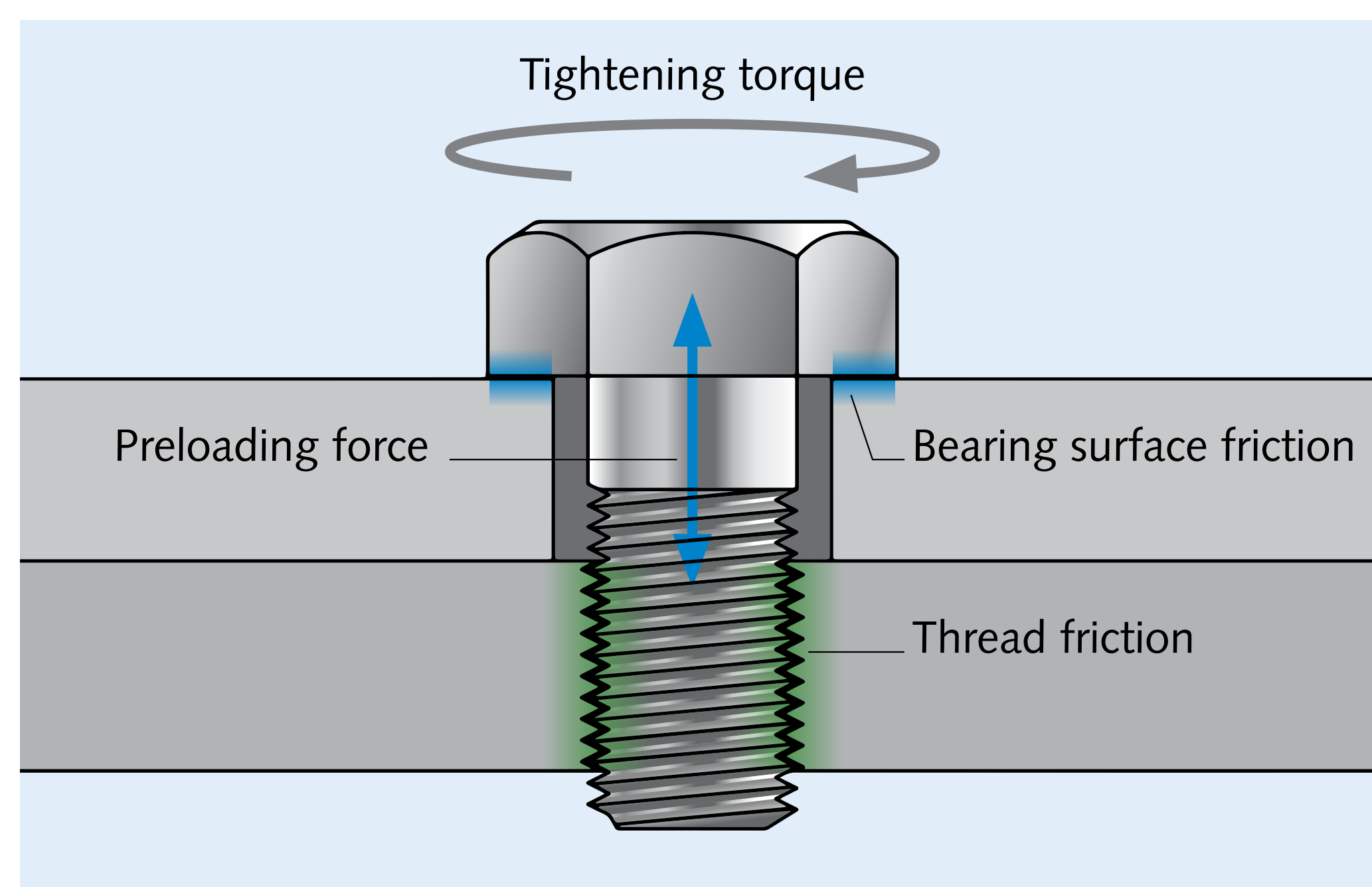


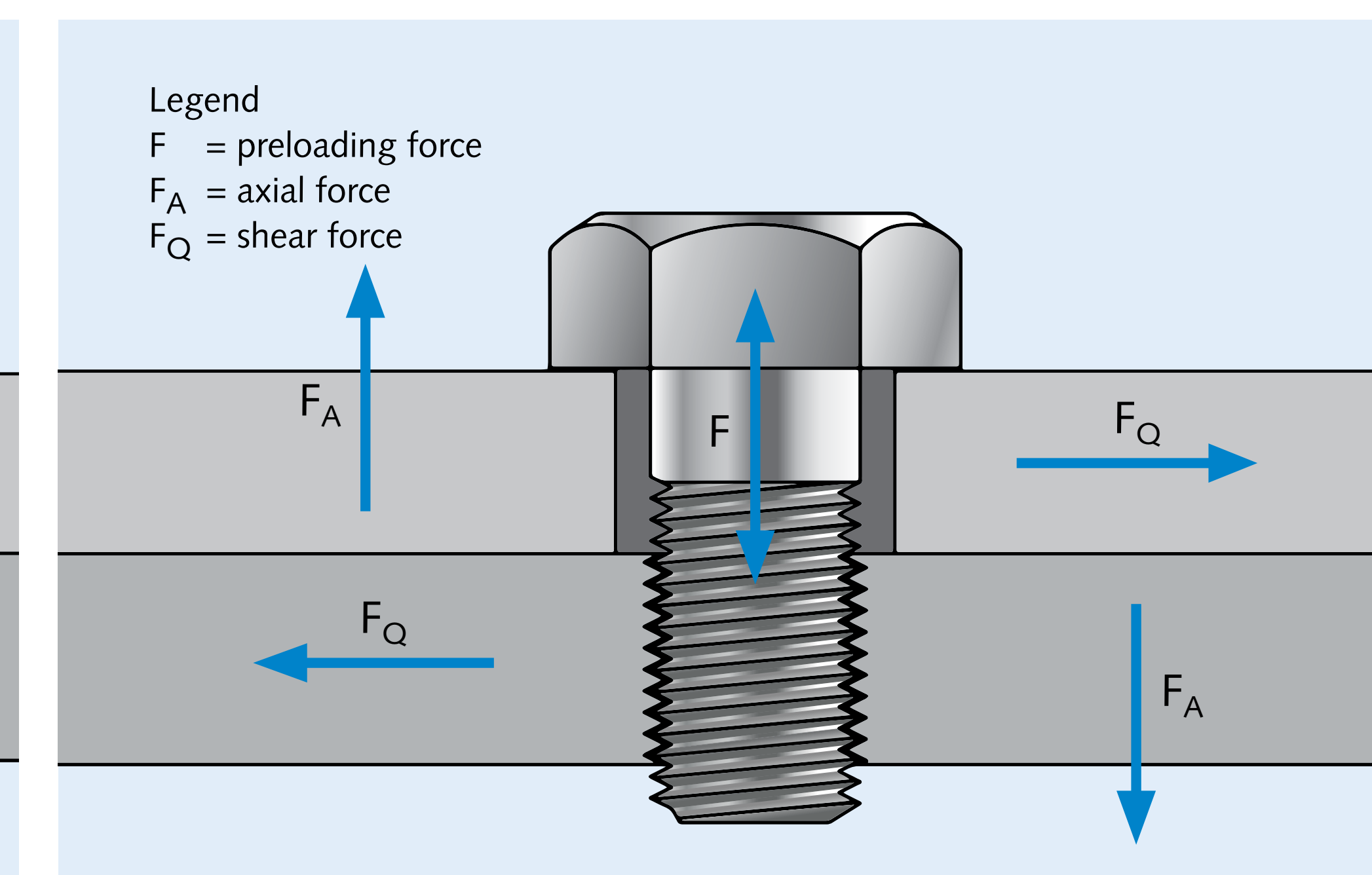
Reliable quality monitoring in production



