

**SPIDER® Avalanche prevention system**

THE EFFICIENT PROTECTION  
AGAINST AVALANCHES

# FOR THE MOST VALUABLE ASSET IN LIFE: OUR SAFETY.

It is no coincidence that we have always been pioneers when it comes to avalanche prevention: After all, Geobruigg is at home in alpine Switzerland. We have developed our systems for installation in avalanche release zones in close collaboration with national and international institutions.

**SPIDER® Avalanche** not only offers protection against avalanches, tests have proven that this solution also protects against rockfall. Thanks to the low weight of the avalanche prevention system, installation using helicopters is cost-effective.

Salvaneli, Switzerland: Installation of the SPIDER® Avalanche system, 2016.

# WE CAN PROVIDE YOU WITH THE COMPLETE SAFETY PACKAGE.

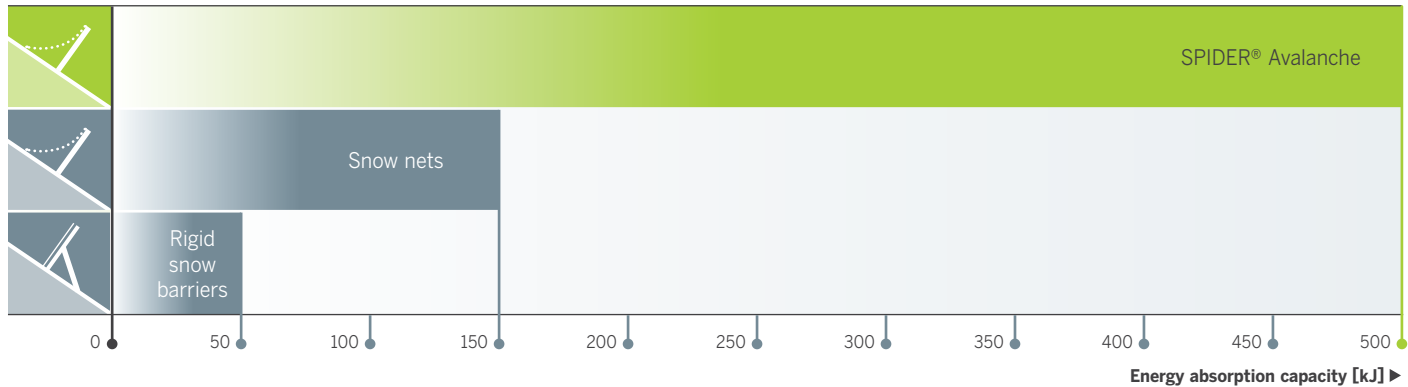
At your request we can take on the role of **consultant, planner** and even **project manager**. Both the solutions we offer and the quality of our customer service is valued by our customers. For us, excellent service is an integral part of every single project. No matter which phase of the project you are in, we will provide you with the support and expertise required to achieve the best results – saving you both time and money.



