

# FLEXIBLE AND RELIABLE ANCHORING

## Spiral rope anchor and FLEX Head

The flexibility of the whole system is crucial for both rockfall barriers and other protection systems. Why? The drilling axis and the angle of the anchor ropes are rarely the same, and during rockfall or debris flow events, the direction of loading can change. In both cases, a flexible anchor connection enables an optimal load transfer.

**BRUGG**  
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Safety is our nature

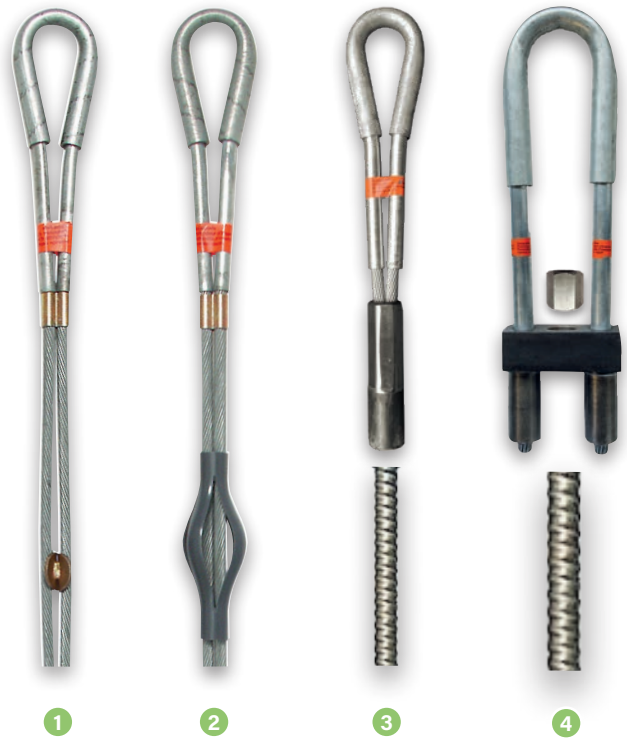
# Spiral rope anchor or FLEX Head: Always perfectly anchored

## Geobrugg spiral rope anchor

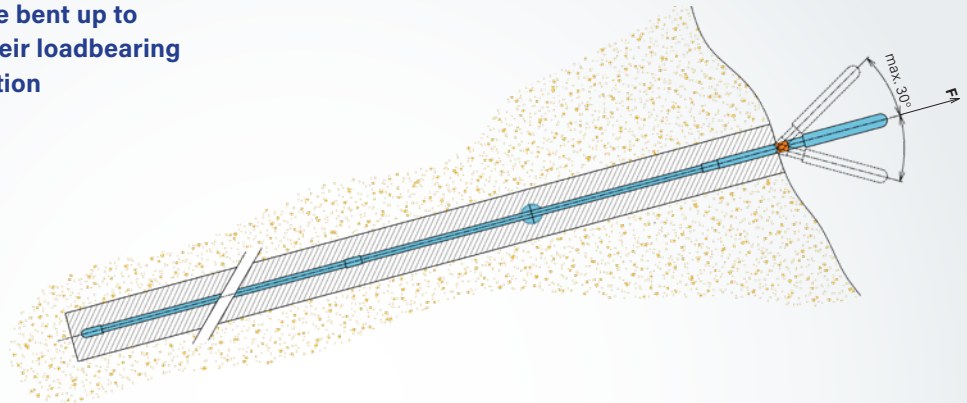
Our **1** standard spiral rope anchor can be adapted for every composition of the ground. We recommend using **2** spacers when installing in rock or unconsolidated soil for centering the anchor in the borehole during mortar grouting. This ensures load transfer between the rope and the subsoil as well as optimal corrosion protection.

