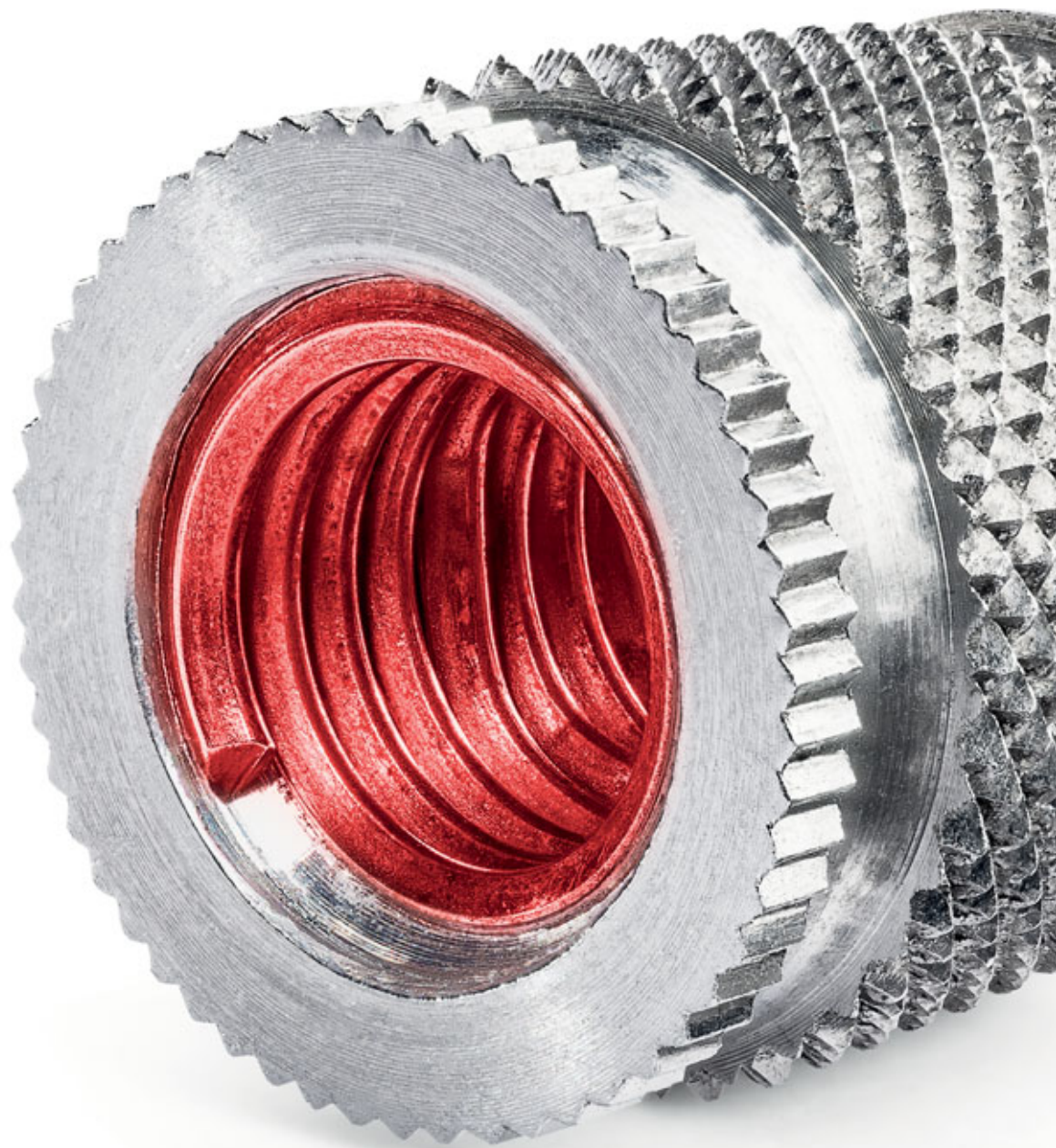


BÖLLHOFF

HITSERT® Screwlock

Precision thread insert for plastic components
with screw-locking



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HITSERT® Screwlock – Precision thread insert for plastic components with screw-locking

Today's developments in the lightweight construction focus on customer added values, like weight reduction, short cycle times and self-locking fasteners.

Surely you are familiar with this situation: When under load, screwings tend to loosen. Load can be e.g. vibration, alternating load or general kinetic energy to be absorbed. In many applications, it is absolutely necessary to take precautions against unintentional loosening. As a specialist in fastening and assembly technology, we offer you HITSERT® Screwlock for these applications. An efficient combination of two fasteners. Proven technology you can rely on.



