



# SHC

S.H. CHOOI FASTENERS SDN. BHD.



## THE FASTENERS SPECIALIST

Asia's Leading Fasteners Distributor. An ISO 9001 and TS16949 certified company, specializing in automotive, industrial, construction, OEM, MRO, consumer and custom screws manufacturing.



## WORLDWIDE DELIVERY

Ex-stock delivery with little to no lead time.  
\*Subject to product availability.



## EXCELLENT CUSTOMER SERVICE

We work tirelessly to serve you efficiently and effectively.

[WWW.SHCHOOI.COM](http://WWW.SHCHOOI.COM)



## S.H. CHOOI FASTENERS SDN. BHD.



Founded in 1980, **S.H. Chooi Fasteners**, an ISO 9001 certified company, is the specialist in automotive, industrial, consumer and custom screws manufacturing, each providing tailored local inventory and personal service for our customers catering to clients ranging from SMEs to Fortune 500 companies worldwide.

**S.H. Chooi Fasteners** founder Swee Hock put the company's basic principles into words that would drive the company into 38 years of continued business development -- "Growth Through Consistency, Reliability and Service."

Working within our decentralized location, our store personnel work towards supporting local customers – from managing inventory of our two warehouses in Penang, Malaysia, and our manufacturing locations in Taiwan and China, sourcing new products, making deliveries to applying our services, solutions and specialists to drive continual business growth. Aside from manufacturing Moon Arrow™ fasteners, the industries that we currently serve include automotive machinery (TS16949), MRO, OEM, construction, aerospace, medical equipment, tooling, semiconductors, subcontractors, spare parts as well as customisations according to blueprints.

### CHECK OUT OUR EXTENSIVE RANGE OF SERVICES AVAILABLE TO OUR CUSTOMERS

- Engineering Design and Support
- Custom Designed Fasteners
- Blueprint Manufacturing
- Customer Consigned Inventory Programs
- Electronic Data Interchange (EDI)
- Kitting
- Vendor Management Inventory Systems (VMI)
- Customized Bar Coding
- Just In Time Delivery (JIT)

### CUSTOMER SUPPORT

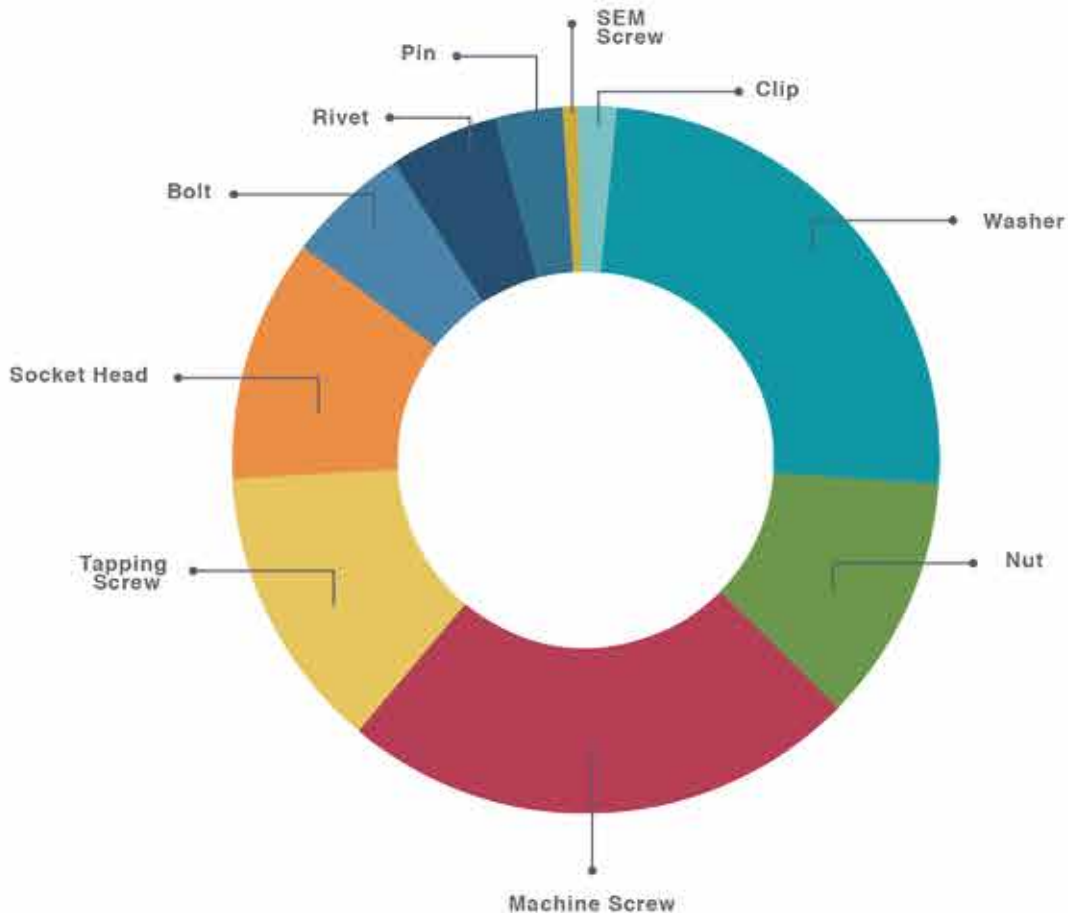
Trust us with your industrial needs! Our customer service officers work tirelessly to answer all questions and resolve any issues efficiently and effectively.

