



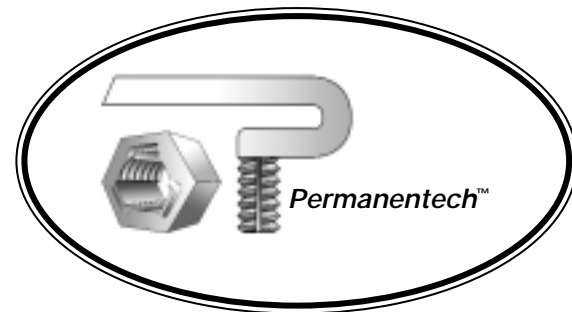
# The Revolutionary Vibration-Proof Fastener System

Multi-Patented, World-Wide.  
Patent protected by USA and International Patents.  
Additional patents pending in the United Kingdom,  
European Union, China and industrialized South  
American Countries.

Ten years of research, design and development are  
the basis of **TineLok™** vibration-proof performance.  
This extraordinary system can outperform and  
re-place most competitive fastener products today.  
Consequently, an aggressive patent protection  
program has been pursued as an invaluable aid to  
a global licensing program. With this you can expect  
**TineLok** to be the industry standard for world-wide  
use.

# Tine Lok™

For latest on-line catalog, product availabilities and pricing, visit us:  
[www.tinelok.com](http://www.tinelok.com) • 1-866-TINELOK

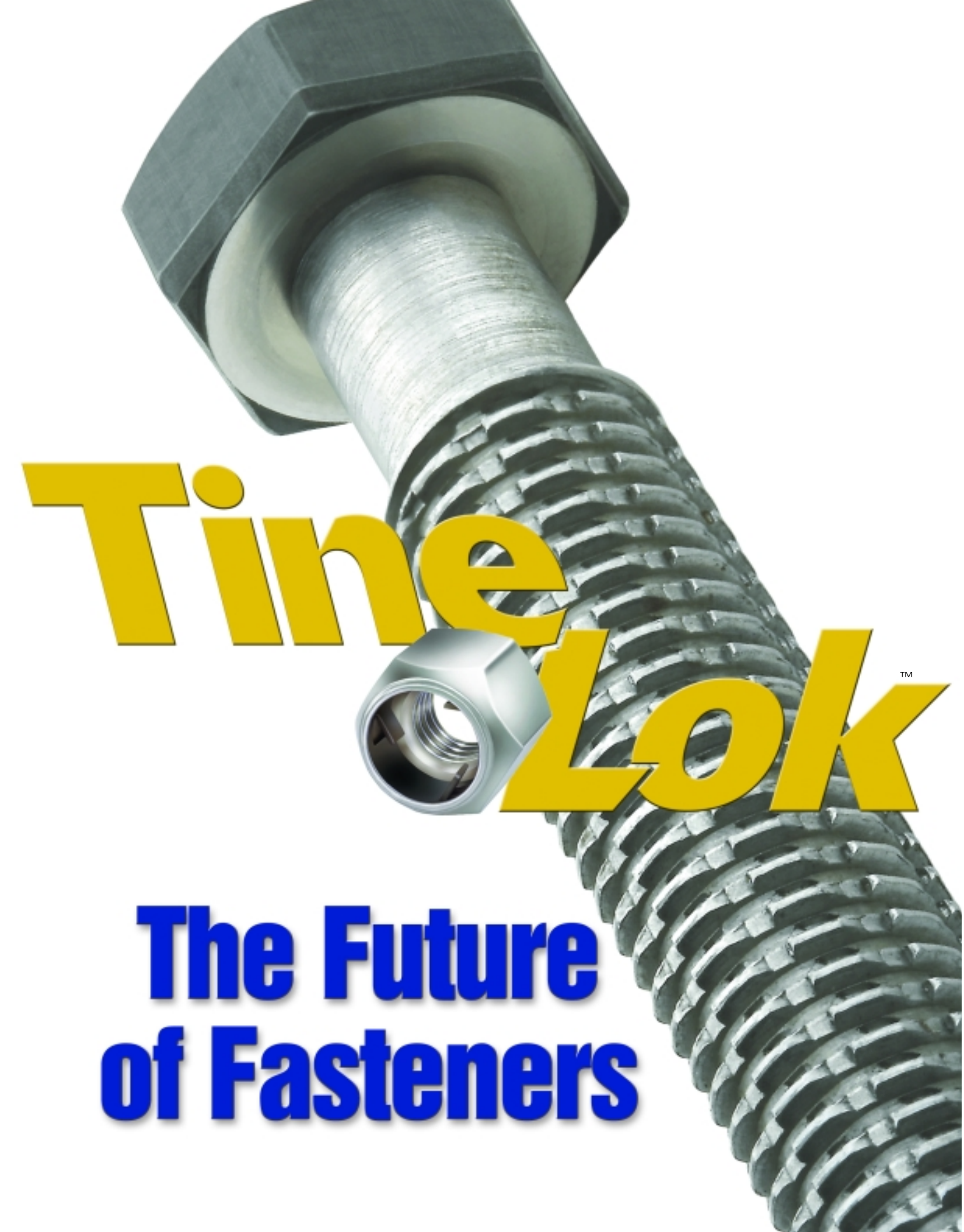


**Permanent Technologies**

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*TineLok™ is a Product of Permanent Technologies, Huntington, NY*

Licensing Opportunities Available



# Tine Lok™

# The Future of Fasteners

**This precedent-setting, one-way nut and bolt** combination locks in “nut-to-bolt” at continuous locking intervals to eliminate vibration. Easily installed with conventional tools, no additional adjustment or mechanical movement is required to secure the locking process.

