

Avalanche protection system



Snow Catcher - Data Sheet



Area of Application:

TRUMER avalanche protection systems are designed on a site-to-site basis to protect infrastructure, utilities, buildings and lives from avalanches. Unlike static mitigation methods such as the TRUMER TS-LV these structures are exposed very close to the element of risk and stop the avalanche in its motion. In general the Snow Catcher is installed in the run-out or deposit zone, thereby limiting their length.

Material:

TRUMER uses steel components and steel wire rope made from high quality materials, following a stringent quality assurance program. TRUMER is ISO 9001 certified.

Installation:

Structures by TRUMER are designed with as few components as possible to simplify installation and reduce maintenance. Foundation design and construction is dependant on site conditions and are the responsibility of the project engineer.

Advantages:

The TRUMER Snow Catcher acts as a linear defence against avalanches and is much more cost efficient than traditional protection systems, like avalanche dams or walls. The combination of a well thought-out Lambda Frame with the properties of the TRUMER Omega-Net leads to a premium quality product without affecting the landscape.

Classification

Model	Snow Catcher
Style	Lambda Frame
Typ. Impact Pressure* <i>kN/m² (lbf/ft²)</i>	up to 150 (3130)
Typical Height Range* <i>m (ft)</i>	up to 5 (16.4)
Typical Width Range* <i>m (ft)</i>	unlimited**
Typical Post Spacing* <i>m (ft)</i>	4 - 12 (13.1 - 39.4)

* Values are project related and have to be customized to the site and loading conditions.

** internal anchorage up to every 60 m (196 ft)

Design Parameters

Site	<input checked="" type="checkbox"/> Slope Inclination <i>deg</i>
	<input checked="" type="checkbox"/> Boundary Conditions
	<input checked="" type="checkbox"/> Distance to element of risk <i>m (ft)</i>
Load Scenario	<input checked="" type="checkbox"/> Impact Pressure <i>kN/m² (lbf/ft²)</i>
Fence	<input checked="" type="checkbox"/> Fence Height <i>m (ft)</i>
	<input checked="" type="checkbox"/> Fence Length <i>m (ft)</i>
	<input checked="" type="checkbox"/> Mesh Size <i>mm (in.)</i>

Primary Net*

Omega-Net Model	7.5/135	9.0/185	10.5/180
Type	Steel Wire Cable		
Rope Diameter <i>mm (in.)</i>	7.5 (0.295)	9.0 (0.354)	10.5 (0.413)
Spiral Rope Strand Type	1 x 7		1 x 19
Single Wire Diameter <i>mm (in.)</i>	2.5 (0.098)	3.0 (0.118)	2.1 (0.083)
Corrosion Protection**	Zn, ZnAl		ZnAl
Approx. Mesh Size <i>mm (in.)</i>	130 x 130 (5.1 x 5.1)	185 x 185 (7.3 x 7.3)	180 x 180 (7.1 x 7.1)
Unit Weight <i>kg/m² (lb/ft²)</i>	~ 5.6 (1.15)	~ 6.8 (1.39)	~ 10.5 (2.15)
Mesh Tensile Strength calculated <i>kN/m (lb/ft)</i>	386 (26449)	465 (31862)	756 (51802)
Connection to Main Ropes	Threaded		
Connection to Adjacent Panel	3/8" Shackle	7/16" Shackle	1/2" Shackle

Other rope diameters from 4.5 mm (0.18 in.) to 10.5 mm (0.41 in.) and mesh sizes from 100 mm (3.94 in) to 250 mm (9.84 in) are possible on request!