## COMPANY TIMELINE



- 1981 - 1990**  
First warehouse in Georgetown, Penang.  
Establishment of brand name Moon Arrow™.
- 1991 - 2000**  
Establishment of second warehouse in Butterworth, Penang.  
Strategic VMI partnerships with various multinational companies.
- 2001 - 2017**  
Acquired Bosch Rexroth Sales Partnership.  
Supplier to more than 1000 companies worldwide.
- 2018 - NOW**  
Acquired Fuji Seimetsu Japan Sales Partnership.  
Became the only Certified Excellent Sales Partner for Bosch Rexroth in Northern Malaysia.  
Acquired BaerCoil Germany Sales Partnership.  
Acquired Fuji Seimetsu Japan Sales Partnership.  
Supplier to more than 1500 companies worldwide.

## ROUND UP OF THE MAIN PRODUCTS IN OUR INVENTORY



# ISO CERTIFICATE



## CERTIFICATE

Management system as per  
ISO 9001 : 2015 / MS ISO 9001 : 2015

In accordance with TUV NORD CERT procedures, it is hereby certified that

**S.H.CHOI FASTENERS SDN. BHD. (306407-H)**  
No. 47 & 49, Jalan Perai Jaya 4,  
Bandar Perai Jaya,  
13600 Penang,  
Malaysia



applies a management system in line with the above standard for the following scope

### Trading of Fasteners

Certificate Registration No. 05 100 10023

Valid from 2019-06-13  
Valid until 2022-06-12  
Initial Certification 2010

Certification Body  
at TUV NORD (M) SDN BHD

TUV NORD (M) SDN BHD  
No.9F-1A, 9<sup>th</sup> Floor,  
Tower 2 @ PFCC  
Jalan Puteri 1/4, Bandar Puteri Puchong  
47100 Puchong, Selangor  
Malaysia.  
2019-06-13.

This certification was conducted in accordance with the TUV NORD (M) SDN BHD auditing and certification procedures and is subject to regular surveillance audits.



# ISO CERTIFICATE



## CERTIFICATE

Management system as per  
ISO 9001 : 2015

In accordance with TÜV NORD CERT procedures, it is hereby certified that

**S.H.CHOI FASTENERS SDN. BHD. (306407-H)**  
No. 47 & 49, Jalan Perai Jaya 4,  
Bandar Perai Jaya,  
13600 Penang,  
Malaysia.



applies a management system in line with the above standard for the following scope

**Trading of Fasteners**

Certificate Registration No. 44 100 072378  
Audit Report No. SEATH-Q5786/2018

Valid from 2019-05-13  
Valid until 2022-05-12  
Initial Certification 2007

*Sawadek*  
Certification Body  
at TÜV NORD CERT GmbH

TÜV NORD (Thailand) Ltd.  
1858/75-76 16<sup>th</sup> Floor, Inter-link Tower,  
Debaratna Road, Bangna Tal,  
Bangna, Bangkok 10263, Thailand  
2019-06-13

This certification was conducted in accordance with the TÜV NORD CERT auditing and certification procedures and is subject to regular surveillance audits.

TÜV NORD CERT GmbH Langemarkstraße 20 45141 Essen [www.tuev-nord-cert.com](http://www.tuev-nord-cert.com)



07/F02783/0C



Authorized Sales Partner

## BOSCH REXROTH CERTIFIED EXCELLENCE SALES PARTNER

In 2019, **S.H. Chooi Fasteners** became the **first and only Bosch Rexroth Certified Excellence Distribution partner in northern Malaysia**. The CE Solutions Partners represents a highly qualified extension of Bosch Rexroth and its technologies. The certification process took over one year, and included several stages ranging from a pre-selection, to evaluation and ultimately the implementation. Potential partner companies are audited at all stages by Bosch Rexroth themselves.

After a very intensive selection process, S.H. Chooi Fasteners successfully completed all the phases and was the clear choice of a partner in Assembly Technology. Through this partnership, S.H. Chooi Fasteners and Bosch Rexroth can supply to the demand for safe, precise and high-quality production solutions in Malaysia.

Bosch Rexroth Assembly Technology products include:  
Flow racks and frames made of aluminum profiles, enclosures, ergonomic assembly work stations through to fully automated manufacturing lines with transfer systems.





