MACCAFERRI

TECHNICAL DATA SHEET

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MAC.RO. SYSTEM - DTK ANCHOR

SECURED FACING SYSTEM FOR SOIL SLOPES

This secured facing system has been developed to provide stability and to create a reinforced soil block to granular soils and loose slopes, and for weathered rock slopes.

The system is an *in-situ* ground reinforcement technique which improves the unstable soil characteristics, thus increasing shear strength, avoiding sliding along potential critical slip surfaces and meanwhile connecting shallow unstable elements with the deeper resistant soil zone.

ANCHORS

The main resistant action is exerted by pressure-grouted steel anchor bars: the bars give a certain stiffness to the whole system, according to the layout and spacing of nails along the slope, thus avoiding the movement of potentially unstable shallow zones.

DTK hollow bars are made of high tensile steel with a bi-component epoxy-coated protection having a high dry content and strengthened with mineral chips: this treatment allows a longer lasting durability of the intervention.

The bars are made of 1.00 to 3.00 m long bar-element, with 10 mm in diameter holes used for the pressure grout injection, and made at a regular 100 mm distance. The hole number varies according to the bar application.

The installation of the DTK anchors in the ground can be achieved by percussive (using a pneumatic hammer) or rotary percussive (using a hammer drill) systems: the installation method should be appropriate for the specific ground conditions. Several sacrificial drill bits are available for different soil types to provide the necessary soil penetration.

After the bar is driven into the ground, a pressure (8-10 bar) post-grouting is carried out with the proper equipment. The placement of grout should continue until the grout emerges from the top of the hole. Finally a steel plate will be placed, and locked with a nut (the tightening torque is decided during the design stage).

Technical data	
Outer diameter (mm)	32
Failure load (kN)	450
Tensile strength (N/mm^2)	1150
Medium cross section (mm^2)	400
Thickness (mm)	5
Yield load (kN)	380
Yield strength (N/mm^2)	950
Thread type	R32

FACING SYSTEM

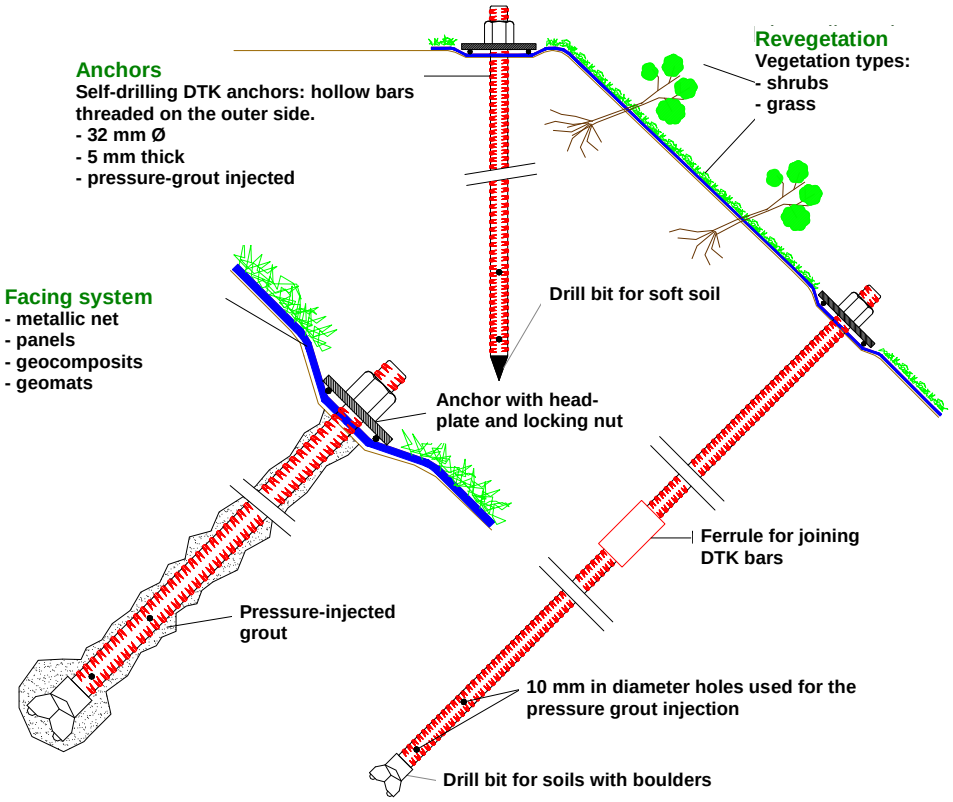
The major role of the facing is to stabilise the surface (and near-surface depth) of the ground between the nails. It provides lateral confinement for the retained soil between the nail head locations. Flexible structural facings provide also a long-term stability of the face of the soil-nailed structure by transfer of the soil load to the anchors.

Several facing systems can be provided, such as double twisted hexagonal wire meshes, metallic composits, steel cable panels, three dimensional geomats, dependant on the slope conditions and on the structure application.

REVEGETATION

Usually the system provides stability while the vegetation becomes established. In such way the system improves the soil shear strength, meanwhile providing surface erosion protection or physical weathering. Good practice is to vegetate the face with grass and/or shrubs, and seeding can be carried out by means of a seeded geotextile or hydro seeding.

The selection of suitable vegetation types or species has to be done taking into account for the local climatic conditions, the orientation of the slope face, the rainfall pattern, the topsoil and subsoil type and the soil chemistry.



WARNING: Install the product in accordance with National Security Requirements! If the job is done with suspension or security ropes, personal protective equipment against fall risk must be connected with anchor points in agreement with EN 795.

Maccaferri reserves the right to amend product specifications without notice and specifiers are requested to check as to the validity of the specifications they are using.

Officine Maccaferri S.p.A.
Via Kennedy, 10 - 40069 Zola Predosa (BO) - Italy
Tel. (+39) 051-6436000 - Fax (+39) 051-6436201
E-mail: comes@maccaferri.com - Web site: www.officinemaccaferri.com