



## Product information: Wire thread inserts

### 1. Standards

The following standards apply for "wire thread inserts for the metric ISO thread"

- DIN 8140-1 dimensions, technical specifications
- DIN 8140-2 helical coil threads for inserts, thread tolerances
- DIN 8140-3 gauges and gauge sizes

These standards apply for ISO metric coarse pitch threads and fine pitch threads.

Details for additional deliverable thread types (BSW/BSF, UNC/UNJC/UNF/UNJF, GAZ, BSP) are available upon request.

### 2. Field of application/materials/properties

- Initial use: for heavy-duty and long-lasting inside threads partly from metallic and non-metallic materials
- Use during repairs/follow-up work: as a replacement for unusable threads (= damaged/worn).

The particular properties of wire thread inserts are

- reduced inclination for cold welding with screwed fastenings
- mostly constant friction coefficient
- good temperature and corrosion resistance
- with profile B "locking" (→ 4) additional resistance against independent loosening of the screwed fastenings thanks to increased frictional locking in the thread.

Beyond the standard material in stock "Stainless steel 18.8 (A2)", wire thread inserts from special materials are deliverable for particular usage requirements → Table 1.

**Table 1: Materials for various fields of application**

Material	Max. temperature	Options for coatings	Applications
Standard material <sup>1)</sup> Stainless steel 18.8 (A 2)	425 °C (short-term) 315 °C (longer periods)	Dry lubrication Cadmium plating Silver plating Zinc plating Tin plating	All standard applications for all materials
AISI 304 (1.4301) AISI 302 (1.4310)			Special use – resistant to acid, rust, high temperatures, non-magnetic
Special stainless steel AISI 304L, 316, 316L, 316Ti, 321	Up to 400 °C over longer periods		Cadmium plating
Phosphorous bronze	300 °C (short-term) 250 °C (longer period)		
Inconel x 750 Nc 15 Fe Nba	750 °C (short-term)	Silver plating	Thermal power stations Astronautics Aviation Turbo compressor
Nimonic 90 Nc 20 C 18 Ti	538 °C (longer periods)		

### 3. Manufacture

The thread inserts are manufactured from a wire with rhombus-shaped cross-section. After the winding process, they have two threaded profiles, one outside for the insertion into the tool's receiving thread according to DIN 8140-2 and one inside (after insertion) for receiving a screw thread.

### 4. Types

According to DIN 8140-1, the profiles are differentiated according to:

- Type A = cylindrical shape\* for coarse and fine threads.
- Type B = "locking" (like type A, but with centrally positioned, polygon, elastic windings (→ 2) (type B thread inserts are identifiable by their red colour).

\* The new generation of the "Type SR" AMECOIL thread inserts is designed in such a way that insertion is now easier and safer, thus increasing productivity.

### 5. Drive systems for insertion

DIN 8140-1 shows an engaging tang as the drive system, which is to be removed at the groove using a tang breaker after insertion.

AMECOIL thread inserts, for example, have this drive system.

### 6. Determining the nominal length

The nominal lengths of the threaded inserts to be chosen are, for one, dependent on the tool material and, for the other, dependent on the strength class of the screw (recommended nominal lengths → DIN 8140-1, Table 1).

