



UNITED KINGDOM

HARDLOCK NUTS - A PROVEN SOLUTION TO VIBRATION

HARDLOCK NUTS ARE SPECIFIED BY MANUFACTURERS IN ALL THESE INDUSTRIAL SECTORS AND OTHERS...

Railways (Rolling Stock, Points & Signalling, Infrastructure and Electrical installations), Structural Building Steelwork, Safety Critical Machinery, Shipbuilding, Automotive, Mining and Quarrying machinery, Earthmoving Machinery and many others...

The Hardlock series of anti-loosening lock nuts have achieved a reputation of complete customer satisfaction in Japan, the United Kingdom, Europe and all over the world.

The design is based on the 'wedge-effect' principle.

Each Hardlock Nut passes the American vibration and impact test to the NAS 3350 & NAS 3354 (National Aerospace Standard) by a huge margin.

This testing certifies that each Hardlock Nut provides a remarkable locking force, being able to resist any impact and remain in a stable locked condition.

The range of applications which benefit from using Hardlock Nuts is almost limitless.

Within the Railway Industry applications include Track, Points, Rolling Stock and Infrastructure.

Other industry sectors include, Highways, Bridges, Skyscraper buildings, Steel towers, Wind Power Farms.

In fact Hardlock nuts should be considered for any application where resistance to loosening by shock or vibration is an engineering concern.

The high anti-loosening effect achieved by all Hardlock Nuts will satisfy all user needs, including easy installation, re-useability (several dozen times), and reduced lifetime costs because of less maintenance and inspection.

HARDLOCK – ITS STRENGTHS: IT DOES NOT HAVE TO BE SEATED IT IS RE-USABLE WITHOUT LOSS OF PERFORMANCE ONLY SIMPLE TOOLS ARE REQUIRED FOR INSTALLATION

HOW CAN IT DO THIS?

The Concave Upper Nut is threaded down the screw until the concentric conical recess comes into contact with the eccentric conical protrusion of the Convex Lower Nut.

The Convex Lower Nut is held stationary, either by being seated, or by being held stationary with a spanner, if seating is not required.

When the Concave Upper Nut is tightened to the recommended tightening torque, locking forces between the Upper and Lower Nuts are induced.

A vertical force - P3 (up and down the thread) is created, and two opposing horizontal forces - P1 & P2 are induced at the same time.

The Concave Upper Nut is pulled into the screw threads in one direction, while the Convex Lower Nut is pulled into the screw threads in the opposite direction.

Hardlock is therefore held secure by the combination of three different locking forces.

Repeated usage does not reduce the locking ability of Hardlock Nuts. Neither will there be undue wear on either of the nuts, or on the thread of the bolt as a result of frequent removals and subsequent re-installations.

