bondura®
technology

SMALL COMPONENT WITH MAJOR IMPACT

VIBRALOCK®

WHAT'S IN IT FOR ME?

Vibrations – or oscillation - in industrial equipment can be a symptom or cause of a problem, or it can be associated with normal operation.

Vibrations can accelerate machine wear, consume excess power, and cause equipment to be taken out of service, resulting in very expensive and unplanned downtime. Less tangible consequences are general safety issues and diminished working conditions.

Imbalance, misalignment, wear and loosening are the most common causes that lead to unwanted vibrations.

For some applications, vibrations are unavoidable, or even an essential part of the equipment's function. Regardless of whether the vibrations are desirable or not, it is very important to use components that can withstand the oscillations.

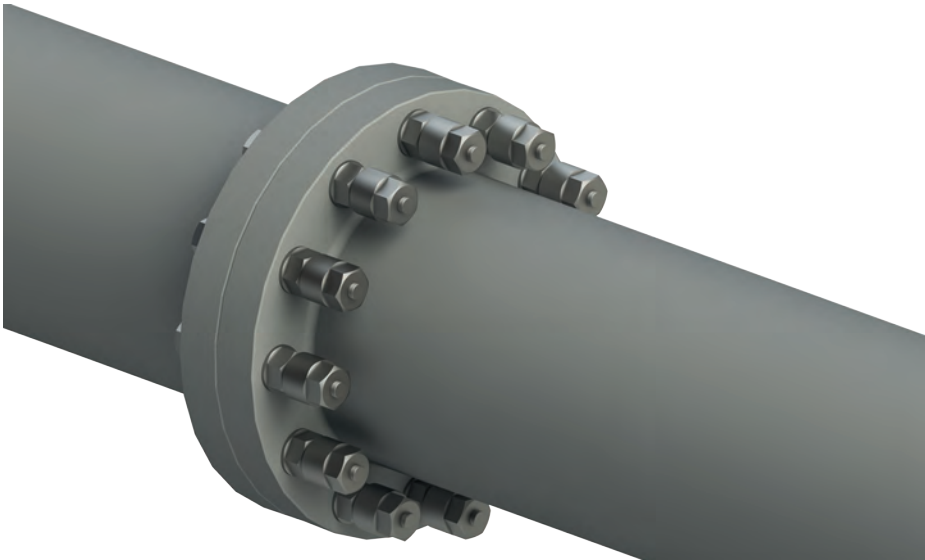
If your bolted connections cannot handle the vibrations, you are doomed to spend countless and expensive manhours on regular maintenance checks throughout the equipment lifecycle.

VIBRALOCK® is a patented new mechanical lock nut system that will make annual inspection and re-torque checks of your structural bolts redundant. This superior product is currently under DNV GL certification for proof of the concept.

The VIBRALOCK® technology is based on the use of two nuts working on different thread diameters and pitches. No individual loosening of the nuts can occur due to the friction forces in the conical contact area between the two nuts, and no combined loosening can occur due to the difference in pitch for the two nuts.

With VIBRALOCK® your maintenance work and inspection regime will be very different compared to conventional bolting solutions. Manhours needed and your overall cost of operations will significantly be reduced.

The question is; what is your time worth?



BENEFITS

INCREASED SAFETY FOR PERSONELL

MINIMIZED LOSS OF PRELOAD

NO EXPENSIVE MAINTENANCE

NO UNEXPECTED DOWNTIME

NO DAMAGE TO EQUIPMENT

EASY INSTALLATION

SUITABLE FOR BOTH NEWBUILDS AND USED EQUIPMENT

SIGNIFICANTLY LOWER COST OF OPERATIONS

OPTIMIZED TO ACHIEVE PRELOAD BY EITHER TURNING OF THE NUT OR TENSIONING

TECHNICAL DESIGN REQUIREMENTS

Based on high-strength structural bolting assemblies for preloading – HV system

Sizes		M20 to M72	
General requirements (GR)		EN 14399-1 & EN 14399-2	
GR Bolt/Nut		EN 14399-4 & DASt-Richtlinie 021	
Thread Bolt – Main Thread	Tolerance Standard	6g ISO 261 & ISO 965-2	
Thread Bolt – Lock Thread	Tolerance Standard	6g or 6az ISO 261, ISO 965-1, ISO 965-2 & ISO 965-4	
Thread Main Nut	Tolerance Standard	HDG – 6AZ ISO 261 & ISO 965-5	Other ISO 261 & ISO 965-1
Thread Lock Nut	Tolerance Standard	HDG – 6AZ or 6H ISO 261, ISO 965-2 & ISO 965-5	Other ISO 261 & ISO 965-1
Mechanical properties Bolt	Property class Standard	10.9 ISO 898-1	
Mechanical properties Main/Lock Nut	Property class Standard	10 ISO 898-2	
General tolerances Bolt	Product grade Standard	C except for dimensions c and r EN ISO 4759-1	
General tolerances Main/Lock Nut	Product grade Standard	B EN ISO 4759-1	
Finish - Coating	Standard	EN ISO 10684 & DSV-GAV Guideline for the manufacturing of hot-dip galvanized screws	
Surface integrity Bolt		Limits for surface discontinuities as specified in EN 26157-1	
Surface integrity Main/Lock Nut		Limits for surface discontinuities as specified in EN ISO 6157-2	
Acceptability		For acceptance procedure, see EN ISO 3269	
Recommended lubrication		MoS_2 Paste	

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Bondura Technology AS specializes in pin and bolting connections. The bondura® pivot pin technology has been used in industries such as offshore oil & gas, mining, lifting, amusement industry and general construction for over 30 years. Today, bondura® pivot pins are installed on every continent in diverse environments, ranging from extreme offshore conditions in the arctic north, to the tropical climate of South America, and deserts in Australia.