The HITSERT® Screwlock combines the advantages of an aluminium (EN AW 6061) HITSERT® 2 and a stainless steel HELICOIL® Screwlock* thread insert. These two elements match perfectly to provide considerable benefits for screwed connections with high requirements. Locking of the screw is achieved with a polygonal-shaped thread of the HELICOIL® Screwlock. These coils have a locking effect on the flanks of the screw or bolt to be screwed in**. The result is an elastically resilient frictional locking mechanism with the bolt or screw resisting self-loosening and unscrewing.

Depending on the specific application, increased clamping torques can be achieved with several polygonal-shaped threads. The achieved clamping torques can be compared to the indications in the list of standards EN ISO 2320, NASM8846 or adapted to your individual application.

Your benefits at a glance

- High pull-out values
- Very good mechanical properties in thermoplastics
- Lightweight design
- HELICOIL® resists up to 15 screw cycles specified in NASM8846 and can be replaced for repair
- Meet different aerospace standards
 - Locking torque values according to NASM8846 and EN ISO 2320
 - Testload values according to NASM25027

* HELICOIL® Screwlock thread insert according to NASM21209.

** We recommend the use of coated screws.

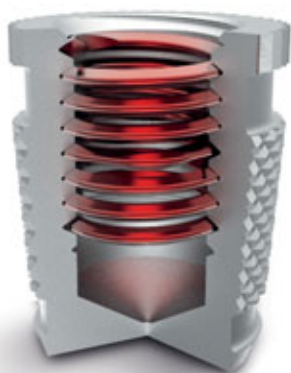
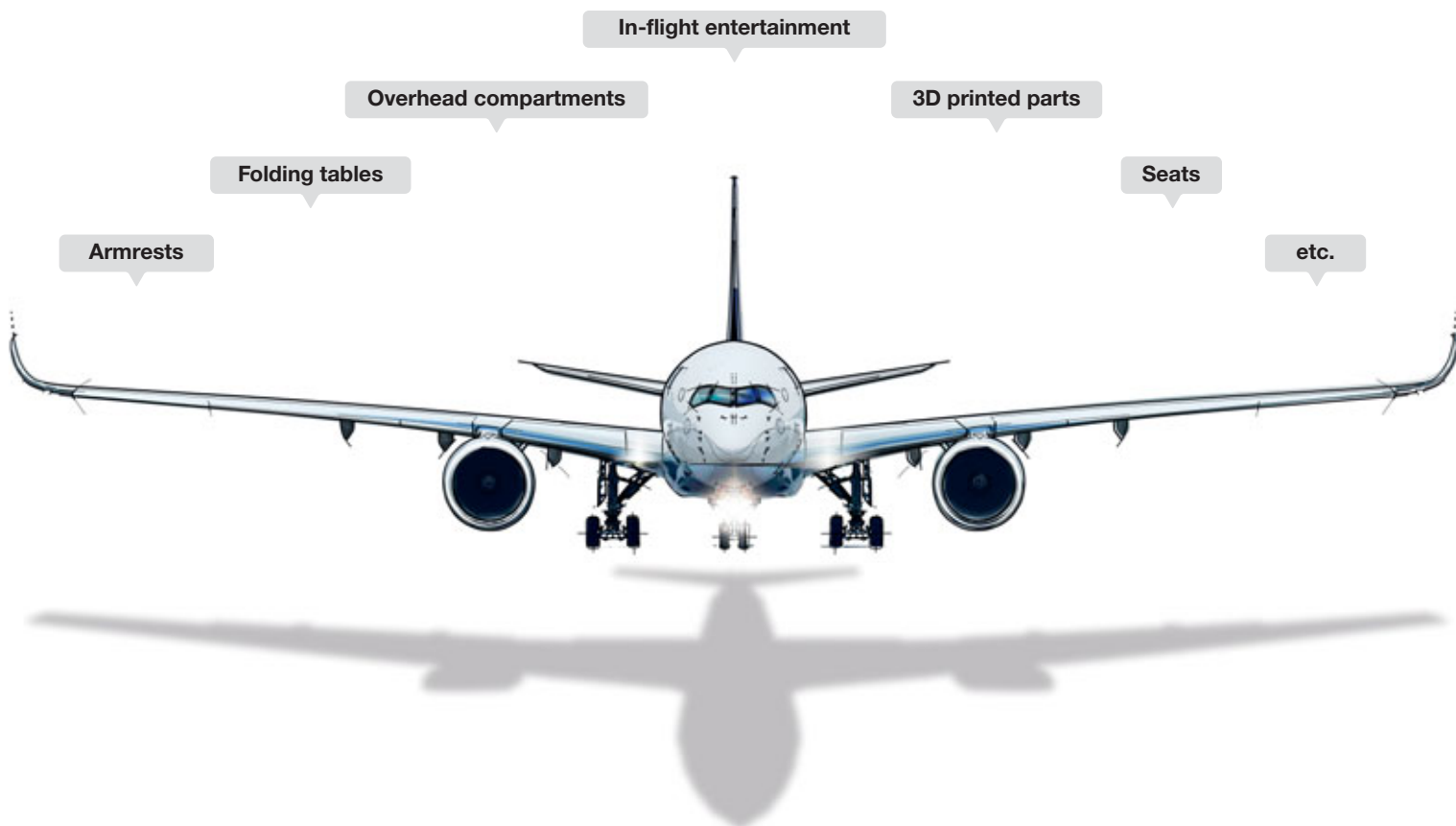
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Fields of applications

