

THE 7 BOLTING WASTES

Difficult Installation Conditions

Environmental factors contributing to the challenging nature, inconvenience, and potential dangers of installing the bolt.

Over-Processing

Activities related to bolted joint installation and maintenance that are unnecessary, inefficient, or do not add value.

Inadequate Design

Optimization

Insufficiently considering the relative factors contributing to bolted-joint security, such as preload, quality of bolted joint members, in-service loading, and vibration.

Improper Preload

A bolt having too much or too little tension. Or having too much or too little clamp load in a bolted joint.

Unnecessary Maintenance

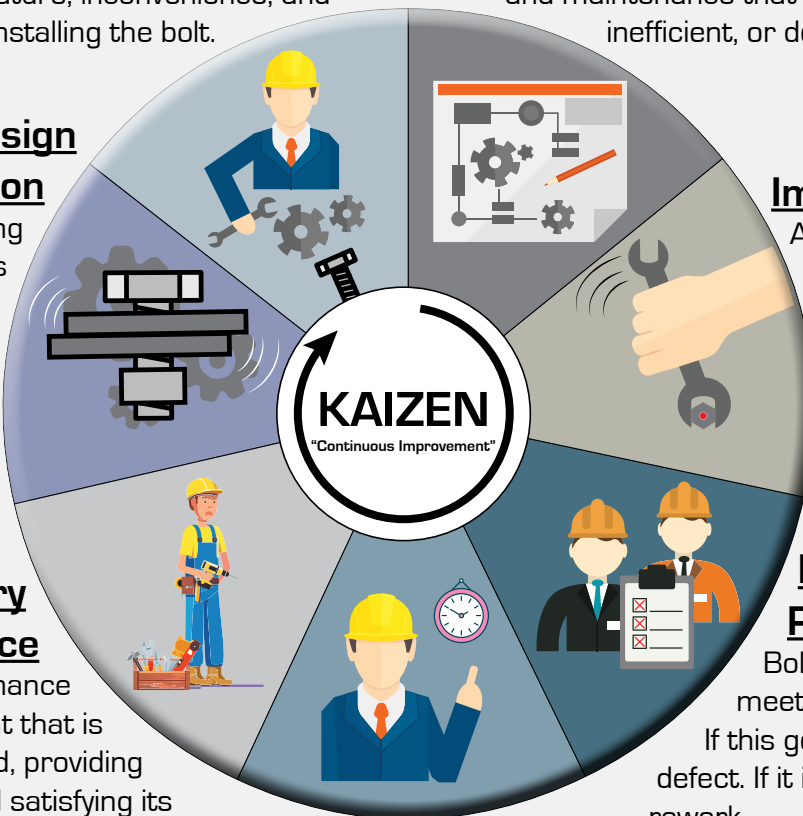
Performing maintenance on a bolted joint that is properly secured, providing reliable service, and satisfying its design requirements.

Defects & Rework

Bolted joints that do not meet design specifications. If this goes unnoticed, it is a defect. If it is noticed, it creates rework.

Delays

Time lost doing non-value adding activities, such as waiting for machine repairs or searching for a tool.



SmartBolts®

Don't accept that bolting wastes are just a cost of doing business. Discover your shortest path to World Class Bolting by taking our **Lean Bolting Evaluation**.