

THREADED INSERTS

For plastic and metal applications

With their strong, wear-resistant threads and high load bearing capability, threaded inserts provide the ideal protection against thread stripping in soft materials such as plastics and non-ferrous metals. Threaded on inside diameter and locked with knurls on outside diameter, inserts ensure secure threaded joints throughout the life of the application.



Features & Benefits

- Permanent, wear-resistant threads
- Increased resistance to loosening allows repeatable assembly and disassembly of joint
- Resistance to vibration in assembly
- High torsional strength on joint
- Higher pull-out and strip-out torque values
- May be plated for corrosion protection or post-assembly processes

Material : Brass, carbon steel, stainless steel, aluminium and titanium

Size Range : M1.0 – M5.0

Types of Inserts

Installation Method	Description
Molded-In	Widely used in thermoset plastics, molded-in inserts are designed to be placed into the mold cavity prior to plastic injection. They provide optimal torque performance and pull-out resistance.
Press-In	Press-in inserts are ideal for use in softer plastics, where they are pressed into a pilot hole without melting the plastic prior to installation. They offer quick installation with no specialized equipment and achieve good overall joint performance
Self-tapping	Ideal for use in a wider range of plastics including thermoset plastics, self-tapping inserts provide the best pull-out resistance for a post-mold installed part.
Expansion	Ideal for light-duty applications, expansion inserts are pressed into the plastic and they expand when the assembly screw is tightened.
Ultrasonic / Thermal	Designed for post-mold installation in thermoplastics, inserts are “welded” into the plastics using ultrasonic vibrations or heat. Ultrasonic/ thermal inserts provide fast, positive anchoring.

Knurl Types

Available in straight, helical and diamond designs, knurls are used to increase resistance to torque. Various combinations of knurls can be designed on the same insert to achieve an optimum combination of torque and pull-out resistance.



Straight Knurl	Helical Knurl	Diamond Knurl
Offers the highest torque resistance	Offers a higher axial pull-out resistance than straight knurl, but with a lower resistance to torque	Offers a high resistance to both tensile pull and rotational torque loads

Technical Support

Unisteel offers more than just manufacturing. You can count on our partnership to provide end-to-end solutions for your needs.

Product Design Assistance

Machined holes should be the correct size for the insert used. If the hole is too large, both strip-out torque and pull-out values will drop. For optimum performance:

- Boss Diameter = 2 to 3 times that of the insert diameter
- Hole Depth = exceed insert length by 0.5mm. A 1° inclusive moldings taper must be used, slightly increasing the hole diameter at the top of each bore.

Please consult Unisteel for specific recommendations on your applications.

Prototype Development

The prototyping process provides a good opportunity to not only test out the component's performance and enhance its design, but also to fine-tune its production methods. With full in-house tooling and manufacturing capabilities at Unisteel, we can quickly and efficiently develop prototypes from blueprint to final product, without compromising quality.

Performance and Application Testing

Unisteel test facilities are fully equipped with state-of-the-art apparatus to carry out performance tests and quality checks of both incoming raw materials to finished products. Tests include statistical process control (SPC) measurements, 2D profile analysis, pull-out and stripping test, surface roughness, hardness, tensile strength, torsional analysis and concentricity measurement etc.



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