* in accordance with European Standard EN 10244-2, class A

Bearing and Middle Ropes *

Max. Rope Diameter <i>mm (in.)</i>	24 (0.945)
Corrosion Protection	Zn or ZnAl (Class A or B)
Brake Element Model	AVT phx

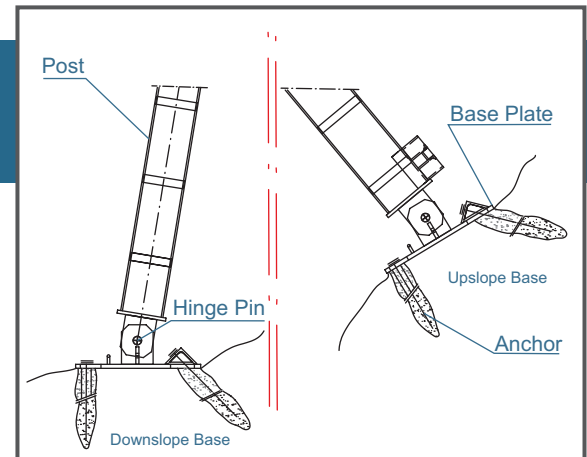
Support Structure *

Post Type	Lambda Frame
Integrated Ladder	Rungs every 0.5 m
Rope Guides	Integrated
Base Plate Connection	Tongue and Pin
Anchors per base plate	4

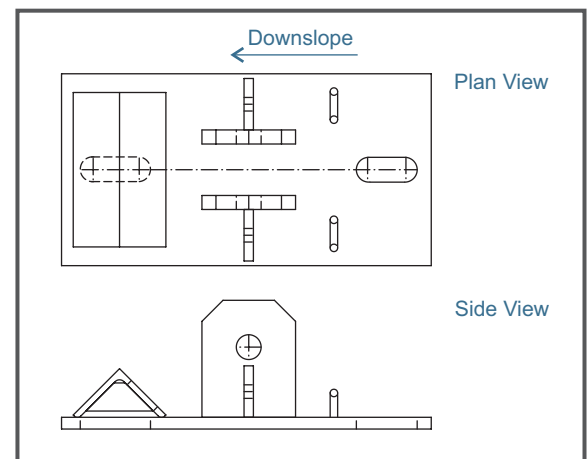
*Design and required items:

Data is taken from existing projects. Every avalanche protection structure is customized to the site and loading conditions, thus stated items and values can change.

