

THE USE OF FLEXIBLE PREVENTION SYSTEMS IN AVALANCHE STARTING ZONES

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ABSTRACT: The installation of supporting structures in avalanche starting zones is a mitigation measure that has been effectively used for many years. These systems offer resistance to snow movement, preventing creeping and sliding of the snow cover on the terrain surface. As a result, the initiation of avalanches is prevented within the starting zone. The use of flexible materials in these systems offers several advantages when compared to similar designs consisting of rigid structures. Flexible systems are able to adapt to the imposed snow loads, and remain durable over the long term. A flexible design also allows the use of lightweight materials and an open structure. This results in a relatively low cost of materials, simplified installation, and a negligible aesthetic impact on the surrounding area.

Historically, flexible netting systems have been primarily used in Europe. Increasing development within alpine areas is making them a more attractive and cost effective solution for avalanche risk mitigation in North America as well. The history, evolution, and design of flexible netting systems will be discussed along with recent technological advances. Practical application of these systems will be illustrated through the presentation of case studies of recent installations in North America.

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