

# UNI-SEAL®

Specialized sealant for screws

Uni-seal is a specially modified polymer that is durable, flexible and provides exceptional watertight bond with most materials including carbon steel, stainless steel, aluminium and titanium. It comes in 2 different types and is applicable in 2 types of joints.



## Types of UNI-SEAL®

Uni-Seal® 422 is an acrylic based sealant which is applied on the under head of the screw, just like how a traditional O-ring is used. The best part is that it offers up to 5 times reusability without a single seepage. Unlike an O-ring, Uni-Seal® 422 stays in place while being transported in loose packaging, allowing easy installation at the assembly line.

Uni-Seal® LN311 is a non-reactive sealing thread locker. This version offers both thread sealing and also thread locking functions. It remains serviceable and removable after tightening. Uni-Seal® LN311 is mainly designed for joints which requires sealing at the threads.

Uni-Seal® sealant materials are resistant to most motor fluids, solvents and harsh environments. The specialized polymer materials are also able to provide excellent sealing performance to various materials with excellent adhesion properties. This makes Uni-Seal® solutions a highly flexible solution for any application and joint design.

## Product Characteristics

Uni-Seal® 422 Characteristics	Description
Material	Acrylate polymer
Curing Method	Ultraviolet (UV) light
Application	- 360° under the head - Operating temperature range: -60°C to +130°C

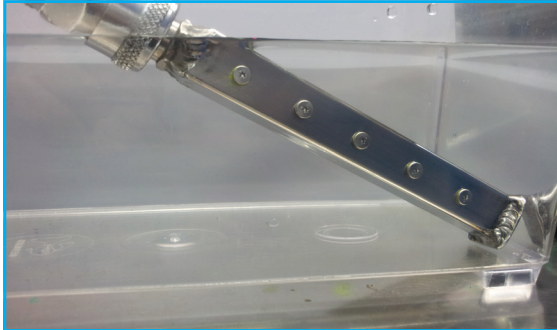
Uni-Seal® LN311 Characteristics	Description
Material	Polyamide polymer
Curing Method	Heat
Application	- 360° under the head and the thread. - Can be simply used as an anti-vibration loosening patch when applied as 90° on the thread. - Operating temperature range: -10°C to +180°C

## Benefits of UNI-SEAL®

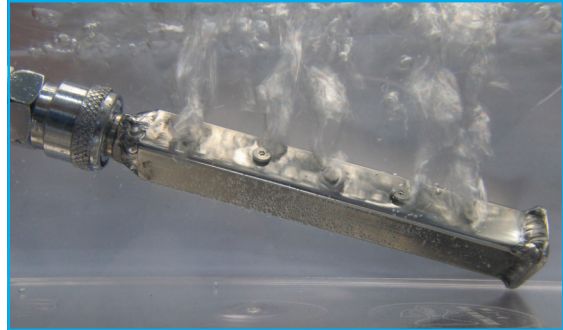
- Fully RoHS compliance
- Suitable for miniature fasteners, down to M0.8 thread sizes.
- Dry to touch, pre-applied. Easy for assembly.
- Provides electrical insulation.
- Available in various colors (Blue, Black, Yellow, Red, Green, etc) which can be used as a form of identification (Only for UNI-SEAL® LN311).
- Provides repeated installation without degradation of performance.
- UNI-SEAL® resists against most automotive fluids, oil, water and antifreeze.
- Coating position, height and dimensions are fully adjustable with our unique in-house application equipment.
- Unisteel engineers offers free advice on properly selecting the right Uni-Seal® solution depending on your joint design and application.

## Water Sealing Evaluation

A water sealing test was conducted in-house to measure the effectiveness of UNI-SEAL® on M1.4 screws under a pressure of 1 bar. The test vessel was submerged in water measuring 25°C for 10 minutes each time, for a total of 5 cycles. Certain evaluations of our Uni-Seal® have even found it to withstand up to 50m pressure depth for 24 hrs under laboratory conditions.



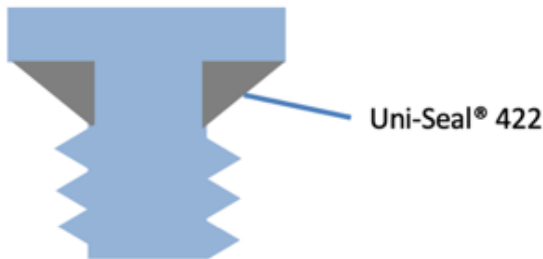
With UNI-SEAL®



Without UNI-SEAL®

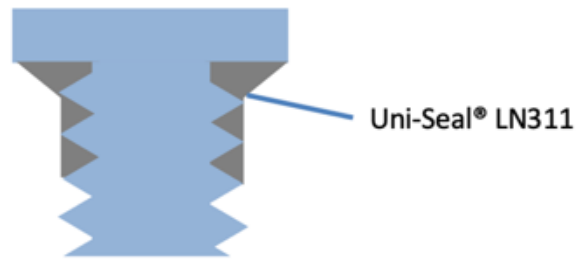
Disclaimer: Initial product testing is recommended for optimum performance during assembly.

## Design Recommendations



Uni-Seal® 422

For use with UNI-SEAL® 422, joint design shall rely on under head bearing surface to be the sealing surface. Joint design can be as shown above.



Uni-Seal® LN311

For use with UNI-SEAL® LN311, joint design shall rely on under head bearing surface as well as the threads to be the sealing surfaces. Joint design can be as shown above.

You can always consult a Unisteel Engineering expert for best results.

*UNI-SEAL® is a registered trademark of Unisteel*



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