

TECHNICAL BULLETIN

Heli-Coils: Application Guidelines for Properly Installing Refiner Plate Bolts Using Heli-Coils

TYPES OF HELI-COILS

Many refiner plates use thread inserts, known as Heli-Coils. There are two designs of Heli-Coils inserts:

- **Standard**
Provides a smooth free-running thread designed for repeated assembly and disassembly
- **Screw-Lock**
Provides an exclusive, resilient internal locking thread that grips the bolt and prevents it from loosening under vibration or impact. Screw-Lock inserts are dyed red for identification. They are designed for a maximum of 15 duty cycles.



- Repeated assembly and disassembly without appreciable loss of self-locking torque.
- Savings in space, weight and money, through the elimination of lock wiring, lock nuts, lock washers, chemical compounds, plastic pellets/patches and other locking mechanisms.

PURPOSE OF HELI-COILS

Heli-Coil inserts provide positive means for protecting and strengthening tapped threads in any material. The unique design features of the insert offer these benefits:

- Stronger assemblies
- No thread wear
- Corrosion resistance
- Design flexibility
- Eliminate stress
- Minimize space and weight
- Minimize total cost
- True clamping torque
- Wide temperature range
- Quality and reliability

Heli-Coil Screw-Lock inserts offer all of the above benefits and more:

- Positive self-locking torque, complying with MIL-I-8846 and MIL-N-25027.
- A resilient locking mechanism that grips the bolt and prevents it from loosening under vibration or impact.

APPLICATION GUIDELINES

Manufacturer's instructions are as follows:

- Always use new bolts that have a chamfered thread. Any burrs or defects on threads can damage Heli-Coil.
- Always use a torque wrench and proper torque per specifications when installing bolts. **NEVER** use an impact wrench which can cause galling also known as cold welding caused by friction and heat between two parts of the same material.
- Always use anti-seize, never thread locking compound. This will help stop any galling.

If a mill chooses to use an impact wrench for the initial tightening of plates to a holder or rotor, please make sure they understand this can cause heli-coils to occasionally break. It is not the result of a defective product and can also happen while using an impact wrench on a competitor's Heli-coil.