Authorized Sales Partner

## BOSCH REXROTH CERTIFIED EXCELLENCE SALES PARTNER

Over **120** different profile cross-sections with perfectly adjusted modular dimensions as well as versatile connection elements and accessories enable you to turn any idea into reality- for maximum design flexibility and security.

Strong profiles

Secure connection Technology

Custom-fit matching accessories

Economical choice for any load scenario!

Rexroth connections hold firmly and securely!

Easy to fix in the profile slot or central hole!

## PRODUCT ADVANTAGES

1

Profiles with high load-bearing capacities

4

Easy Handling

2

Innovative Special Profiles

5

Fast and secure fitting

3

Perfectly matching Components

6

Application options without limits



## LETTER OF AUTHORIZATION



# S.H. CHOOI FASTENERS SDN. BHD.

located at

**No. 47, 47A, 47B, Jalan Perai Jaya 4, Bandar Perai Jaya, 13600 Perai, Penang, Malaysia**

has successfully completed the qualification procedure to become **Certified Excellence Partner**. The company is herewith allowed heading this title for its excellent business profile such as sales experience, marketing, product know-how, customer requirements and services, as well as business methods and trustworthiness.



#### Products

Aluminium Profiles, Solutions & Components (MGE)  
Manual Production Systems, Workstations and Ergonomics (MPS)  
Transfer Systems (TS)

#### Offerings

Technical Support  
Project Planning  
Component Sales  
Assembly and Engineering Works



09/2019  
Bosch Rexroth AG, Channel and Partner Management, Lohr am Main, Germany

**rexroth**  
A Bosch Company





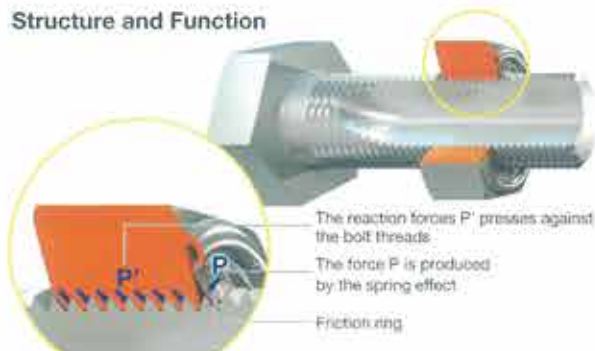
# Trouble with loosening nut?

## FUJILOK U-NUT®

### Features

- Reusable locknut with friction ring
- Prevents nuts from quickly coming off even if the tightening force is lowered
- It is all metal products and is excellent in heat resistance and cold resistance
- Easy tightening prevents installation mistakes
- Can be reused

### Structure and Function

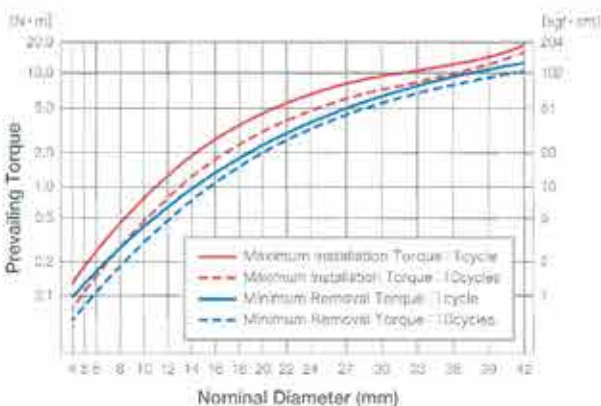


The force (P') is occurred by spring effect on friction ring (P)

➔ The self loosening prevented

### Measuring Results of Prevailing Torque

Prevailing Torque is produced by the spring effect when Friction Ring touches the shaft screw threads.



Distributor



### Basic Information

Size	M3-M115, W3/16-24-W2"-4.5, NC#10-24-NC1"1/2-6, NF#10-32-NF1"1/2-12
Shape	Thin, Small, Flange, Cap, Weld and special shaped
Accuracy	Thread accuracy: ISO6H
Material	Low carbon steel, High carbon steel, Alloy Steel, SUS304-316, Brass
Surface treatment	Zinc plated, Hotdip Galvanizing Geomet, Nickel zinc, Silver, Chrome

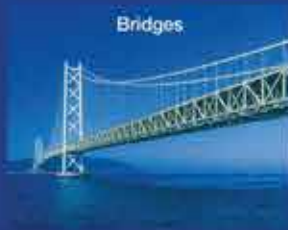
### Applications



Motorcycles



Railways



Bridges



Towers

Unshaken quality to the future  
Manufacturer of Lock Nuts



株式会社 富士精密  
Fuji Seimitsu Co., Ltd.