Determination of the torque/preloading force ratio in accordance with ISO 16047

The aim of the test is to determine a series of key tightening values during the process:

- Overall coefficient of friction
- Friction coefficient in the thread
- Friction coefficient in the head or nut bearing surface
- Preloading force at proof stress and
- Breaking force



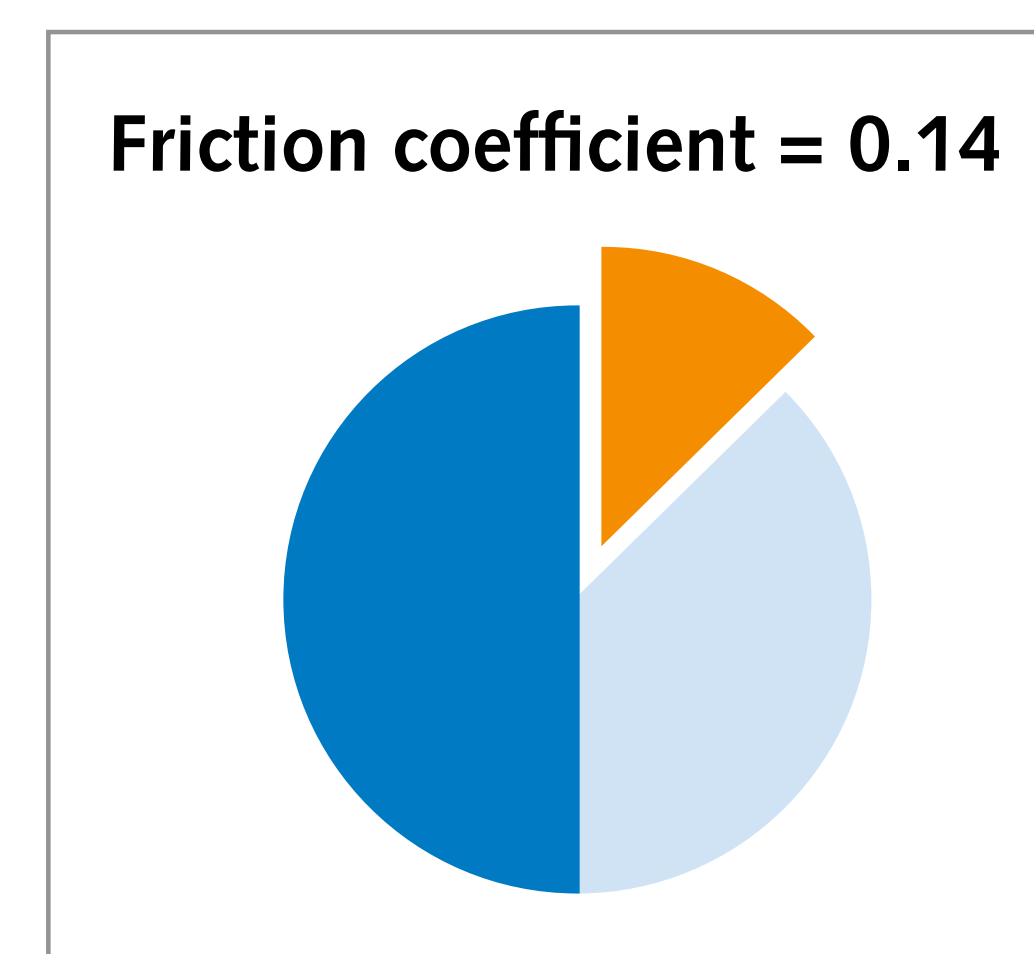
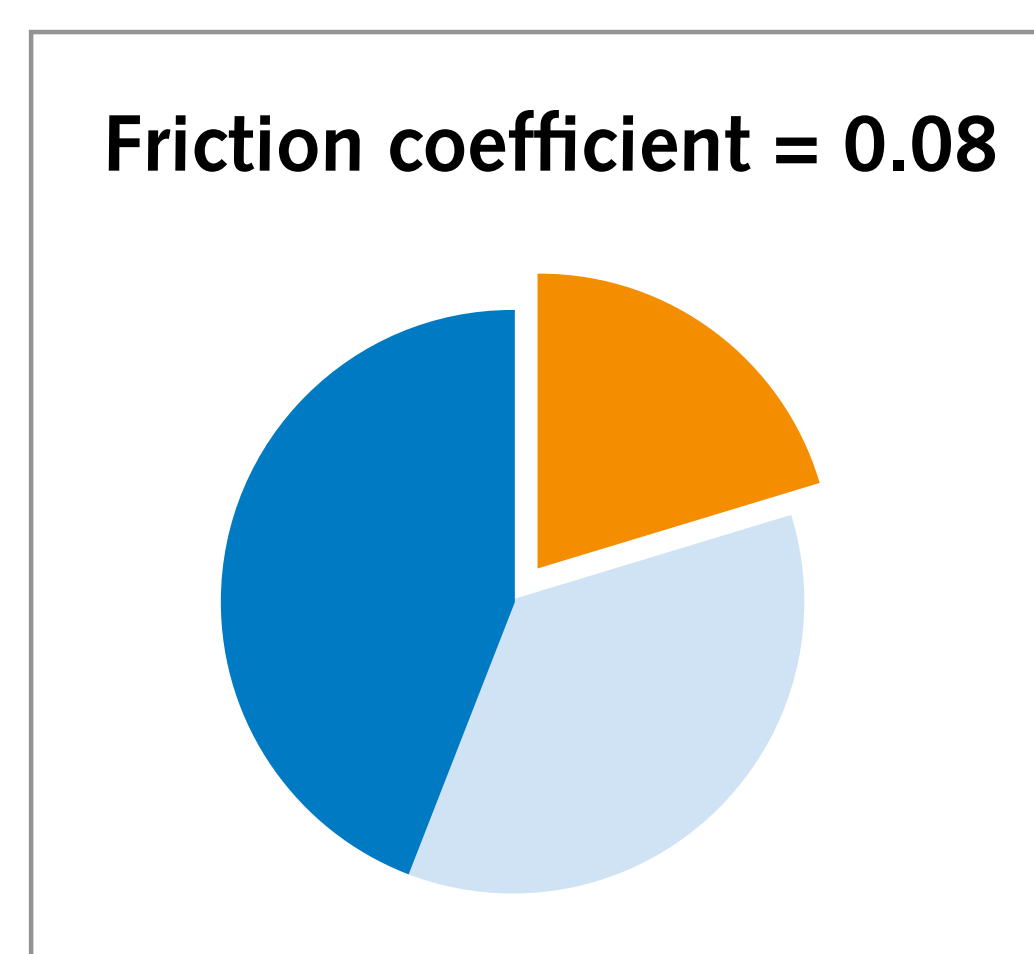
Analysis of the coating under practical conditions in accordance with VDA 235-203

Here are the main factors:

- Fasteners
- Bearing surface under the screw head or nut
- Mounted rotation angle as far as tightening torque
- Clamping length of the fastener and insertion depth
- Speed and sequence for tightening the threaded joint

We verify – you benefit

- Lower costs
- Optimized fasteners
- Enhanced efficiency in the fastening process
- End-to-end documentation
- Protection against product liability cases
- Reproducible inspection processes
- Traceable results
- Compliance with standards



Friction coefficient	0.08	0.14
● Preloading force	20%	12%
● Thread friction	35%	39%
● Head friction	45%	49%

Determination of mechanical and functional properties in accordance with ISO 2320

Nuts with clamping elements are either fitted with a plastic part that exerts increased frictional torque on the screw shaft, or they are fully deformed, or they have a metallic area that is deformed so that an increased frictional torque is applied even if the nut is not preloaded. This device to prevent self-loosening is an important precaution against loss, or a method to prevent nuts from working loose in cases where the nut is not preloaded.

ISO 2320 describes the limit values and test procedures for determining the properties of a nut with a clamping element.

