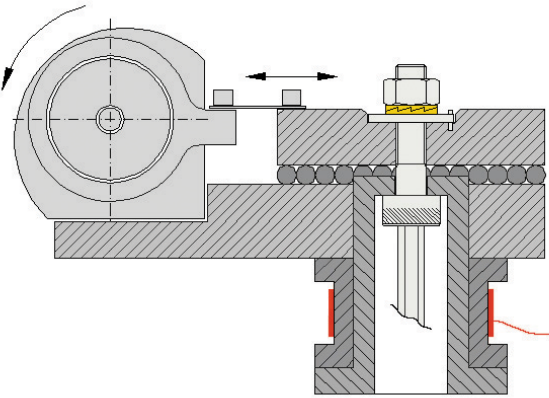
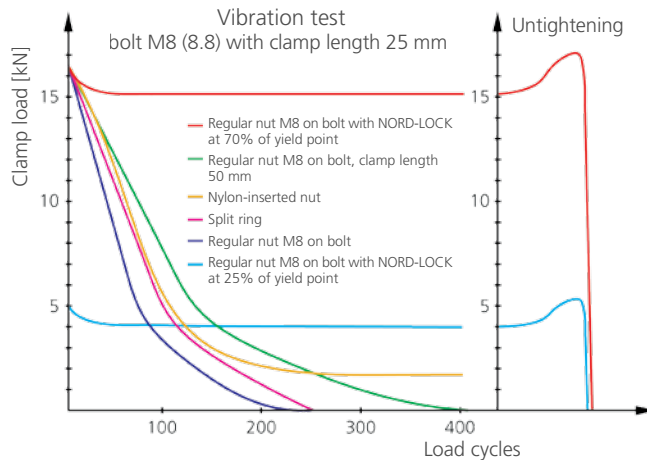


The proof

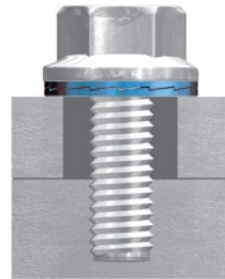


The Junker vibration test to DIN 65151 is an excellent method for testing and comparing the security of bolted joints. In a Junker test the bolted joint is subjected to transverse movements while the tension is being continuously measured by a load cell.

The diagram displays NORD-LOCK's superior performance. Most of the commonly used locking devices today show limited holding performance when exposed to vibration. Bolted joints secured with NORD-LOCK washers only lose some of the initial preload due to normal settlements between the contact surfaces. NORD-LOCK's unique wedge-locking function is proved by the clear increase in clamp load during untightening.



NORD-LOCK washers are available with enlarged outer diameter for use on slotted holes, soft materials or painted surfaces.



For slotted holes or on soft material, use a flanged nut/bolt in combination with NORD-LOCK "sp" (enlarged outer diameter) washers.

This combination will provide the most positive locking effect, while covering as much of the mating surfaces as possible.

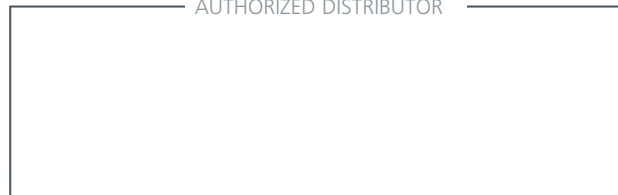


Where is NORD-LOCK used?

- Automotive • Construction • Off Road • Agriculture • Marine • Trucking • Mining • Offshore • Railroad • Power Plants • Manufacturing • Processing • Utilities

NORD-LOCK
Bolt securing system

AUTHORIZED DISTRIBUTOR



www.nord-lock.com

NORD-LOCK
Bolt securing system



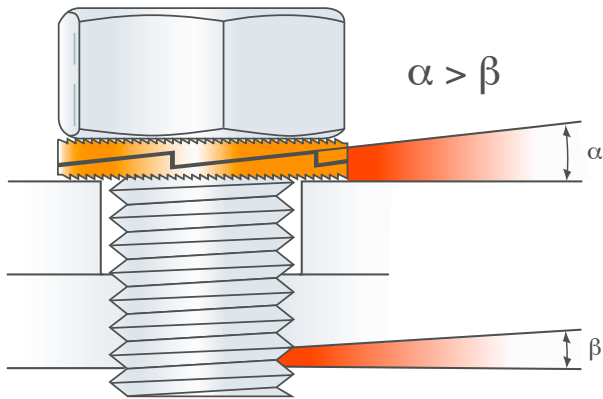
ENGLISH • Printed in Sweden 082007 • M-1506



Unique value

NORD-LOCK offers a safe bolt locking system that does not rely on traditional techniques to secure the fastener. This system utilizes tension instead of friction to secure bolted joints. The proven wedge-locking method, meeting DIN 25201, is superior to any traditional method.

The NORD-LOCK bolt securing system incorporates a pair of washers that have cam faces on one side with a cam angle α greater than the thread angle β . In addition, there are radial teeth on the opposite side. The pre-assembled washers are installed in pairs, cam face to cam face.



When the bolt and/or nut is tightened the teeth of the NORD-LOCK washers grip and lock the mating surfaces allowing movement only across the cam faces. Any rotation of the bolt/nut is blocked by the wedge effect of the cams.

Advantages

- Prevents loosening caused by vibration
- Ease of assembly and disassembly
- Locking function is aided by lubrication
- No special tools required
- Controllable preload
- Same temperature characteristics as bolt/nut of corresponding quality
- Reusable

NORD-LOCK is a proud holder of ISO 9001 and ISO 14001 certificates, all our products are ELV and RoHS compliant.

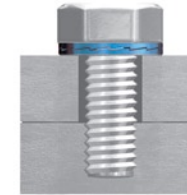


Significant range and variety

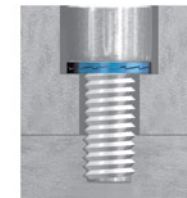
- Steel, zinc flake coated with Delta Protekt®, M3 – M130 / #5 – 5"
- Stainless steel (A4), M3 – M80 / #5 – 3 1/8"
- Special alloys for high temperatures or highly corrosive environments (upon request)

Assembly examples

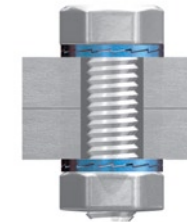
NORD-LOCK washers can be used with standard and high grade bolts.



NORD-LOCK washers for tapped holes.



NORD-LOCK washers are sized for counter-bored holes.



Through holes require two pairs of NORD-LOCK washers.



For stud bolts NORD-LOCK washers lock the nut, and eliminate the need for adhesives.



NORD-LOCK washers must not be used on washers that are not captivated in place.