Head Office 3-14-15, Tokura, Toyonaka, Osaka 561-0845 Japan  
TEL. +81-6-6862-3112 FAX. +81-6-6862-9880

HP: <https://www.fun.co.jp>





# Need a care for Bearings?

Made in JAPAN

## FINE U-NUT®



### Structure and Function

Prevailing torque was generated by a Friction Ring (spring effect)

Friction ring



### Features

- Reusable locknut for Bearings
- Machining of keyways on shafts is unnecessary
- No lockwasher is required, which removes the possibility of the lockwasher being incorrectly installed
- Assembly does not require a high degree of skill
- Fine adjustment is possible and torque management is easy
- Shaft rotational balance is improved

### Basic Information

Thread	ISO6H
Accuracy	Maximum face runout (Max):0.05(M8-M50) Maximum face runout (Max):0.07(M55-M120) Maximum face runout (Max):0.10(M125-M150)
Size	M8-M100(SS), M10-M150(SC), M10-M100(SUS)
Material	Low carbon steel, High carbon steel, SUS304
High accuracy of runout	1/100 (mm)

## TWINFU-NUT®



### Structure and Function

Prevailing torque was generated by TWO Friction Rings which are overlapping on the top of the nut.

Friction ring



Spacer



### Features

- A prevailing torque type precision locknut
- The TWINFU-NUT locking function is strengthened
- Tightening can be achieved just by installing the nut
- Can be reused

### Basic Information

Thread	ISO4H
Accuracy	The threads and bearing surface are created at the same time.
Size	M15-M110 possible to correspond. Pitch: Extra Fine Thread Other special sizes
Shape	Grooved round nut
Material	High carbon steel
High accuracy of runout	1/1000 (mm)

### Applications



Industrial Robot



Press Machine



NC Rotary Table



Machine Tool

# LETTER OF AUTHORIZATION



## Fuji Seimitsu Co.,Ltd.

Manufacturer & Exporter, **FUJILOK U-NUT, FINE U-NUT, TWINFU-NUT**  
3-14-15 Tokura, Toyonaka, Osaka 561-0845, Japan  
TEL: +81-6-6862-3112 FAX: +81-6-6862-9880 E-mail: funco@fun.co.jp



March 9 ,2021

### Letter of Appointment (Non-Exclusive)

To S.H. Chooi Fasteners Sdn. Bhd.

We, Fuji Seimitsu Co.,Ltd. located 3-14-15 Tokura, Toyonaka, Osaka 561-0845, Japan, are pleased to announce that we have appointed the company S.H. Chooi Fasteners Sdn.Bhd as our non-exclusive distributor on the conditions stated below:

1) Distributor contact information

- Company Name S.H. Chooi Fasteners Sdn. Bhd.
- Address No.47, 47A, 47B, Jalan Perai Jaya 4, Bandar Perai Jaya, 13600, Butterworth, Penang, Malaysia
- Tel +60-4-399 6468
- Fax +60-4-399 4185
- Attn Mr. Steven Tan/G. Manager
- Email steven.tan@shchooi.com
- Website <https://www.shchooi.com/home>

2) Range of customer that are subject to this agreement

Malaysia

3) Product that is subject to this agreement

FUJILOK U-NUT, FINE U-NUT, SPECIAL TOOLS FOR FINE U-NUT

4) Services

Regarding the above products at the customer, S.H. Chooi Fasteners Sdn. Bhd.  
Provides following services for the product mentioned above

- a) Promotion and brief product orientation
- b) Bidding, contracting and services

5) Expiration date

Expiration date of this appointment shall be April 1, 2022

FUJI SEIMITSU CO., LTD.

  
Y.KOBUCHI  
Overseas Manager



**S.H. Chooi Fasteners is a sales partner of Baer.** Similar to S.H. Chooi Fasteners, Baer is a family business with a long tradition. Baer has been a specialist in thread machining for over 40 years.

Originating in Heddesheim, Germany, Baer's most important principle is their commitment to offer products of the highest standards to meet the requirements of customer's utmost satisfaction – a value that S.H. Chooi Fasteners shares to our very core as satisfied customers underline our success.

After meeting in Stuttgart, Germany in 2018, it was undeniable that S.H. Chooi Fasteners and Baer had many common core values and share the same passion for precision and quality and thus, forming a business partnership became a natural next step to bring Baer to Malaysia.

Throughout this partnership, S.H. Chooi Fasteners has managed to set up a strong foothold and customer base for the Baer brand, being the only certified partner in all of Malaysia.

Baer offers a wide range of products under their categories which include **BaerCoil, BaerFix and Taps & Dies.**

## BaerCoil®



# LETTER OF AUTHORIZATION

**BaerColt® | BaerFix®**  
Thread Inserts Systems

info@baercolt.com  
www.baercolt.com



**Gewindebohrer & Schneidisen**  
Threading Tools

info@gewindebohrer.de  
www.gewindebohrer.de



**Bohrfutter**  
Drill Chucks

info@bohrfutter.com  
www.bohrfutter.com



**BAER Vertriebs GmbH**  
Robert-Bosch-Str. 5  
68542 Heddesheim  
Germany

Tel: +49 (0)6203 404879-0  
Fax: +49 (0)6203 404879-1

BAER Vertriebs GmbH | Robert-Bosch-Str. 5 | 68542 Heddesheim | Germany

**S.H. CHOOI FASTENERS SDN. BHD**  
No. 47, 47A, 47B, Jalan Perai Jaya 4,  
Bandar Perai Jaya  
13600 Butterworth  
Penang  
Malaysia.

