Anchor design

Safety concept

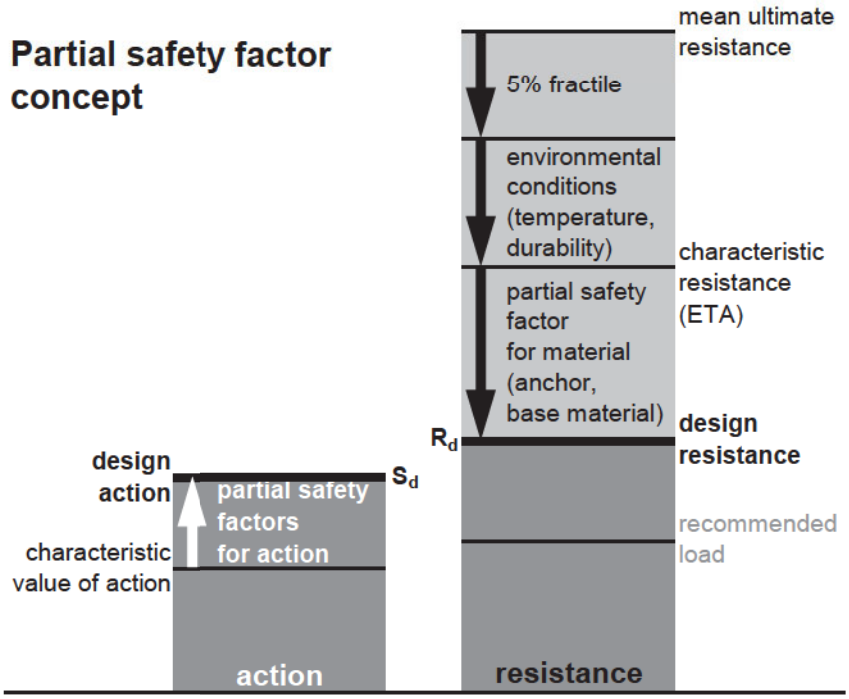
Depending on the application and the anchor type one of the following two concepts can be applied:

Partial safety factor concept

For anchors for use in concrete having an European Technical Approval (ETA) the partial safety factor concept according to the European Technical Approval Guidelines ETAG 001 or ETAG 020 shall be applied. It has to be shown, that the value of design actions does not exceed the value of the design resistance: $S_d \leq R_d$.

For the characteristic resistance given in the respective ETA, reduction factors due to e.g. freeze/thaw, service temperature, durability, creep behaviour and other environmental or application conditions are already considered.

In addition to the design resistance, in this manual recommended loads are given, using an overall partial safety factor for action $\gamma = 1,4$.



Global safety factor concept

For the global safety factor concept it has to be shown, that the characteristic value of action does not exceed the recommend load value.

The characteristic resistance given in the tables is the 5% fractile value obtained from test results under standard test conditions. With a global safety factor all environmental and application conditions for action and resistance are considered, leading to a recommended load.