

Sensitive glacier areas can be protected from further melting.



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Innovation in Textiles

Espelkamp, Germany

Civil Engineering

GlacierProtect from Naue, headquartered Espelkamp, Germany, is an insulating and reflective geotextile made from 100% biodegradable, mechanically bonded Secutex Green, a nonwoven made exclusively from renewable raw materials.

Its properties sustainably delay the melting of snow deposits and glacier surfaces and due to certified biodegradability under the influence of all relevant environmental conditions, the residues of the product do no harm to the environment.

Naue **GlacierProtect** is UV-resistant, making it ideal for outdoor use in mountainous regions and as a result of its thickness and high reflectivity is very well suited as a top layer in snow farming. This involves storing and covering old snow in depots over the summer. With the help of snow farming, skiing operations in mountainous regions are being secured in the long term by adding stored snow to the basic snowmaking system.

In addition, sensitive glacier areas can be protected from further melting. A test in the Austrian Alps showed a reduction in melting of about four metres in over three summer months of 2022 with the use of Naue **GlacierProtect**. Supports of cable cars or ski lifts founded in ice can meanwhile be protected from excessive solar radiation, significantly extending their operational life.

Snow areas which winter sports enthusiasts use heavily can also be protected in an environmentally friendly way. These can include, for example, areas near ski huts, as well as entry and exit areas at ski lifts where the geotextile can be rolled out on the snow. If the nonwoven fabric freezes to the snow, the risk of the cover lifting off due to wind suction is reduced. Any abrasion or residue from Naue **GlacierProtect** from fibres freezing in the snow is converted into natural substances in nature and metabolised by naturally occurring microorganisms.

The key properties of the material include very high reflection values (80% light and 75% energy), high thermal insulation, breathability, less wind suction due to air permeability and the roughness of the surface, and stability against UV radiation.

At end of life, the nonwoven can be composted, thermally recycled or simply covered with soil to be 100% converted into biomass, CO₂ and water.

Naue **GlacierProtect** has a weight of 500gsm with a width of four metres and Naue has obtained OK industrial and home composting and soil, water and marine biodegradability certification from TÜV Austria for it.

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