

Nissei's PLB (Perfect Lock Bolt) Has a Version 2 Upgrade!

Now Targeting Users & Licensees in Europe & the U.S.

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The one and only PLB anti-loosening bolt had its debut introduction on Fastener World Magazine several years ago and made a great hit on the market for its high performance. In a nutshell, this is a dual-thread and dual-nut anti-loosening structure exclusive to Nissei Co., Ltd., a special bolt developer and manufacturer with high reputation and customers' trust in Japan. Now called "PLB v2", this Perfect Lock Bolt has taken a step further to cater to even better performance and higher usability, targeting not just Japan but also Europe and the world market.



Industry Breakthrough from Nissei's Thread Rolling Technology

Around 20 years ago, the industry conceived of a design where two different screw shapes form the coaxial portion. The manufacturing was challenging, because cutting was the only method available and it is more time-consuming than rolling, and it also raises price since it doesn't allow for mass production. One time a professor asked if Nissei could manufacture the design using thread rolling. It gave the company an idea to develop the first generation of PLB. With trials and customers' feedback, the company eventually created the thread rolling dies for manufacturing "PLB v2", a next-generation and globally-patented breakthrough from its predecessor.

Expand PLB v2 Application to Europe and USA

With its predecessor PLB sold in North America and used on belt conveyors and vibrating sifters, PLB v2 is used mainly where severe vibration occurs such as mines in Japan. Nissei is looking to expand on PLB v2 and seeks licensees in Europe and USA that manufacture and sell it under the license agreement worldwide. There are great benefits with licensees since they aren't bound by one manufacturing method such as cutting, rolling, and die casting. Nissei believes PLB v2 will solve all issues with bolt loosening and encourages users by offering samples for them to try to use PLB v2 wherever bolt loosening occurs.

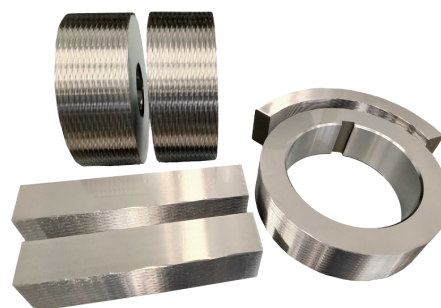
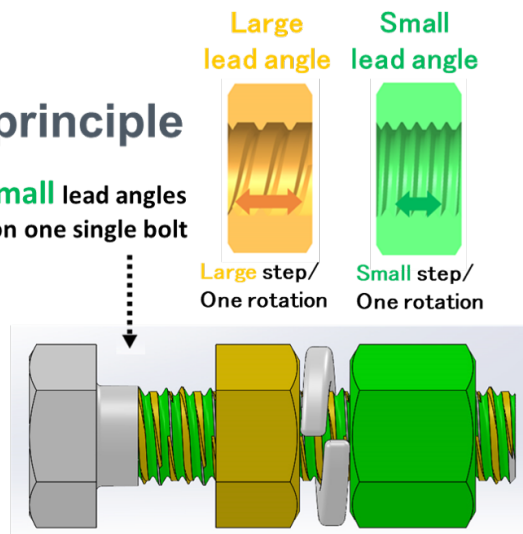
» Contact: Yuki Okimoto, Engineer
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Single-step Tightening for Best Anti-loosening

PLB v2 is an anti-loosening bolt consisting of a dual-thread bolt shaft and two nuts with different thread lead angles. The first nut with a larger lead angle on the bolt is a multi-thread nut; the outer or secondary nut on the bolt is a single-thread nut. When PLB v2 is subjected to vibration or a loosening force of any form, the force initiates rewinding on the inner nut. The slow-moving outer nut will block the inner nut's progression, which forms a mechanical lock which is the secret to PLB v2's anti-loosening design that no other fastening system has achieved. This mechanical lock mechanism is a stark contrast to other systems using "friction" to defy loosening, creating best benefits for users including unrivaled high-anti loosening force, ease in maintenance and extensive usability. Traditional double nut type bolt demonstrates moderate anti-loosening performance, while the usability is challenging because two or three tightening procedure is needed. In contrast, PLB v2 can achieve outstanding anti-loosening performance by demonstrating the highest rank with the Junker vibration test according to ISO 16130 and usability performance by tightening in a single action, which are great upgrade features from the first generation.

PLB v2 principle

Large & Small lead angles combined on one single bolt



▲PLB v2 thread rolling dies

