

HEICO-LOCK® WHEEL NUTS

PRODUCT OVERVIEW

FINE THREAD	STEEL* ITEM NO.	EXTERNAL-Ø [MM]	HEIGHT [MM]	WRENCH SIZE	BOX QTY [PIECE]
20 x 1.5	HLM-20x1.5	42,8	24,8	30	1 / 10
22 x 1.5	HLM-22x1.5	46,5	27,25	32	1 / 10

* Carbon Steel, zinc flake coated

FIELDS OF APPLICATION



LOGISTICS AND TRANSPORT



AGRICULTURE



FORESTRY



CONSTRUCTION MACHINES



COACH & BUS



SPECIAL PURPOSE VEHICLES

A STRONG GROUP BEHIND A STRONG PRODUCT

The HEICO group, based in the town of Ense in Westphalia, Germany, is a family-owned business with a long tradition. The company has been working passionately in the field of fastening technology since 1900. HEICO operates internationally with multiple company sites strategically located throughout the world. The group offers the highest degree of technical support and individual testing options.

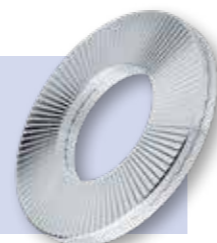
Find out more about us: www.heico-group.com



HEICO-LOCK® WEDGE LOCKING SYSTEMS

Even under extremes of vibration or dynamic loads, the high quality HEICO-LOCK® Wedge Locking System provides maximum reliability. As a certified system for securing bolts, HEICO-LOCK® is working at low and high preload levels.

For further information about the HEICO-LOCK® products, visit www.heico-lock.com



MADE IN GERMANY!

HEICO-LOCK®
WHEEL NUTS



The HEICO-LOCK® Wheel Nut is the reliable solution for the problem of self-loosening of wheel nuts on both roads and rough terrain.

The captive and rotary combination of the nut and the proven HEICO-LOCK® Wedge Lock Washers provides ideal protection for securing your wheels even under the most adverse circumstances, high speeds and demanding road conditions. With the HEICO-LOCK® Wheel Nut accidents caused by wheel loss are a thing of the past!



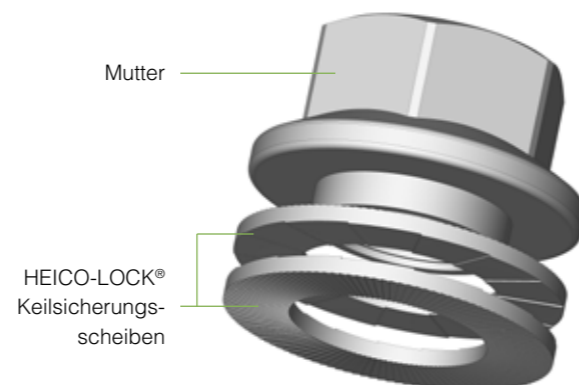
ADVANTAGES

- Significantly reduced risk of accidents caused by loosening of wheel nuts
- Minimized risk of operating and production breakdowns caused by faulty bolted connections
- Reduction of assembly time and effort
- Easy handling due to pre-assembled combination of HEICO-LOCK® Wedge Lock Washers and nut
- Can be re-used without any reduction in quality
- Easy, safe and fast installation even for non-specialist users
- Fixed permanently in the correct position

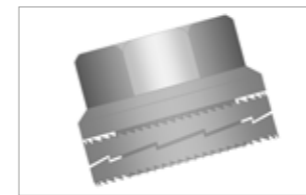
DESIGN OF THE WHEEL NUT

The HEICO-LOCK® Wheel Nut is supplied pre-assembled.

The nut and the HEICO-LOCK® Wedge Lock Washers are combined in a captive and rotary way, ensuring the HEICO-LOCK® Wedge Lock Washers and the nut are fixed permanently in the correct position with the wedge lock washers securing your wheels using the proven HEICO-LOCK® principle without loss of quality or function.



TECHNICAL DATA



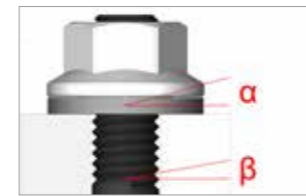
1. Pre-assembled locking system

- The HEICO-LOCK® Wheel Nut is supplied pre-assembled and provides the user the clear benefit of always being in the correct locking position – particularly important if being installed and removed repeatedly



2. Difference in hardness: $H_{HEICO} > H_{Material}$

- The surface hardness of the clamped parts has to be lower than the surface hardness of the HEICO-LOCK® Wheel Nut (class 8, class 10)
Steel (through-hardened, zinc flake coated) $485 \pm 25 HV0.3$



3. Difference in angles: $\alpha > \beta$

- The wedge angle (α) of the HEICO-LOCK® Wheel Nut is greater than the pitch (β) of the bolt thread
- This angle means the expansion in thickness of the HEICO-LOCK® Wedge Lock Washers is greater than the possible longitudinal movement of the bolt along the thread



4. Difference in friction: $\mu_a > \mu_i$

- The wedge-shaped surfaces have a considerably lower friction coefficient μ_i than the toothed outside of the washers (friction coefficient μ_a)
- Loosening caused by dynamic stresses causes movement between the two washers in the region of the wedged surfaces



5. Difference in preload: $F_{dyn} > F_{stat}$

- An expansion in thickness of the HEICO-LOCK® Wedge Lock Washers as a result of loosening leads to an increase in the clamping force
- This causes an increase in the preload compared to when in a static state and thus causes the bolt to self-lock