## DISTRIBUTORSHIP AUTHORIZATION

We certify that:

**S.H. CHOOI FASTENERS SDN. BHD**  
No. 47, 47A, 47B, Jalan Perai Jaya 4,  
Bandar Perai Jaya  
13600 Butterworth  
Penang  
Malaysia.

is an authorized exclusive distributor of our products.

This authorization is valid for a period of 1 year.

Date: 01/01/2021

Eric Ollinger

BAER Vertriebs GmbH   
Robert-Bosch-Strasse 5  
68542 Heddesheim | Germany  
Phone: +49 (0)6203 404879-0  
Fax: +49 (0)6203 404879-1  
baercolt.com | gewindebohrer.de | bohrfutter.com

Bankverbindung | bank account

Commerzbank  
IBAN: DE83 6704 0331 0421 6545 00  
BIC: COBADE33HAN  
Paypal: baercolt@gewindebohrer.de

Es gelten ausschließlich unsere einseitig gedruckten allgemeinen Verkaufsbedingungen.

USt-Id Nr.: DE290431227 Steuer-Nr.: 47023/22070  
Amtsgericht - Mannheim HRB 717948  
Sitz der Gesellschaft: Heddesheim  
Geschäftsführer: Paul Kuhn, Eric Ollinger



# BaerFix® Thread Reinforcement & Thread Repair

## BaerFix® Thread Inserts, self-tapping with cutting slots

BaerFix® Thread Inserts have a conical lead with cutting slots on the metric external thread. They are designed to cut their own threads as they are being driven into a drilled hole (= self-tapping). This provides a secure and high-strength anchor in the parent material. BaerFix® Thread Inserts create wear-free and vibration resistant bolted connections because of its close tolerances and the self-tapped thread. In some cases the Insert has a minimal inward springing action, which creates a screw locking effect. If this is not wished, you can use BaerFix® Thread Inserts with cutting holes. These are suitable for creating highly durable and wear resistant bolted connections in materials with low shear resistance.



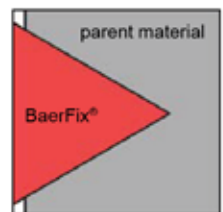
## BaerFix® Thread Inserts, self-tapping with cutting holes

BaerFix® self-tapping Thread Inserts with cutting holes are constructed especially for materials with difficult machining characteristics. The thick wall allows higher cutting forces, which are distributed over three cutting holes.



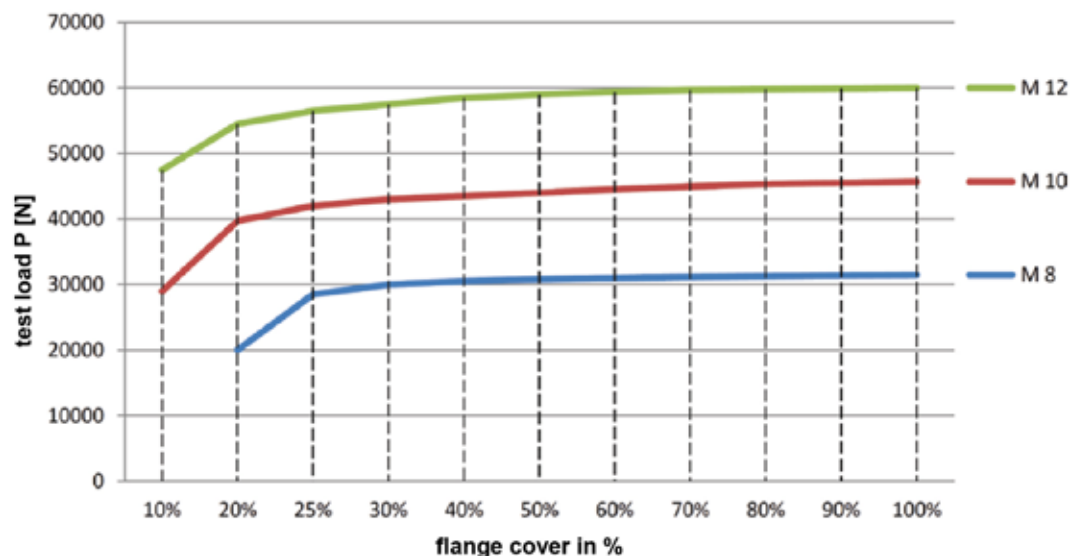
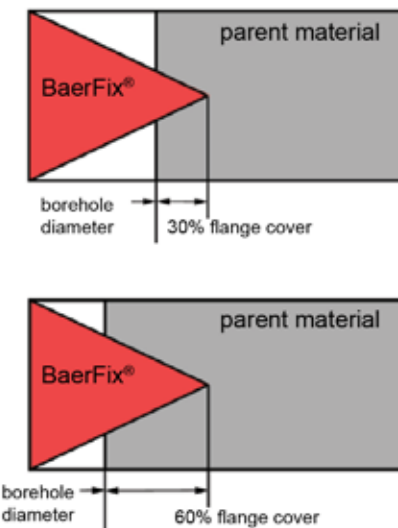
## Large effective shearing surface

