

COMPLIANT AND APPROVED

Only Nord-Lock® washers have a technical building approval for all common bolted joints in steel construction. Regardless of whether it is preloaded or non-preloaded, HV-, HR- or SB-bolting assemblies, through hole or blind hole or a threaded rod with nut.



NORD-LOCK® WASHERS FOR BUILDING AND CONSTRUCTION APPLICATIONS

EUROPEAN TECHNICAL ASSESSMENT ETA-19/0813

Nord-Lock washer for non-preloaded bolting assemblies

Items and sizes	Material
NL6 – NL48 NL6sp – NL36sp NL12SC – NL36SC	Low alloyed steel 1.7182
NL6ss – NL48ss NL6spss – NL30spss	Stainless Steel 1.4404
NL6ss-254 – NL39ss-254 NL6spss-254 – NL27spss-254	Stainless Steel 1.4547

EUROPEAN TECHNICAL ASSESSMENT ETA-20/0010

Nord-Lock SC washer for preloaded bolting assemblies

Items and sizes	Material
NL12SC – NL36SC	Low alloyed steel 1.7182

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WHY AND WHEN?

If there is relative movement in the bolted joint, bolts can loosen automatically via their thread pitch. This can cause the components to fall apart or the bolts to break.

This is mainly caused by impact or dynamic loads, vibrations but can also be initiated by different temperatures.



Bolt failure



Vibration-induced loosening



non-compliant locking elements

WHAT DO STANDARDS SAY?

EN 1090-2

bolted joints [...] subjected to significant vibration [...] shall use a locking method

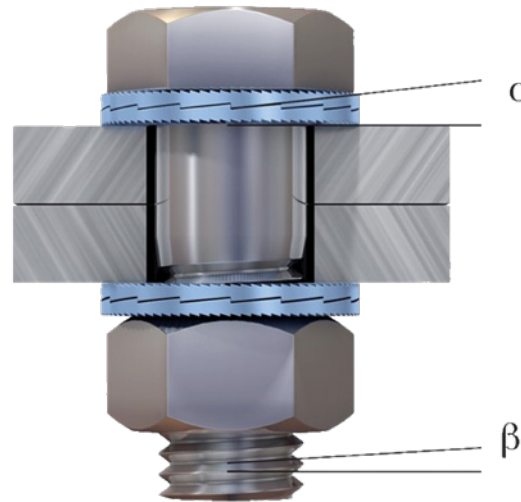
EN 1993-1-8

bolted connections which are additionally subjected to shock loads or considerable loads of vibrations, shall be secured against self-loosening

NORD-LOCK® PRINCIPLE

Nord-Lock washer have been proven for over 40 years and secure the bolted joints by increasing the clamp load instead of friction.

Because the cam angle " α " is greater than the thread pitch " β " a wedge-locking effect secures the fastener against rotational loosening, even under the most severe conditions.



FURTHER SOLUTIONS FOR THE BUILDING INDUSTRY



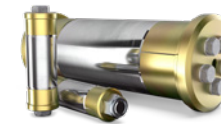
SUPERBOLT®

Remaining tensioning element for mechanical axial tightening of bolts



BOLTIGHT®

Tools for hydraulic axial tensioning of bolts



Expander®

Permanent solution to lug wear

ADVANTAGES

- Prevents loosening caused by vibration and dynamic loads
- Quick to install and removable with standard tools
- Locking function not affected by lubrication
- Same temperature characteristics as standard bolt/nut
- Reusable
- High corrosion resistance (>1.000 h salt spray, C4 long)
- Traceability due to laser marking

More information and approvals

