Appendix

“Overview Installation Steps”

1. TECCO® system elements
2. System supporting elements
3. Correct system installation process
4. Additional information
5. Typical installation mistakes

The TECCO® slope stabilization system consists of mutually adapted coordinated acting system components. This appendix is only valid in combination with the Tecco® “Slope Stabilization System Product Manual”. 

Issue: 11/MD/Ro
Date: May 27, 2009
This Appendix is subject to change without notice

© Geobrugg AG
Geobrugg Protection Systems
CH-8990 Romanshorn, Switzerland
Range of application

This Appendix to the Product Manual should give a short overview of the installation steps for the TECCO® slope stabilization system.

This appendix is only valid in combination with the most recent edition of the Tecco® “Slope Stabilization System Product Manual”. In the Product Manual, the entire process of installation, with every possible detail needed, is described.

The TECCO® slope stabilization system consists of mutually adapted coordinated acting system components. The TECCO® system is a designed system.

Product Liability Clause

Rockfall, landslides, debris flows or avalanches are sporadic and unpredictable. Causes can be e.g. human (construction, etc.) or environmental (weather, earthquakes, etc.). Due to the multiplicity of factors affecting such events it is not and cannot be an exact science that guarantees the safety of individuals and property.

However, by the application of sound engineering principles to a predictable range of parameters and by the implementation of correctly designed protection measures in identified risk areas the risks of injury and loss of property can be reduced substantially.

Inspection and maintenance of such systems are an absolute requirement to ensure the desired protection level. The system safety can also be impaired by events such as natural disasters, inadequate dimensioning parameters or failure to use the prescribed standard components, systems and original parts; and/or corrosion (caused by pollution of the environment or other man-made factors as well as other external influences).
1. TECCO® System elements

Fig. 1. TECCO® mesh in rolls

Fig. 2. TECCO® mesh on a slope
Fig. 3. **TECCO® spike plate**

Fig. 4. **Connection clips for interlinking individual mesh sheets**
2. System supporting elements

Fig. 5. Boundary ropes secure edges of the mesh

Fig. 6. Rope anchor with flexible head for easy and reliable boundary ropes tensioning / fixation
3. The correct system installation process

**Stage I**

![Image of Stage I](image1)

*Fig. 7. Clearing and leveling of the slope according to design requirements*

**Stage II**

![Image of Stage II](image2)

*Fig. 8. Staking out all important points on a slope (nail-distance according to design value, drilling points, etc.)*
Fig. 9. Drilling works and nails installation

Fig. 10. Choose anchor points in depressions or cutting and preparing of dells around nail heads
Stage V

Fig. 11. Drainage or other required elements installation

Stage VI

Fig. 12. Erosion control mat TECMAT® installation for enhanced greening if soil material can be flushed away
Stage VII

Fig. 13. Unrolling and TECCO® mesh fixation

Stage VIII

Fig. 14. Connecting individual sheets of meshes with connection clips
Stage IX

Fig. 15. Rope anchors with flexible head and boundary ropes installation

Stage X

Fig. 16. System pretensioning according to design value using a torque wrench
Fig. 17. Slope greening (seeding, hydrotechnical application, etc.)
4. Additional information

Fig. 18. Drilling works and nails installation in difficult slope conditions (special equipment)

Fig. 19. Important: Nails must be installed staggered, spike plates have to be oriented horizontally, therefore the long side must be horizontally
Fig. 20. Rolls of TECCO® mesh prepared for installation

Fig. 21. Unrolling mesh while cutting the slope – „top –down” method
Fig. 22. TECCO® drilling device (allows increase a drilling diameter up to 90mm when drilling through the mesh)

Fig. 23. Horizontal connection by turning in wire spirals: outer wire ends secured with aluminum pre sleeves or wire rope clips.
Fig. 24.  Vertical connection of the mesh without overlap with connection clips T3

Fig. 25.  Horizontal connection of the mesh with connection clips
Fig. 26. TECCO® system correctly installed and pretensioned

Fig. 27. Open holes for trees, tree-trunks, pillars, etc.
5. Typical installation mistakes

Fig. 28. Nails situated incorrectly

Nails installed in columns, not with offset

Area not secured

Fig. 29. Mesh sheets connected incorrectly
Fig. 30. FLEX HEAD rope anchors installed incorrectly

Fig. 31. Open hole for a tree without rope and cut wires fixation