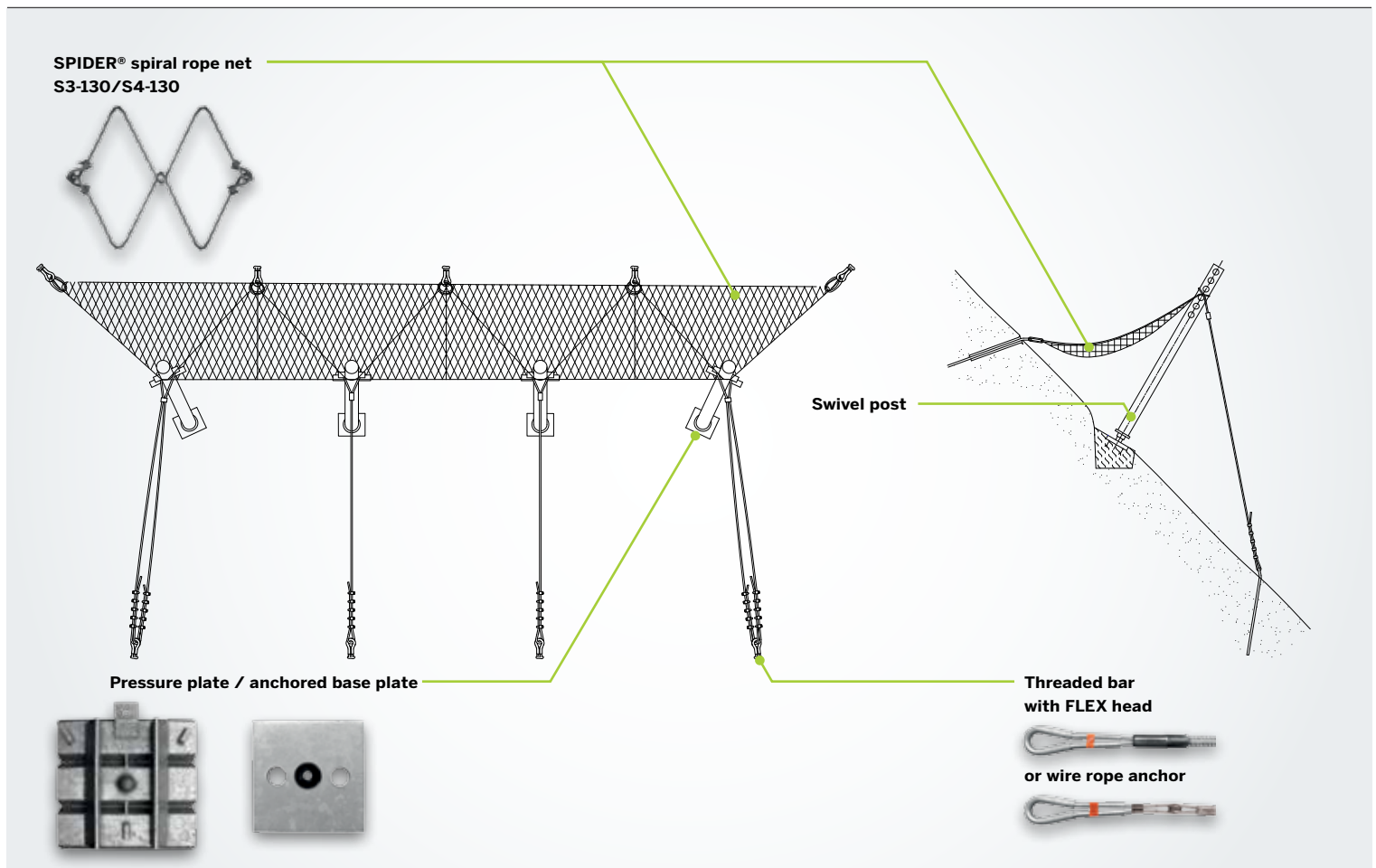
# SAFETY IN EVERY ELEMENT: COMBINED AVALANCHE AND ROCKFALL PROTECTION.

The **SPIDER® Avalanche system** has been developed for snow thicknesses of  $D_k$  2.5 to  $D_k$  4.5. It has a modular design and consists of **swivel posts, floating ground plates, guy ropes, anchors** and **SPIDER® spiral rope nets** as a flexible supporting surface. Thanks to the lightweight high-tensile steel spiral rope nets, up to three posts and three nets can be flown to the installation area at one time.

## SPIDER® Avalanche in direct comparison: Significantly better rockfall protection



## Components of the SPIDER® Avalanche system



# QUALITY YOU CAN RELY ON.

**SPIDER® Avalanche** with the spiral rope net **made of high-tensile steel wire** offers a robust, easy to install solution with a long service life. Compared to conventional protection systems, this tried-and-tested solution offers a decisive advantage: During snow-free periods, **it also offers protection against rockfall with impact energies up to 500 kJ.**

Also thanks to the special materials used in this flexible system, it is particularly lightweight and unobtrusive in any sensitive environment. The use of nets also makes installation possible in **difficult topographies** and for a wide variety of substrates. The **anchor-free pressure plate** transfers the forces from the posts directly into the ground. This provides the significant advantage of less drilling and easy positioning on any surface including **creeping slopes and in permafrost areas**. The ground plate location can easily be corrected if required.

## **SPIDER® Avalanche boasts the following features:**



### **Suitable for rockfall protection**

SPIDER® Avalanche safeguards against multiple hazards: Tests have proven that during snow-free periods, our avalanche prevention structures also offer protection against rockfall with energies up to 500 kJ.



