

SUPERIOR CORROSION RESISTANCE

STAR FASTENERS

The Huck® 316 (A4) Stainless Steel Magna-Lok®

Retaining all the features of the standard (steel, aluminium and stainless steel) version of the Huck® Magna-Lok® structural blind fastener, the 316 A4 stainless steel Magna-Lok® also offers corrosion resistance beyond anything else in the Huck® blind fastener range.

Huck® Magna-Lok® structural blind fasteners are mechanical fasteners designed to join two or more materials together in situations where access is limited to only one side of the joint.

What is the difference between a Rivet and a Huck® structural blind rivet?

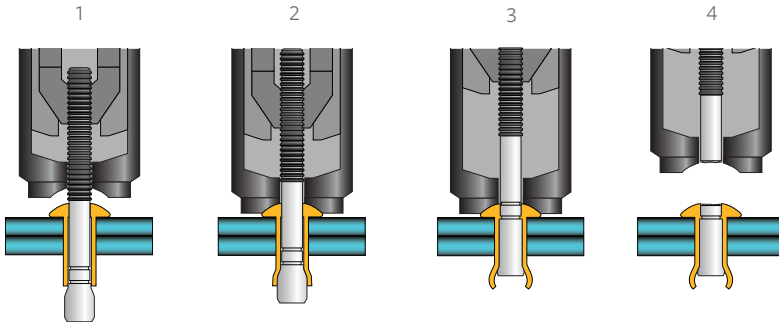
A Huck® structural blind rivet retains the pin in the rivet body (sleeve) post-installation for extra tensile and shear strength. This 360° internal locking technology enables the pin to be mechanically locked to the sleeve as it expands during installation, giving excellent joint tightness and high-quality resistance to liquid penetration. The Huck® 316 (A4) stainless steel Magna-Lok® is available in 6.4mm (1/4") diameter, with a wide grip range to accommodate variations in joint thickness (2.03mm -15.88mm).

316 Marine Grade (A4) stainless Steel fasteners are specialised types of fasteners made from stainless steel alloy 316, which is also known as A4 stainless steel. These fasteners are designed to provide excellent corrosion resistance, making them particularly well-suited for use in corrosive environments. Here's more information about them.

Key advantages of 316 marine grade, non-magnetic Huck® fasteners:

Non-Magnetic Properties: Non-magnetic fasteners are essential in environments where magnetic fields can disrupt sensitive electronic components or equipment. Industries such as medical imaging, telecommunications, and aerospace benefit from non-magnetic fasteners to maintain equipment performance. MRI scanners operate using powerful magnetic fields, and any magnetic interference can disrupt the accuracy and quality of the images. 316 stainless steel in non-magnetic variants, is chosen to prevent unwanted interactions with the magnetic field,

Installation Sequence



1
Insert the fastener into the hole and slip the installation tool over the pintail.

2
Press the trigger to initiate pulling action. As the tool pulls on the pintail, the pin (mandrel) expands the sleeve and begins drawing the work pieces together.

3
Continued pulling on the pintail draws the hollow pin head inside the sleeve and the work pieces completely expand the sleeve to match the hole of the work pieces.

4
A solid circle lock between the pin and sleeve is formed just prior to the pin breaking flush with the sleeve head, completing the installation.

ensuring that the material does not affect the scanner's performance

Strength and Durability: Huck® fasteners provide strong and reliable joints, often with load-carrying capabilities comparable to or even exceeding traditional fasteners. 316 stainless steel offers high tensile strength and durability, allowing fasteners to withstand significant loads and stresses.

Ease of Installation: Huck® Magna-Lok® structural blind fasteners are relatively easy to install, requiring minimal access to only one side of the joint.

Vibration Resistance: Huck® fasteners offer excellent resistance to vibration, making them suitable for applications where the joint might experience movement or mechanical stress.

Corrosion Resistance: The primary advantage of using 316 stainless steel fasteners is their exceptional resistance to corrosion, making them ideal for applications exposed to moisture, saltwater, and other corrosive elements, such as marine environments.

Aesthetic Appeal: The smooth and polished appearance of stainless steel 316 gives a visually appealing finish to the fasteners, making them suitable for applications where aesthetics matter.

Wide Range of Applications: 316 stainless steel fasteners find use in various industries, including marine, construction, outdoor structures, architectural projects, and more.

