



OLANDER

Olander is a trusted distributor of fasteners for companies - and projects - of all shapes and sizes. We understand the role that fasteners play in holding the world together!

Since 1962, and over three generations, we've built our business on being a knowledgeable resource and a trustworthy supplier. Whether you're looking for vendor managed inventory, individualized solutions and services, or just a few nuts and bolts to finish an at-home build, Olander is the one-stop-shop for all your fastener needs.

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Coatings Sealants and Thread Lockers



Chemical Adhesive
Thread Lockers



Pre-Applied Micro
Encapsulated Thread
Lockers



Post Installation
Thread Lockers



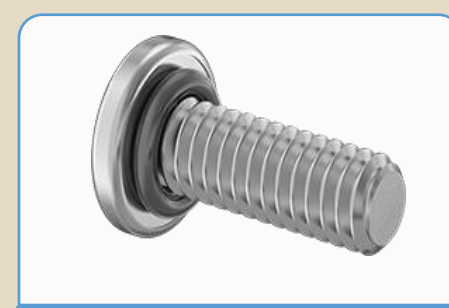
Expanding Thread
Lockers



High Temp
Thread Lockers



Nylon Strip and
Patch



Sealing Screws

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Applications

Different applications require different Locking Strengths and corresponding removal considerations.



Different compounds are meant to be used on different sized fasteners.

Epoxies are recommended for use with fasteners under $\frac{1}{4}$ inch dia.

Anaerobic adhesives are recommended for fasteners over $\frac{1}{4}$ inch dia.

Anaerobic single component compounds require different application procedures for blind vs through holes.

Green high strength can be applied on torqued fasteners to lock and seal from corrosion.

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Identification of various thread locking compounds

- **Years ago military standards dictated the following colors for thread lockers. These colors apply to mil spec products and ASTM standards.**
- **Purple:** Low strength medium viscosity
- **Green :** Wicking grade for post assembly, high strength low viscosity
- **Blue :** Medium strength medium viscosity, often referred to as removable thread lockers. Can be disassembled with standard hand tools.
- **Red :** High strength, these are often referred to as permanent thread lockers, however removal is possible if heated to 550 F.
- * This convention has not been adopted by some European manufacturers , may still need to check the data sheet for confirmation
- * **Do not use liquid anaerobic thread lockers on electrical connections as they are an insulator.**

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Microencapsulated Pre-Applied Epoxy Adhesives

Two-part Epoxy thermo setting polymer, activated upon installation of the fastener when microspheres are ruptured, and components are released.

Dry and un-reactive prior to installation when pre-applied, ideal for clean room assembly

Approx. 2-year shelf life

Available in different formulations to accommodate different applications and finishes.

Special 70-micron pre-applied microspheres have now been developed for use in small electronics applications. (200 microns has been the industry standard in the past)

Recognized by IFI as single use

Pre applied material is distributed on installation sealing the threads

Universal application on metals provided surface is clean

Liquid 2-part epoxies are available but do not seem to be widely available or advertised.

High Temp variants can withstand up to 400-450 degrees F

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Single component, solvent free, anaerobic adhesive

including pre applied microspheres

Cure anaerobically in the presence of metal ions

Some naturally oxidizing metals (i.e. aluminum) require primer

Surface cleanliness is very important to forming the bond

Liquid form at room temperature with a 2-year shelf life

24 hours to reach full cure and bonding strength

Different strengths designated by color indicate removal torque needed

Modified formulas can be effective in the presence of oil and contaminants

Liquid, when applied, coats and seals threads against corrosion, expanding formulas further insure sealing

Can be pre-applied using microsphere technology

Recognized by IFI as single use

High Temp variants can withstand temps of 400 -450 F

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Green Post Assembly Thread Lockers

This Grade has a very low viscosity

It uses a capillary action to draw the adhesive into the threads.



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Coatings and Corrosion

Nothing is Forever.....