HITSERT® Screwlock can be used for several applications in the aerospace industry.



Options

We are also glad to develop innovative and creative solutions according to your special requirements. For example, the HITSERT® Screwlock manufactured for in-moulding technology with a blind hole thread.

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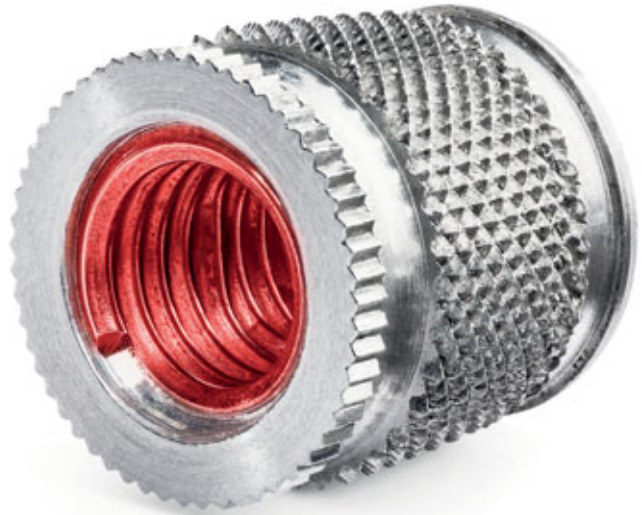
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Thread inserts for thermal installation – HITSERT® Screwlock

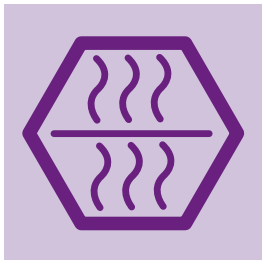
The thread insert is heated to the melting temperature of the plastic. As a result of the heat transfer upon insertion, the plastic is plasticised for a short time and flows into the undercuts of the thread insert. Upon cooling, low-tension anchoring is realised.

The advantages

- Ideal for thermoplastic parts
(e.g. PEI or PEEK for harsh environment)
- Especially designed for thermal inductive installation
- Screw-locked and low-tension anchoring
- High pull-out values
- Efficient installation due to single-spindle, multiple-spindle or automatic machines with preheating device



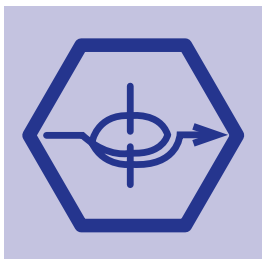
Installation method for HITSERT® Screwlock



Heat element welding – HEW

Heat element welding is an approved joining process to embed metal thread inserts into thermoplastic mouldings. It is a single-phase process in which contact heat is transferred through the metal insert to the joining zone of the plastic material.

During fusion of the plastic material in the area of the contact surface, joining is carried out. In this process, the plasticised mass is displaced into defined recesses and undercuts. That is how a form-closed joint results.



Electromagnetic resistance welding – ERW

ERW is a joining process developed by KVT Bielefeld (Germany) for joints of metal and thermoplastic components. An electromagnetic AC field heats the thread insert without contact and the contact surface of the plastic component is plasticised. In the simultaneous joining process, the fused material is displaced into recesses and interlocks.