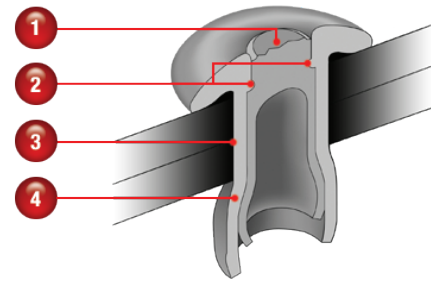
Low Maintenance: Thanks to their corrosion resistance, Huck® fasteners generally require minimal maintenance over their lifespan.

Versatility: They can be used to join different materials, including metals and composites, expanding their applicability across industries.

Replaces Welding: In some cases, 316 Magna-Lok's can replace the need for welding. 316 stainless steel is susceptible to weld decay; the welded area can be more vulnerable to corrosion, weakening the bond of the weld. Weld decay primarily affects the microstructure of the material around the weld joint. When 316 stainless steel is heated to certain temperatures (typically in the range of 800 to 1600°F or 425 to 870°C) during welding, carbon in the steel combines with chromium to form chromium carbides. This process depletes the chromium content in the immediate vicinity of the weld joint, leading to a reduced ability to form a protective chromium oxide layer that provides the stainless steel's corrosion resistance.

Secure, Fast Installation

1. Flush pin break eliminates grinding and filling, leaving an even surface
2. Unique solid-circle lock ensures maximum strength and resistance to vibration. The potential for pin push-out is virtually eliminated
3. Excellent gap pull-out and high retained clamp
4. The sleeve expands during installation to fill the hole and create a moisture-resistant joint



Mechanical advantages: these include, excellent gap closure capability, a flush pin break and outstanding hole filling on the blind side and is capable of filling irregular, slotted, oversized, or misaligned holes, whilst providing strong, vibration resistant joints.

Composition of 316 (A4) Stainless Steel:

316 is an austenite stainless steel which contains 18 percent chromium and 12 percent nickel. Steel is considered stainless when its chromium content is at a minimum of 10.5 per cent. Therefore, a higher content will result in an enhanced corrosion resistance. Unreactive chromium III oxide can form on a component's surface, protecting the metal beneath from the environment. Nickel further increases the corrosion resistance of the resultant alloy.

Applications of 316 Marine Grade (A4) Stainless Steel Fasteners:

Marine Industry: These fasteners are extensively used in the marine industry due to their ability to resist corrosion caused by saltwater and exposure to the marine environment (but it is not resistant to warm seawater). They are used in boat construction, docks, piers, off-shore equipment and other maritime applications.

Outdoor Construction: Stainless steel 316 fasteners are popular for outdoor construction projects like solar plants, wind energy application, bridges, guardrails, and outdoor furniture, where exposure to the elements is a concern.

Chemical Processing: The corrosion resistance, along with its ability to withstand extreme temperatures, makes 316 stainless steel suitable for use in chemical processing plants where exposure to corrosive chemicals is common.

Food and Beverage Industry: In facilities where hygiene and non-toxic materials are crucial, 316 stainless steel fasteners are used for equipment, machinery, conveyors / packing (trolleys) and structures.



Medical Applications: 316 stainless steel fasteners are commonly used in medical applications where corrosion resistance and durability are essential. Medical devices and equipment often require materials that can withstand the harsh conditions of sterilization processes, and long-term use without compromising safety or performance.

While 316 stainless steel provides excellent corrosion resistance, no material is entirely immune to corrosion. It's essential to

choose the appropriate grade based on the specific environment and type of exposure the fasteners will face. In certain extremely harsh environments, specialized coatings may need to be considered for added protection. Grade 316 stainless steel stands out as an extremely adaptable substance, presenting remarkable mechanical traits and unparalleled resistance against corrosion in contrast to alternative steel variants presently accessible in the market.

How to install Huck® Magna-Lok® fasteners

The Huck® Range Force® (GBB-BV4500-118KT) is the latest addition to the Huck® battery installation tool range. Designed to revolutionise the world of battery installation tooling by providing flexible, durable, and consistent installations of structural fasteners for use on the production line or in the field, there are also hydraulic and pneumatic (air) options available.

Star Fasteners engineering support services enhance customers experience – we can assist with design, development and testing right through to choosing installation tooling, correct fastener installation and process optimisation.



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