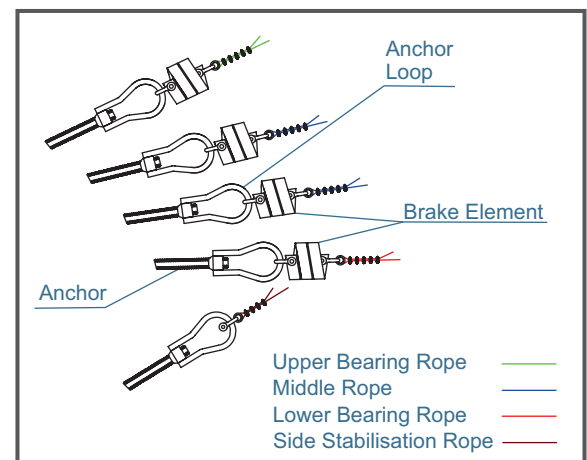
Base Plate/Foundation



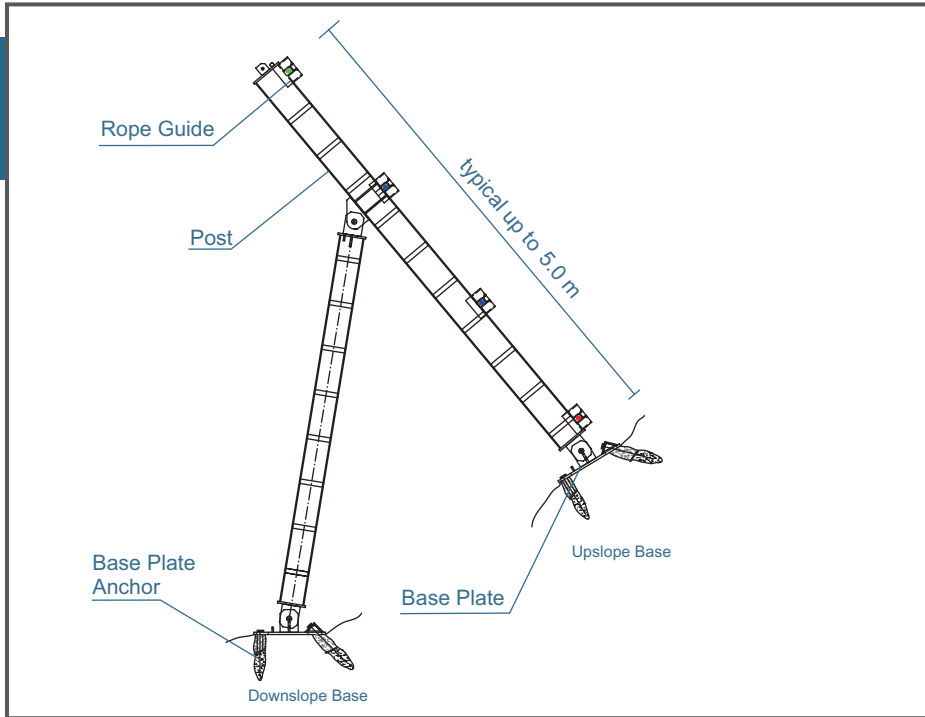
Base Plate Layout



Lateral Anchorage



Typical Cross Section

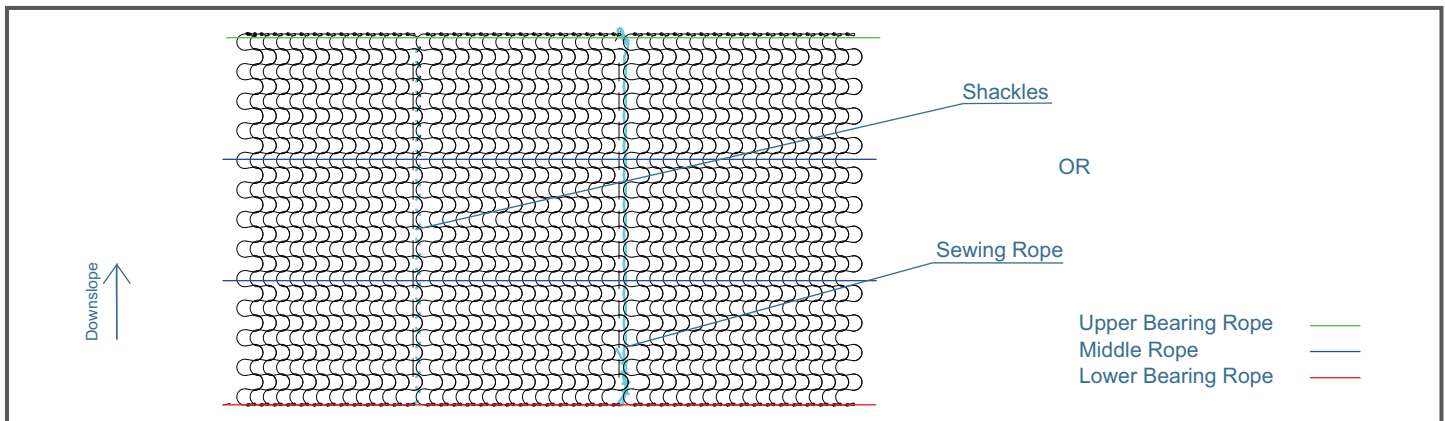


General Layout and Anchorage:

The given layout for the dynamic avalanche protection system is an example of an existing project. Every Snow Catcher project is customized to the site and loading conditions, thus stated values can change. In general, typical post spacing is kept between 4 and 12 m. The system should be oriented perpendicular to the flow process.

Anchor layout should follow the geometry provided in the installation manual with the anchor oriented as close as possible to the direction of the anticipated rope forces. It is acknowledged that due to site characteristics deviations from the ideal are unavoidable. In this case, the project engineer should use their best judgement to find a suitable location and orientation.

Seam Connection (Planview)



Typical Layout