The BaerFix® Thread Insert has a larger effective surface, which ensures a higher degree of pull-out strength, i.e. an M 5 is often sufficient instead of a cut M 6 thread.



## Flange cover

In a work piece made of a light alloy, the BaerFix® Insert achieves almost maximum pull-out strength with only 30 % flange cover.



## Pull-out strength

A BaerFix® Thread Insert is highly durable. Using in light alloys for example, helps achieving a pull-out strength which far exceeds the yield strength of a screw 8.8.

## Corrosion resistance

The superior corrosion resistant characteristics of BaerFix® Inserts assure their adaptability to most materials and usual environmental conditions.

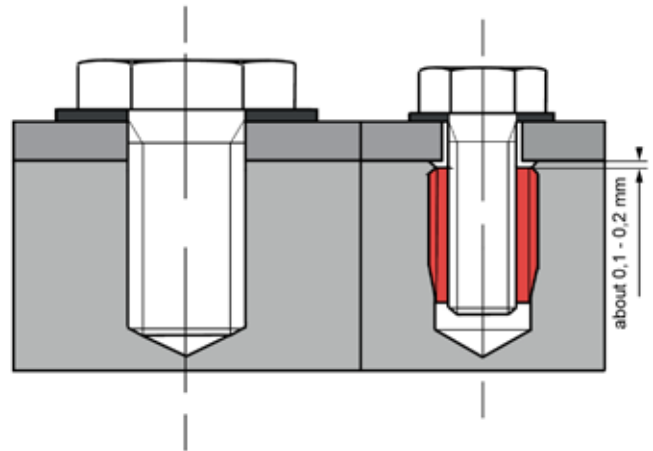


### Minimize weight & space

Weight saving is unmatched - an important design feature for many products, particularly airborne equipment. Space saving is maximized, permitting the use of standard configurations with oversize requirements - as is necessary to accommodate solid bushings. A bigger radius equal to the nominal bolt size fit for higher load and forces.

### Minimize total costs

Overall production cost savings may be realised by using a less expensive material and still maintain the required thread strength with BaerFix® Inserts. Costs savings apply in many directions - lower insert costs, lower installation costs and smaller bolts do all result savings.



### Thread Repair

In addition to thread reinforcement the BaerFix® Inserts also are used for repairing broken threads. In this process rejected components can be reclaimed by installing a thread insert. The created thread will keep its original dimension and also gets reinforced by raising the pull-out strength and corrosion resistance. Costs of acquisition and processing can be saved by repairing threads with BaerFix® Thread Inserts.



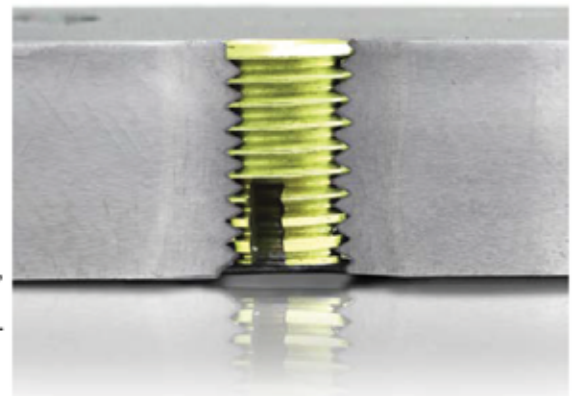
### Applications

It's especially suitable for following materials:

- aluminum and aluminum alloy
- brass, bronze, cast iron
- magnesium alloy
- thermosetting plastics and thermoplastics (no rubber-soft thermoplastics)

Examples for applications:

- Automotive industry: engines, transmissions, radiators, autobody etc.
- Electrical and laboratory techniques: medical equipment, capacitors, boxes etc.
- Household appliance: vacuum cleaners, electric iron, washing machines, cameras, mobile phones etc.
- Plant and equipment construction: pumps, construction machines, different components etc.
- Military machines: aircrafts, weapons etc.



### Materials

Case-hardened steel, zinc-plated, yellow chromated (conform to RoHS, free of ChromVI)

**Stainless steel 1.4305**

AISI 303

X8CrNiS18-9

**Brass**

**Stainless steel 1.4105\***

AISI 430 F

X6CrMoS17

\* on request

Other materials and surfaces on request.

