

Safe Wheel Nut

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text Heavy Vehicle wheel detachment caused by loose wheel nuts is a long-standing problem. The Nord-Lock® Safe Wheel Nut is a solution to this problem.

The new Nord-Lock® wheel nut effectively eliminates unintentional loosening of wheel nuts. When assembled correctly, the Nord-Lock® wheel nut cannot loosen by itself. It represents a simple and cost effective way to make wheels safe and secure.

How does it work?



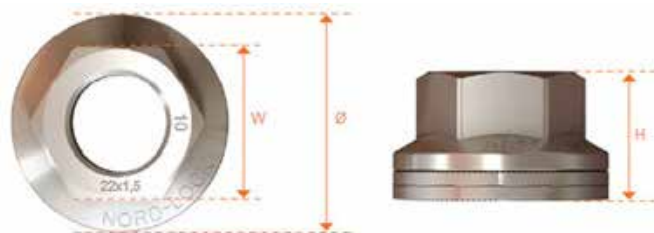
The Nord-Lock® wheel nut safely secures wheels by maintaining high clamping force even under extreme operating conditions. Each nut incorporates a pair of captivated washers with cam faces on one side, with a cam angle 'α' greater than the thread pitch 'β'. On the opposite side there are radial teeth. When the wheel 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 wheel nut is blocked by the wedge effect of the cams.

The Nord-Lock® wheel nut is based on our unique wedge-locking technology, which uses tension instead of friction to secure bolted joints. The system has been used for over 25 years to ensure the structural security of bolted applications exposed to strong vibrations and high dynamic loads.

Dimensions:

Size	Width	Diam.	Height
M22-1.5	32mm	46mm	27mm

Clamp Load	Tighten Torque
~200 KN	600-650Nm



The Most Effective Bolt Securing System

Safe Wheel Nut - Frequently Asked Questions (FAQs)

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How much torque should be applied when tightening a Nord-Lock® wheel nut?

The Nord-Lock® wheel nut is designed to be tightened at the same torque as conventional wheel nuts. Tightening the Nord-Lock® wheel nut with a torque of 600-650 Nm (450-500 ftlb) will result in a clamp load of approximately 200 kN (45000 lb).

Is the untightening torque different from the tightening torque?

Yes, when using the Nord-Lock® wheel nut the untightening torque is generally lower than the tightening torque. During tightening, sliding occurs between the wheel nut and the serrated surface of the upper Nord-Lock® washer. However, during untightening, sliding occurs between the cam faces of the washers, where friction is significantly lower. This is a valuable feature of Nord-Lock® washers, as a low untightening torque facilitates maintenance and thereby reduces downtime. Because of this feature, the untightening torque cannot be used to indicate the maintained clamp load.

Can an impact or pulsating tool be used to tighten Nord-Lock® wheel nuts?

Yes. However, please note that a calibrated torque wrench is a more accurate way of tightening fasteners.

Do I need to re-tighten the wheel nuts?

Yes. It is common practice to retighten wheel nuts. The Nord-Lock® wheel nuts do not lose clamp load due to rotation. However, settlements occur in other parts of the wheel assembly during driving which may result in loss of clamp load. Nord-Lock® therefore recommends that standard retightening procedures are maintained.

Do I need any special tools to tighten the Nord-Lock® wheel nut?

No, Nord-Lock® wheel nut is developed to fit standard equipment and tools.

Should the Nord-Lock® wheel nuts be lubricated?

Nord-Lock® wheel nuts are pre-lubricated to facilitate assembly. During reuse it is recommended to re-lubricate the threads as well as under the flange.

Do I need to change all wheel nuts to Nord-Lock® wheel nuts?

Yes, in order to maintain the clamp load in the entire wheel assembly, Nord-Lock® wheel nuts must be fitted to all wheel studs.

Can the Nord-Lock® wheel nut be reused?

Yes. Before reuse inspect the nut and wheel studs to ensure that they are free from particles in the threads and are undamaged. Remember to re-lubricate the nuts before reuse.

Can the Nord-Lock® wheel nut be used with aluminium rims?

Yes. However, the aluminium rim must be flat faced and designed for standard wheel nuts.

Does the Nord-Lock® wheel nut meet ELV and RoHS directives?

Yes, the Nord-Lock® wheel nut fully complies with the EU directive 2000/53/EC on End of Life Vehicles (ELV) and EU directive 2002/95/EC on the Restriction of the use of certain Hazardous Substances in electrical and electronic equipment (RoHS).

Will Nord-Lock® wheel nut prevent deformation of wheel holes?

Yes. Deformation of wheel holes often occurs due to loss of clamp load in the joint. The subsequent consequence is movement between the rim and the hub. During braking and acceleration the stud makes contact with the edge of the hole which then deforms. Since the Nord-Lock® wheel nut does not rotate loose and maintain a high clamp load in the joint, no movement between the rim and the hub is allowed and thereby deformation of the wheel hole is avoided.

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