kg]	Weight of test body
v	[m/s]	Speed of test body at first net contact
w	[m]	Braking distance of test body in the net
t	[s]	Braking time of test body in the net
Ek	[kJ]	Kinetic energy of test body at first net contact
Ew	[kJ]	Potential energy of test body due to braking distance
En	[kJ]	Total energy relative to lowest position of test body
To, Tu	[kN]	Maximum force in upper or lower support rope
Fso, Fsu	[kN]	Maximum force in upper or lower stop rope
SA	[kN]	Maximum forces in lateral anchorage
Rhs	[kN]	Maximum forces in retaining ropes
Rhs_o	[kN]	Maximum sum of forces (Rhs) parallel to the installation line
Rhs_p	[kN]	Maximum sum of forces (Rhs) perpendicular to the installation line
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SEL 1	Service Energy Level 1st Test	
SEL 2	Service Energy Level 2nd Test	
MEL	Maximum Energy Level	

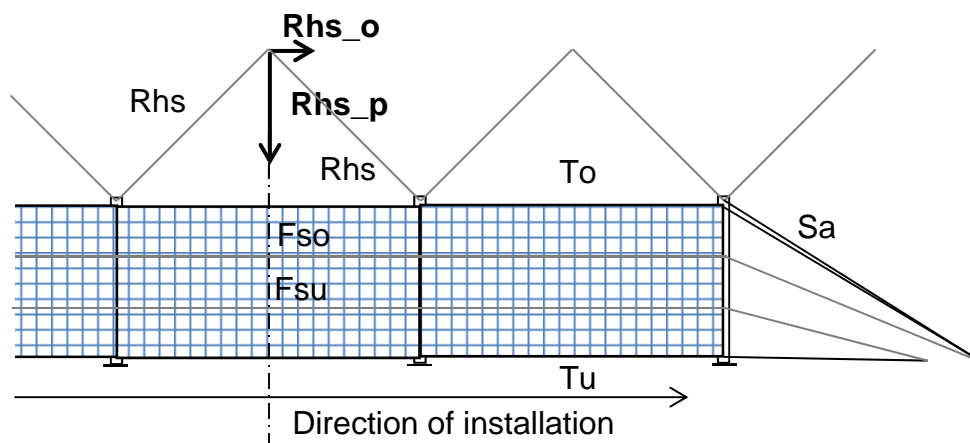
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**Diagram showing designations for braking processes**

View in direction of installation (vertical system)



**Diagram showing designations for anchor forces**



The rockfall barrier GEOBRUGG RXE-500-LA does not contain stop ropes ( $F_{so}$  and  $F_{su}$ )