### Compatibility

BaerFix® Inserts are manufactured according to tolerance ISO 2768-m. BaerFix® products are compatible with thread inserts and tools from other manufactures.



## BaerFix® Thread Inserts for special applications

BAER Company develops and produces customer-oriented thread inserts and threading tools. Special applications can have special requirements to materials, dimensions, corrosion resistance, force effects, lifting capacities, pull out-strength or many more. Please send us your inquiry or give us a call. We enjoy to consult you in your applications.

- BaerFix® Thread Inserts with cutting holes, self-tapping
- BaerFix® Thread Inserts with hexagonal socket, self-tapping
- BaerFix® Thread Inserts for cold installation
- BaerFix® Thread Inserts for heat installation
- BaerFix® Thread Inserts for ultrasonic installation
- BaerFix® Thread Inserts for Screwing into a threaded hole
- Custom-made thread thread inserts (detail drawing or samples)





# BaerCoil® Thread Reinforcement & Thread Repair

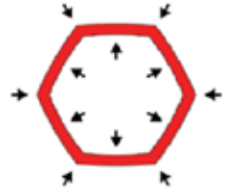
## BaerCoil® Wire Thread Inserts - type: "free running"

BaerCoil® thread inserts are made from austenitic chromium-nickel steel (stainless steel AISI 304 with a material tensile strength of at least 1400 N/mm<sup>2</sup>). In production the wire is swaged in cold-form to a rhombic cross-section, which ensures performance and maximum space utilization. With BaerCoil® thread inserts you achieve a better thread connection in regard to wear resistance, thread abrasion, surface finish, corrosion- and heat resistance than with any other single screw connection.



## BaerCoil® Wire Thread Inserts - type: "screw grip"

In addition to "free-running" insert characteristics, BaerCoil® "screw grip" thread inserts have one or more polygon-formed windings, which have a clamping effect on the flanks of the inserted screw. We only recommend using screws with a higher screw property class (from 8.8 on) because of this screw locking or screw clamping effect. An elastic and flexible frictional connection is formed. The clamping torque is comparable to the indications in DIN 267 Part 15 and ISO 2320. BaerCoil® "screw grip" thread inserts are predominantly used in areas where screw connections must remain tight while exposed to impacts, constant vibrations and movements.



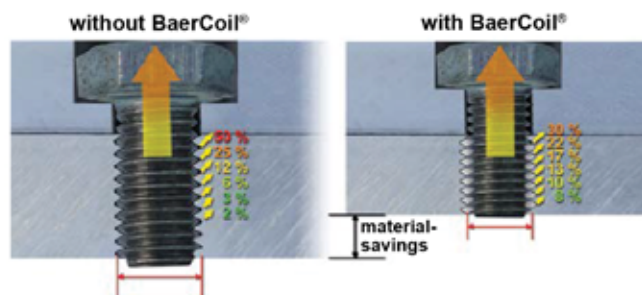
**i** see locking torque values on page 7

## Thread Reinforcement and higher tensile strength

BaerCoil® thread inserts reinforce and increase the pull-out strength especially in materials with low shear strength, as e.g.: aluminum or magnesium.



example from test results	
material	Magnesium
thread - length	M 10 x 1,5 - 10 mm
pull-out strength without BaerCoil	3540 kg/mm <sup>2</sup>
pull-out strength with BaerCoil	4570 kg/mm <sup>2</sup>
relative increase	about 29 %

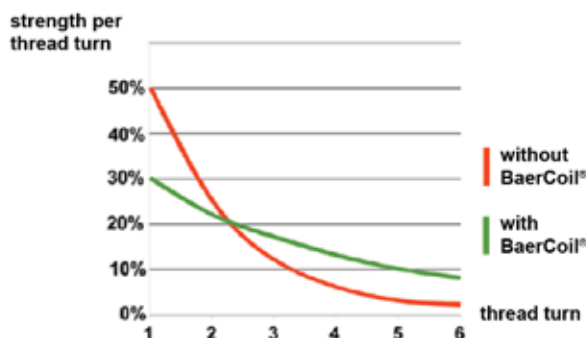


## Premium surface finish

BaerCoil® thread inserts have a premium surface finish (about 2,5 µm) and are made predominantly from stainless steel (AISI 304) or other materials with a hardness (min. 425 HV 0,2) that far exceeds normal screw connections. For repetitive screw connections these properties ensure, among other things, a higher and consistent tension force at the same torque strength. This leads to a better utilization of yield strength. The torsion tension is up to 90% less than for threads without BaerCoil® thread inserts.

## Balanced strength distribution

Threads with BaerCoil® inserts more evenly distribute static and dynamic workloads to the individual thread turns. The flexibility of the inserts compensates for the rise- and angle errors, achieving an ideal force transmission from the bolt to the thread of the nut.