Manufactured in metal or injection molded materials, in standard or custom sizes, these “vibration-proof”, self-locking nut and bolt fasteners are available to meet individual specifications. Also offered with our security option.

Lightweight, non-corrosive and tamper-resistant, the **TineLok™** Fastening System helps make products safer, lowers warranty costs and reduces vibration rattles.

A unique task-specific design which permits removal of the nut for inspection or maintenance requirements.

**Tested and Proven**

“Junker-Shaker” tests conclusively prove **TineLok** is superior. Tests conducted under close independent supervision determined that **TineLok** Self-Locking, Vibration-Proof Fasteners would not loosen even at 7000 vibration cycles. In fact, the “shaker” could not measure vibration at that level and quit! So-called vibration-resistant fasteners faltered at 3800 cycles and loosened. These include those with cotter pins, wire and corrosion-inducing adhesive aids. But, **TineLok** nut and bolt fasteners would not loosen.



**Railway**  
From engines to cargo beds; and from wheel supports to track and rail beds

**Petrochemical**

From drilling rigs to refineries; from processing control to hazardous material storage

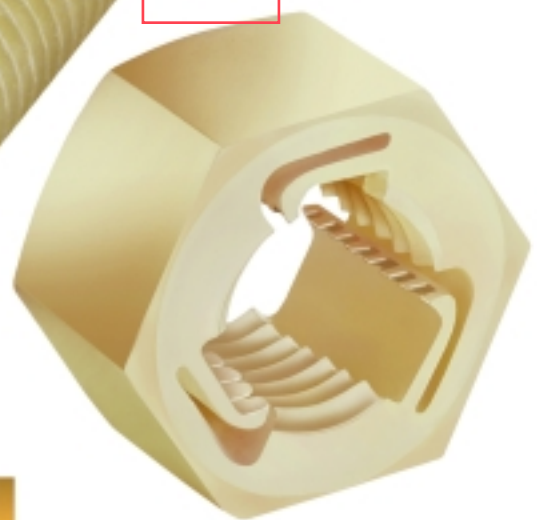


**Structural**

From steel support beams to attachment plates; and from air conditioning mounts to feed-line security panels



Plastic



**Off-Road Vehicles**

From field ambulances to tractors; from lifting cranes to motorcycles, from crop gatherers to backhoes; and from tow-hitches to well-diggers



**Defense**

From tank treads to fire control systems; and from rocket side panels to steering columns



**Aerospace**

From engine mounts to landing gears; and from stabilizers to helicopter blades



**Electronics**

From computer boards to power panels; and from test instruments to cooling frames



**Automotive**

From motor mounts to door assemblies; and from shock absorbers to steering mechanisms - for cars, trucks, et al.



**Medical**

From MRI and CAT scan gear to mobile EMT instruments and hospital equipment



**Marine**

From in-board and out-board motor mounts to drive shafts, propellers and furling systems

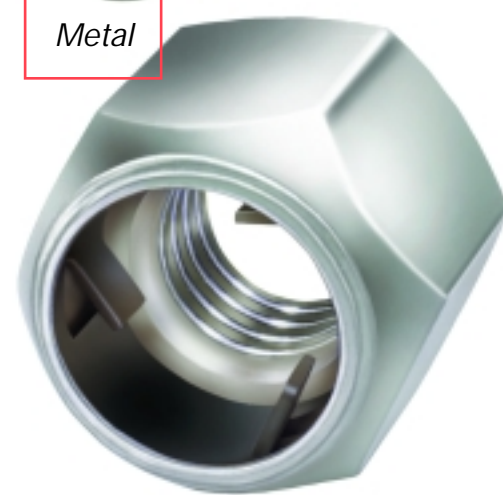


**Highway, Bridges, Tunnels**

From structural fastening to cabling positions; and from column mounts to tunnel plates



Metal



**TineLok™**

**Vibration-Proof Self-Locking Fastener System**

Locking Action Eliminates Vibration Multi-Patented

**“Vibration-Proof Fasteners” vs Vibration-Resistant**

It’s a given! Threaded fasteners are said to be the mostly likely source of warranty claims for industrial and consumer products alike. It is also reported that nearly 75% of automotive and other recall claims are fastener related. Consequently, it becomes evident that the **TineLok** System takes on added importance for the entire industrial spectrum.

**TineLok** Vibration-Proof Fasteners will not loosen regardless of seat torque, are not clamp load dependent and will prevent joint failure in hard-to-service locations.

**Here’s How it Works**

The proprietary bolt design is engineered with longitudinal channels along the thread together with respective notches. The **TineLok** nut incorporates one or more tines which engages the bolt thread and prevents rotation of the nut to deny vibration loosening. The bolt design permits the multi-tined nut to couple with the bolt threads and to translate the nut along the thread length. Through alignment with the bolt’s notched surfaces, a counter rotational removal of the nut is achieved with use of the removal tool. The number of nut tines and bolt channel locks can vary, based on individual requirements.

**Metal and Injection Molded Materials**

Standard thread and radial thread types are offered to meet tightening tolerances which achieve ideal torque strengths. U-Shape, J-Shape, S-Shape and other hanger designs are also available as sub-assemblies for wire, cabling and related uses.

