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## **STRUCTURAL REINFORCEMENT OF GEO-MAT BY HIGH-TENSILE STEEL WIRE MESHES**

### **Summary:**

*For a successful and long-term stabilization of natural embankments and new cuttings in loose rock, their effective revegetation is very important. In combination with hydro or dry seeding, geo-mat - so-called three-dimensional erosion control mats made of polypropylene are very effective. On the one hand, the 3D structure reduces the impact energy of raindrops, and the drag force of the draining water is reduced.*

*Geotextiles and geo-mats, which are used as planting aids, usually have only a low strength and are therefore only effective for low slope angles, or in combination with a stabilization measure such as wire mesh.*

*In the last 15 years, meshes made of high-tensile steel wire for slope stabilization in combination with soil nailing have established themselves. They can transfer larger forces and thanks to a very high puncturing resistance are better to introduce the load into the nailing. Their dimensioning for the stabilization of superficial instabilities can be carried out with a design software according to the so-called RUVOLUM concept.*

*We will show the development and application of two systems. Thanks to the systems (Deltax® and Tecco®), described in the paper, it is now possible to efficiently secure steep soil embankments in combination with a soil nailing system and to revegetate depending on the location.*

### **Key words:**

*Erosion control mat, 3D structure, slope stabilization, flexible facing system, Tecco®, Ruvolum®, Deltax®, high tensile steel mesh.*

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