

Safety Engineering



**Anchor protection Rosenberg (Freeway A1),
St. Gallen / Switzerland**

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| Project: | ABOXX anchor protection |
| Location: | Rosenberg (Freeway A1), St. Gallen / Switzerland |
| Client: | Federal Highways Office ASTRA, Winterthur |
| Planning: | Wepf & Ingenieure AG, St. Gallen / Geobruigg AG, Romanshorn / Geostahl AG, Tafers |
| System: | ABOXX anchor protection |
| Installation: | 2009 |

Problem

Some of the post tensioned anchors in the vicinity of a gravity wall have corrosion problems. These corrosion problems can result in anchors experiencing a sudden brittle fracture, and flying into the travel lanes of the adjacent freeway.

Safety concept

The object of the project study was to retain the anchors in a relatively short distance, and prevent them from entering the travel lanes of the highway. The ABOXX anchor protection successfully satisfied all requirements:

- The post tensioned anchor must be stopped in a short distance in the event of an anchor fracture
- Simple installation
- Possibility of adaptation with respect to the anchor head form and the energy transfer
- Tested system

Through the side mounted braking elements, the ABOXX was able to be adapted to an anchor pre-stressing of up to 54 tons. In the event of an anchor fracture, these braking elements deform, thus dissipating the transferred energy. The ABOXX system was installed in a very short time, enabling the necessary lane closure time to be kept to a minimum.

Overall view of the ABOXX installation



Installed ABOXX with special geometry



Corroded post tensioned anchor prior to the ABOXX installation



Corroded post tensioned anchor protected by means of an extra length ABOXX



Shrapnel Protection

Vehicle Barriers

Intrusion and Escape Protection

Safety Engineering

Geobrugg Security Engineering protects people and infrastructures

It is the task of our engineers (and partners) to analyze the problem together with you in detail and then, together with local consultants, to present solutions. Painstaking planning is not the only thing you can expect from us, however; since we have our own production plants on three continents, we can offer not only short delivery paths and times, but also optimal local customer service. With a view towards a trouble-free execution, we deliver pre-assembled and clearly identified system components right to the construction site. There we provide support, if desired, including technical support - from installation right on up until acceptance of the structure.



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