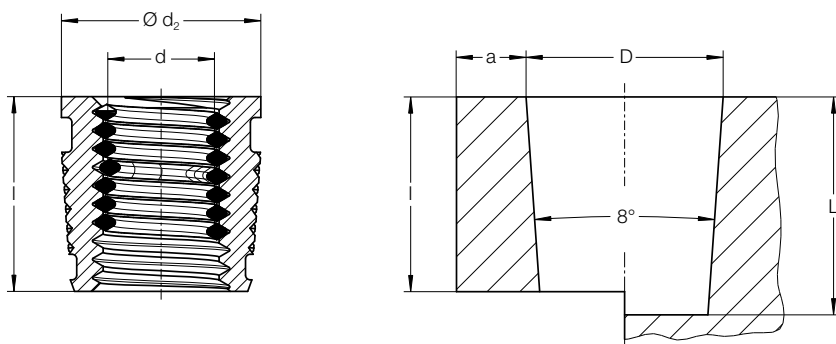
Heating of metal elements of any size is executed within a very short time (approx. 2 – 6 sec.). After switching off power supply, accelerated cooling of the melt takes place allowing an installation accuracy of up to 0.05 mm.

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Technical data



The variants

d	Order No.	l	d ₂	D +0.1	L _{min.}	a _{min.}	m (g)
4-40 UNC	0934 565 6053	5.3	5.89	5.8	6.3	1.5	0.3
6-32 UNC	0934 567 6065	6.5	7.00	6.9	7.5	2.0	0.5
8-32 UNC	0934 568 6075	7.5	7.00	6.9	7.5	2.0	0.6
10-32 UNF	0934 569 7084	8.4	8.60	8.5	9.4	2.5	1.0
¼-28 UNF	0934 574 7109	10.9	11.00	10.9	11.9	2.5	2.0

d	Order No.	l	d ₂	D +0.1	L _{min.}	a _{min.}	m (g)
M 2*	0934 502 0035	3.5	4.9	4.8	4.5	1.5	0.1
M 3	0934 503 0053	5.3	5.9	5.8	6.3	1.5	0.3
M 4	0934 504 0075	7.5	8.6	8.5	8.5	2.5	0.9
M 5	0934 505 0084	8.4	8.6	8.5	9.4	2.5	0.9
M 6	0934 506 0010	10.0	10.5	10.4	11.0	2.5	1.4

*According to MA3329/190

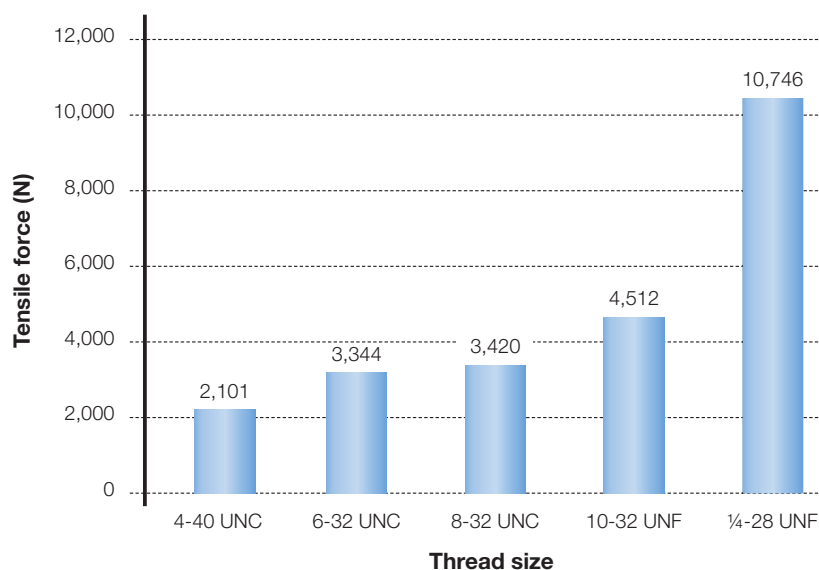
HITSERT® Screwlock thread inserts are available with a blind hole thread on request.

Special materials and coatings also on request.

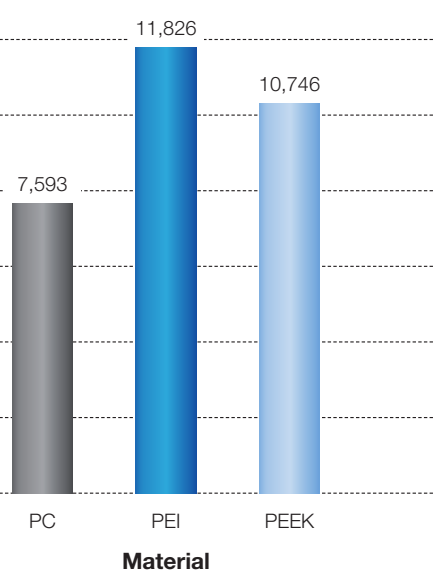
For further information, please talk to us.

Technical information

Tensile test PEEK



Tensile strength test



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