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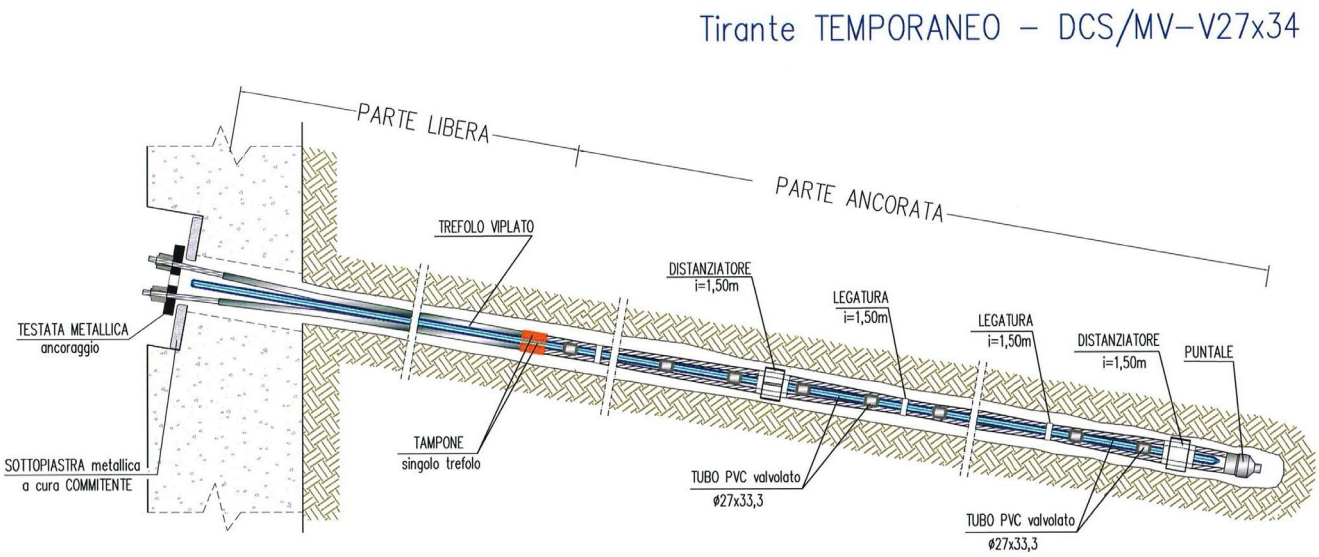
TEMPORARY ANCHOR DCS/MV-V27x34



Encoding, classification, and static function :

Tie rod for geotechnics, **active** type, **temporary**, conforming to UNI EN 1537:2013, suitable for installation by

high-pressure cementing operations (pmax=40bar), particularly suitable for **loose soils**.

Assembly type :

- *Metal reinforcement* → 0.6" strands of stabilized harmonic steel type c.a.p., according to UNI EN10138.
- *strand number* → no. 2-8.
- *maximum operating pull* → 300-1200 kN
- *Cementation mode* → high-pressure (**pmax=40bar**), repeated and selective (**IRS**) injection

by double-piston packer

- *anchor stretch protection* → unprotected
- *free tract protection* → unprotected
- single *strand protection* → single plating
- *separation free stretch/anchor stretch* → separation pads for single strand
- single *lock protection* → single lock cover (polyolefin-based synthetic polymer)
- *protection tested anchor* → CAP protection (polyolefin-based synthetic polymer)

Assembly mode :

Protection of the free part is achieved by impregnation of the strands by suitable anti-corrosive product (grease), after opening the individual strands and subsequent monoplating of the strands themselves using ϕ16.5x19.5mm polyethylene pipe.

In order to increase the adhesion of the reinforcement in the cemented anchorage section (foundation portion)

the bundle of strands is configured with the prescribed 'sinusoidal' pattern, alternating sections of 'tying' (by means of metal ties) with the placement of specific spacers, arranged at spacing of no more than
1.50 ml.

The end of the tie rod has a ferrule (polyolefin-based synthetic polymer) to facilitate insertion of the tie rod into the drill hole.

The ferrule is installed, covering the strands, with metal strapping and tape.

The separation between the free part and the foundation part of the tie rod consists of individual pads made, strand by strand, with the use of specific sealing product (called 'z-strip') and adhesive tape, which prevents the cement mixture from seeping inside the viples.

Inside the borehole, in the anchorage section, the correct positioning of the tie rod is ensured through the use of the specific 'spacers/centers' (made of polyolefin-based synthetic polymer) arranged with maximum spacing i=1.50ml, the installation of which ensures the correct minimum overburden expected.

To enable repeated and selective injection (I.R.S), under pressure (**pmax=40bar**), of the anchor bulb, a pvc tube, ϕ27x33.3mm, equipped with 'manchettes' valves and bottom plug, is placed within the strand bundle and through the central holes of the various spacers used.

The pitch of injection valves (i=33-150cm) is made according to the design requirements and executive provided by the Designer of the work.

First-phase injection, is performed using 'double plunger', using the first valve at the bottom of the hole and operating with medium-low pressure ($p_{max}<10bar$), for the formation of the

perimeter liner of cement mixture.

After a few hours have elapsed since the primary injection, we proceed with repeated and selective injection (IRS) at high pressure **(pmax=40bar),** operating, individually, on all valves, in order to create 'sbulbling' on the previously made cement liner and improve the adhesion effect at the interface with the soil.

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Tie rods are complete with metal header plates, of appropriate size and varying according to the number of strands planned, as well as clamping systems (monotrefolo) for stringing them.

At the request of the Client's Technical Representative, all available underplate and/or overplate protective devices suitable for ensuring greater durability and reliability of the installed element, in contact with the soil, any percolating water in the wall and/or rising from the borehole interface as well as exposed to external weathering.

In the present case are available :

- ➔ mooth sheaths for free stretch protection
- ➔ ingle-reflection covers.
- ➔ Variable section centralizers
- ➔ ver-plate protection device ➔ CAP protection.
- ➔ Underplate protection device ➔ tube Packing