## Geobrugg FLEX Head

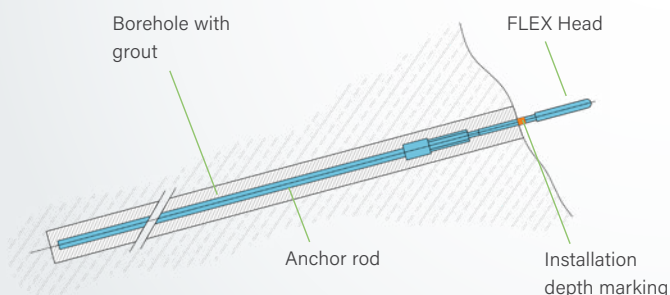
If the drill holes are unstable, the use of self-drilling anchors together with our **3 FLEX Head is the best solution**. It can be screwed onto commercially available bar anchors or self-drilling anchors. The FLEX Head coupled with the bar absorbs the tangential bending forces and transfers the load to the bar anchor according to the same principles as the Geobrugg spiral rope anchors. The FLEX Head consists of a typical spiral rope loop with all the advantages of flexibility. There are also **4** heavy-duty versions available for larger anchor diameters.



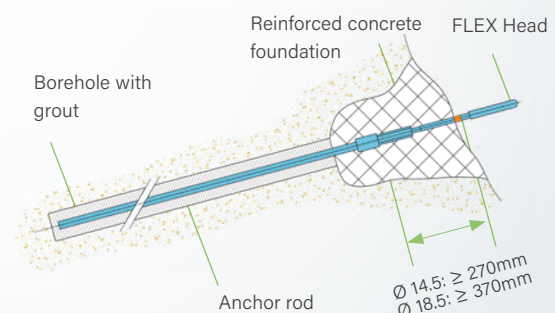
**Geobrugg anchorages can be bent up to 30° - without losing any of their loadbearing capacity or corrosion protection**



## FLEX Head standard design in rock



## FLEX Head standard design in soil



# International experts recommend Geobrugg anchorages

Our anchorages have been tried and tested thousands of times - just like our protection systems against natural hazards. There are good reasons for institutes including the Technical University (TU) Munich /Germany, the

Federal Institute for Snow and Avalanche Research (SLF) Davos /Switzerland and the Japanese Railway Research Institute (JR), Tokyo/Japan recommending the use of Geobrugg spiral rope anchors.



## Resistant against impacts

Our anchor heads are resistant against impact stress by their flexibility.



## Simple installation

In the case of loose subsoil, self-drilling anchors are particularly advantageous. The FLEX Head is simply screwed onto the anchor, then the concrete foundation can be prepared around the anchor.



## Easy to transport

Our flexible spiral rope anchors of length 1 m to 20 m are easy to transport and store. The FLEX Head itself is extremely compact and requires little space when transporting and storing.

## Our spiral rope anchor and FLEX Head - your advantages

### Flexible

The anchor heads are resistant against impacts and retain their load-bearing capacity even for tensile directions that are oblique to the drilling axis. Their flexibility also simplifies transportation.

### High-tensile

The spiral ropes are made from high-tensile steel wire with a tensile strength of 1770 N/mm<sup>2</sup> and enable high load capacities to be achieved in spiral rope anchors with low rope diameters.

### Approval

ETA approval with CE mark according to EAD 331852-00-0102.

### Protected bar anchor

Bar anchors are subjected to less loading in the head region with a FLEX Head than with rigid solutions, which significantly increases the operating life of the anchor bar.

### First-class corrosion protection

The rope loop is doubly protected by an internally and externally hot-dip galvanized pipe. Critical places are protected against corrosion by the pipe and the mortar in the ground.

### Easy to assemble

The FLEX Head enables the use of bar anchors or self-drilling anchors. These can be adapted to heterogeneous ground conditions and allow great flexibility.



# WE DON'T LEAVE SAFETY TO CHANCE

Flexible spiral rope anchors or FLEX Heads are not sensitive to impact and retain complete load-bearing capacity, even if the active forces are not aligned with the drilling axis. This is in contrast with rigid bar anchors, where the transmitted bending moments from non-linear loading can significantly reduce the capacity.



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