### **Light and easy to install**

The low weight is extremely advantageous for installing avalanche protection systems and makes cost-effective logistics operations possible. If being installed by helicopter, up to three posts and three main nets can be transported in each rotation.



### **Gap-free structure**

Uncompromising safety: SPIDER® Avalanche forms a uniform protective surface without gaps or openings which reaches to the ground and retains both, rockfalls and large quantities of snow.



### **Pressure plates without anchoring**

Ultra simple installation and low anchoring costs are what makes SPIDER® Avalanche so unique. The pressure plates approved in accordance with the SLF (Swiss Institute for Snow and Avalanche Research) are suitable particularly for soft soil and creeping slopes.



### **Corrosion protection for the future**

Long service life and low maintenance costs: The Geobrug corrosion protection concept ensures systems that are built to last for generations.



### **Non-flammable**

Unlike protection solutions made of wood, SPIDER® Avalanche is entirely made out of steel and can easily withstand smaller grass fires and brush fires.

# WE DON'T LEAVE SAFETY TO CHANCE.

For over 65 years, we have been pioneering new solutions in the avalanche prevention activity with our systems. **SPIDER® Avalanche** is based on the globally recognized "Technical guideline for defense structures in avalanche starting zones" published by the Swiss Institute for Snow and Avalanche Research (SLF). At the request of our customers, we have also successfully proven the protective function of this system against rockfall with an impact energy of up to 500 kJ in 1:1 tests. Therewith we have set the benchmarks when it comes to protection and safety.

# TECHNICAL DATA:

	D <sub>k</sub> 2.5 N 2.5	D <sub>k</sub> 2.5 N 3.2	D <sub>k</sub> 3.0 N 2.5	D <sub>k</sub> 3.0 N 3.2	D <sub>k</sub> 3.5 N 2.5	D <sub>k</sub> 3.5 N 3.2	D <sub>k</sub> 4.0 N 2.5	D <sub>k</sub> 4.0 N 3.2	D <sub>k</sub> 4.5 N 2.5	D <sub>k</sub> 4.5 N 3.2
Barrier height (D <sub>k</sub> )	2.5 m	2.5 m	3.0 m	3.0 m	3.5 m	3.5 m	4.0 m	4.0 m	4.5 m	4.5 m
Glide factor (N)	2.5	3.2	2.5	3.2	2.5	3.2	2.5	3.2	2.5	3.2
SPIDER® spiral rope net	S3-130	S3-130	S3-130	S3-130	S3-130	S4-130	S4-130	S4-130	S4-130	S4-130
Wire Ø	3 mm	3 mm	3 mm	3 mm	3 mm	4 mm	4 mm	4 mm	4 mm	4 mm
Mesh width (D <sub>i</sub> )	130 mm	130 mm	130 mm	130 mm	130 mm	130 mm	130 mm	130 mm	130 mm	130 mm
Net weight of middle section; border section / external field	73.4 kg 51.4 kg	73.4 kg 51.4 kg	94.8 kg 76.2 kg	86.7 kg 71.0 kg	100.1 kg 85.6 kg	133.9 kg 114.8 kg	170.3 kg 152.1 kg	170.3 kg 152.1 kg	189.4 kg 174.4 kg	189.4 kg 174.4 kg
Post type	ROR	ROR	ROR	ROR	ROR	ROR	ROR	ROR	ROR	ROR
Post distance	4.0 m	4.0 m	4.0 m	3.5 m	3.5 m	3.5 m	3.5 m	3.5 m	3.5 m	3.5 m
Post weight	50 / 75 kg	50 / 75 kg	90 / 105 kg	90 / 105 kg	120 / 170 kg	120 / 170 kg	175 / 285 kg	175 / 285 kg	190 / 315 kg	315 / 395 kg
Weight of pressure plate	46.5 kg	46.5 kg	72 kg	72 / 101 kg	72 / 101 kg	72 kg	72 kg	101 kg	101 kg	101 kg

We reserve the right to make technical changes.



More information is available on our website:  
[www.geobrugg.com/avalanche prevention](http://www.geobrugg.com/avalanche prevention)



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