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## Wedge Slippage

### Question:

What are the main causes of wedges slippage?

### Answer:

Wedge slippage is affecting seriously the tensioning process. The reasons are many. Some related with the production and quality of materials below:

- Manufacturing tolerances and production errors, i.e., anchor head holes are larger causing an inappropriate seating of wedges. Furthermore, improper planarity-parallelism of the anchor head outer surfaces may result to a significant deviation of wedges axis thus, one-side of wedge is forced more than the other during stressing causing slippage.
- Inappropriate raw material selection and improper manufacturing process may lead to a low hardness of anchor head surfaces (soft material) allowing the wedge to penetrate into the anchor head material during stressing process. This causing deformation of the hole shape and consequently wedges lose their grip capacity and allow slippage.
- Low quality of anchor head material may allow deformation of anchor head shape during stressing, especially when anchor head is not seated properly or has inadequate dimensions. Wedges cannot be seated properly inside the holes (axial and radial) causing slippage.
- Corrosion of contact surfaces increase the friction coefficient between the wedges and the anchor head holes. During stressing, the wedges may not draw into the holes causing inadequate grabbing of the strand. We would like to point out the grabbing of the strand is caused mainly by the forces acting on the strand due to the conical shape of the holes and not through the inner teeth of wedges. The inner teeth of wedges are inadequate to bear the stressing force. So, when the wedge is not properly inserted into the conical hole, the teeth lose their grabbing capacity causing a sudden and violent slippage.