There are three types of corrosion protection that are used to extend the usable life of a fastener

Sacrificial Coatings: These are typically zinc and chromate coatings. They give up electrons in place of the parent metal until the coating is gone, extending the life of the fastener.

Oxide Coatings: Somewhat counter intuitively, a corrosion inhibiting layer is formed at the surface that makes the metal unreactive to the electrical corrosion mechanism.

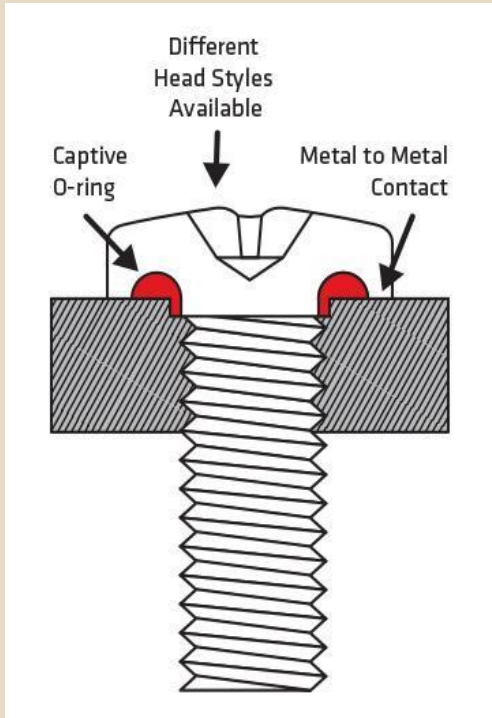
Anti-Seize: This is meant to stop corrosion in the threads and to protect from galling or cold welding. It creates a Nickel oxide layer to eliminate metal transfer. This is especially prevalent on stainless steel fasteners.



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Sealing Screws



- A mechanical approach to sealing out moisture and contaminants.
- An ordinary screw can lack adequate seal protection and can allow contaminants such as dirt or water to infiltrate and destroy sensitive devices.
- The design incorporates a relief under the head so that there is still metal to metal contact
 - This allows full fastening power and creates a seal at the same time.



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Why do we use coatings on fasteners?



Some interesting facts:

75% of all the elements found on Earth are Metals

Most metals react with Acid, therefore subject to corrosion. (exceptions are Gold, Platinum, Mercury and Copper)

A basic property of metals is electrical conductivity - when moisture is present, metals lose electrons and create positive ions, like a miniature battery, on the surface giving hydrogen and salt. Every time this happens it makes a little pit in the surface which retains water. The oxygen from the water molecules bonds to the Fe (iron) and creates FeO₃ (Rust). Other materials create Oxides such as Aluminum Oxide.



Various plating/coatings such as zinc and chromate are commonly used to create a protective layer. These coatings are generally classified as sacrificial coatings (they will give up electrons in place of the parent metal until the entire coating is sacrificed) thus extending the life of the base material.



Why do we use coatings on fasteners?

Some interesting facts:

In some cases a passive layer can be created by pre corroding the fastener which is the case in anodized or oxide surfaces. This creates a layer that is inert (nonconductive). However, this is a thin layer and is still somewhat porous and eventually the corrosion gets beyond the passive layer.

Similar metals can also exhibit metal transfer or galling and need to have coatings to prevent this and ensure that they can be disassembled. Anti seize lubricants and coatings can help to solve the metal transfer by forming Nickel oxide passive layer that is very hard.

Not only do fasteners want to loosen they want to get corroded as well!

[Thread Lockers and Sealants can be useful in addressing both issues!](#)

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Wait...there's more. Stay Tuned!

Soon Olander unveils *yet another* thread locking technology, currently used by large OEM's

This well proven technology *is not well known* among many small and medium sized manufacturers

Watch out for a **webinar** on this well-kept industry secret in 2021! Don't miss out. Click any link below and stay connected.

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