

## TO THE CLIMBING COMMUNITY

Climbing is a growing activity around the world, and more and more new routes are being established. Bolts can be a big cost for many bolters, and the lifetime of bolts are not always the main focus when new routes are being established.

The UIAA safety commission has worked to improve the safety for climbers for many decades and continues to do so. During the last few years, a lot of work and money have been put in to research regarding corrosion of rock anchors (bolts, hangers and anchor stations).

This has been needed since the recent discovery of stress corrosion cracking at ambient temperatures and the understanding that the type of material used in a rock anchor is not the only aspect when it comes to corrosion resistance.

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### How to choose a good quality anchor

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The UIAA recommends that an anchor should be installed with the ambition that the anchor should have a lifetime of at least 50 years (regarding corrosion). If this should be possible the product must be of good quality and chosen correctly for the environment it is installed in.

To be sure that an anchor is of a high quality, the manufacturer must control all parts of manufacturing. Aspects such as material sourcing, machining, welding etc. can easily be missed, even though the anchor looks fine when purchased.

If a UIAA safety label is marked on a rock anchor it shows that it have been certified to the UIAA safety standard 123 and to EN 959, by an independent test laboratory. A rock anchor with an UIAA safety label will also have a marking showing what corrosion class it has passed.

To be sure that a rock anchor is of high quality, safe and corrosion resistant (if used in a suitable location) you shall chose a product that have the UIAA safety label, and with a suitable corrosion class (or higher).



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### Marking on rock anchors

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The material that a rock anchor is made of is not the only aspect that influences the corrosion resistance. Therefore, UIAA does not recommend that anyone choose products solely on the material it is made of. The corrosion resistance test for a UIAA 123 certified product is tested on the full rock anchor as it is installed (including installation stress). It is also a known problem that raw material that is purchased by the manufacturer could be out of specification, and thereby having less resistance to corrosion.

Even if rock anchors have markings identifying the alloy type (e.g. "304" "316L"), they still need to have the UIAA corrosion class marking.

Best regards

The UIAA Safety commission

#### UIAA 123 corrosion classes

##### **SCC: High SCC and general corrosion resistance**

High resistance against SCC

High resistance against general corrosion

##### **GC: General corrosion resistance**

No resistance against SCC

High resistance against general corrosion

##### **LC: Low corrosion resistance**

No resistance against SCC

Medium resistance against general corrosion