

Nord-Lock® Combi nuts

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NORD-LOCK®
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Faster and safer assembly



Faster and safer assembly

The combi nuts use Nord-Lock wedge-locking technology to secure bolted connections by maintaining the clamp force, even under severe operating conditions. A tightened Nord-Lock combi nut cannot loosen by itself.

By combining a nut with a pair of captivated Nord-Lock original washers, the combi nut simplifies assembly, reduces the risk of errors, and optimizes efficiency. The advantages of the combi nut will streamline production for any manufacturer using serial assembly.

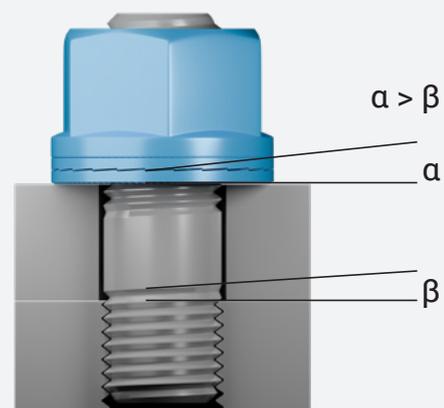
Applications

Combi nuts are ideal when a lack of accessibility in combination with loose parts make assembling and maintenance difficult. The combi nut is suitable for applications within:

- Serial production
- Machine building
- Power Generation
- Transportation
- Railway

How it works

Each combi nut combines a nut with a pair of captivated Nord-Lock Original washers, with cam faces on one side and serrations on the other. When tightened, the serrations embed into the mating surfaces. As the cam angle (α) is greater than the thread pitch (β), a wedge effect is created, preventing rotation and maintaining preload under vibration and dynamic loads.



Joint Guide

Use our joint guide to help you use Nord-Lock combi nuts correctly. If you have an application that does not meet our design criteria, contact us and we will help you find a solution.



Through-holes

As for all locking washers, through holes require two pairs of Nord-Lock washers – one pair for securing the bolt and one pair for securing the nut. Turn both fasteners in order to close the cams on both washer pairs before tightening to minimize settlements.



Stud bolts

Nord-Lock Combi Nuts safely secure stud bolts connections.



Design where Nord-Lock Combi Nuts are not recommended

- Mating surfaces that are not locked in place
- Mating surfaces are harder than the washers
- Very soft mating surfaces – for example, wood and plastic
- Applications with extremely large settlements

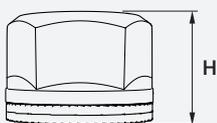
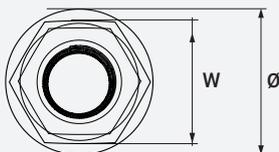
Product information

Applications	Machine building, Power Gen, Transportation, Railway
Washer material	EN 1.7182
Property class	Class 10, ISO 898-2
Hardening	Through hardened*
Washer hardness	>465 HV1
Corrosion resistance	Minimum 600 hours in salt spray test (according to ISO 9227)
Temperature range	-50 to 150 C**
Bolt grades	8.8 and 10.9
Product designation	NLCN
Size range	M6-M16
Plating	Zinc Nickel Plating (ZnNi)
Lubrication	Dry film lubricant

* Washer hardness must be greater than the hardness of the mating surfaces in order to assure its mechanical function.

** Temperature recommendations are based on information from the raw material supplier and testing. The locking function is not affected within the specified range.

NORD-LOCK COMBI NUTS DIMENSIONS



Washer size	Product designation	W [mm]	Ø [mm]	H [mm]
NLCN6	M6x1.0	10.0	12.5	8.7
NLCN8	M8x1.25	13.0	15.9	10.7
NLCN10	M10x1.5	15.0	18.1	13.4
NLCN12	M12x1.75	18.0	21.5	15.4
NLCN16	M16x2.0	24.0	28.2	19.4

NLCN6–NLCN16
Ø ±0.6 mm

NLCN6
H +0/-0.8 mm

NLCN8–NLCN12
H +0/-0.9 mm

NLCN16–NLCN12
H +0/-1.2 mm

Assembly Instructions

Tightening of through holes



1.
Place a pair of Nord-Lock washers underneath the head of the bolt and mount the bolt in the through hole. Place the combi nut on the bolt.



2.
Keep the bolt secured while tightening the combi nut. For guidance on which torque to tighten with, check the Nord-Lock torque guidelines.



3.
Ready!

Tightening of stud bolts



1.
Install the stud in the threaded hole and mount the combi nut on the stud.



2.
Tighten the combi nut at a torque according to the Nord-Lock torque guidelines, using a calibrated torque wrench.



3.
Ready!

Torque Guidelines

Nord-Lock combi nuts bolt grade 8.8

Bolt size	Washer size	Metric			Imperial	
		Pitch [mm]	Torque [Nm]	Clamp load [kN]	Torque [ft·lb]	Clamp load [lb]
M6	NLCN6	1.00	10.4	8.8	7.7	1,978
M8	NLCN8	1.25	31.0	16.0	23.0	3,597
M10	NLCN10	1.50	57.0	25.0	42.0	5,620
M12	NLCN12	1.75	102.0	37.0	75.0	8,318
M16	NLCN16	2.00	218.0	68.0	161.0	15,287

Delivery condition
G_F = 68%

Nord-Lock combi nuts bolt grade 10.9

Bolt size	Washer size	Metric			Imperial	
		Pitch [mm]	Torque [Nm]	Clamp load [kN]	Torque [ft·lb]	Clamp load [lb]
M6	NLCN6	1.00	15.3	12.9	11.3	2,900
M8	NLCN8	1.25	46.0	23.0	34.0	5,171
M10	NLCN10	1.50	83.0	37.0	61.0	8,318
M12	NLCN12	1.75	150.0	54.0	111.0	12,140
M16	NLCN16	2.00	320.0	100.0	236.0	22,481

Delivery condition
G_F = 68%