## Greater effective shear surface

The BaerCoil® wire thread insert has a greater effective shear surface than a normal screw connection with cut thread turns. The shear surface refers to the contact surface of the wire thread insert or screw with the cut outer thread. The greater this surface, the less the force that affects a square mm.



## Protection against wear of a thread

BaerCoil® thread inserts protect the thread against wear and damage in all metals and their alloys, as e.g. aluminum, magnesium, titanium, copper, steel, plastic and other materials. The thread insert is very hard and has a premium surface finish. Since the surface has minimal roughness, less friction force affects the thread when inserting the screw. The decrease in thread friction force also minimizes wear.

## Corrosion-resistance

BaerCoil® thread inserts also have excellent corrosion-resistance properties. This ensures applicability in almost all materials and under most conditions.

## Flexibility

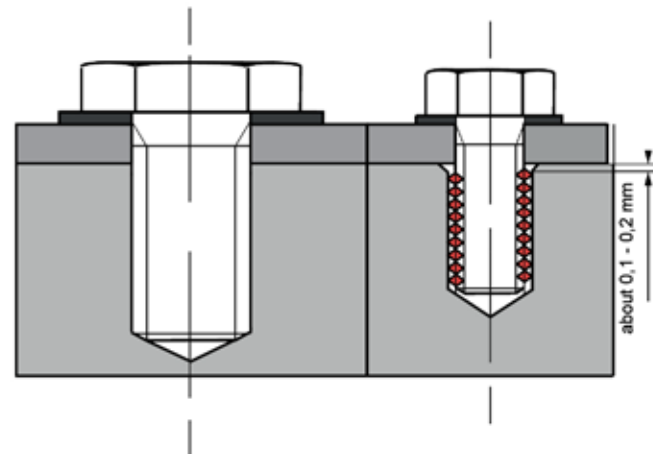
BaerCoil® thread inserts were constructed to be axially and radially elastic. This ensures that each winding can adjust independently and thereby compensate for rise- and angle errors that exist between the inner thread and the screw. The force is distributed evenly to all thread turns.

## Reductions of weight and space

The reduction in weight is an uncontested and important design element for many products. Due to the high thread resilience of BaerCoil® thread inserts, the usage of smaller thread diameters and shorter thread lengths is possible. The extremely high resilience of the clad thread allows for, depending on material and size, material savings of up to ca. 10 - 30 %. BaerCoil® thread inserts save material, building space and weight while fulfilling the same or higher requirements.

## Minimize total costs

Since less material is needed, BaerCoil® inserts reduce production costs while still providing the required solidity of the thread connection. Moreover, follow-up costs are very low: Lighter vehicles and aircrafts require less gasoline or kerosene. Expensive spare parts and elaborate installations can be avoided with thread cladding, and damaged threads can be repaired easily.



## Thread Repair

Besides thread reinforcement, the BaerCoil® thread insert also facilitates the repair of damaged threads. Rejected parts can be salvaged while maintaining the original thread size. Additionally, the thread is strengthened in its pull-out- and corrosion resistance. In maintenance the use of these thread inserts saves procurement- and processing costs for spare parts.



## Applications

BaerCoil® thread inserts are especially well suited for the following materials:

- Aluminum and aluminum alloys
- Brass, bronze, cast-iron
- Magnesium alloys
- Steels etc.

Application examples:

- Motor vehicle industry: Motor, transmission, radiator, vehicle body parts, oil drain etc.
- Aerospace: Engines, assembly parts reinforcement etc.
- Electronic- and laboratory technology: Medical devices, capacitors, casings etc.
- Household appliances: Hole punch, iron, pocket calculator, cameras, cell phones
- Facility- and device construction: Pumps, construction machines, various components etc.
- Military devices: Airplanes, weapons, tanks, scopes etc.

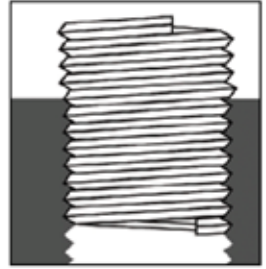








## Design

The outer diameter of non-installed BaerCoil® thread inserts is larger by a fixed measure than the receiving thread. This is necessary in order to apply radial pressure during installation to the inner thread of the receiving thread. This radial pressure safely and firmly seats the thread insert in the receiving thread. Additional securing elements are, therefore, not required. The thread insert adjusts to the thread turns and slightly expands in length. This is why the length of the thread insert can only be measured when installed since it lengthens while being pressed together as it adjusts to the cut thread.

Each thread insert size is available in 5 lengths. Lengths range from 1 x, 1.5 x, 2 x, 2.5 x and 3 times the size of the thread diameter. Other lengths are available upon request.



## Materials

	Material	Tensile Strength	Temperature resistance	Examples of use	
	Stainless Steel V2A AISI 304 X5CrNi18-10 Material-No.: 1.4301	>1400 N/mm <sup>2</sup>	315°C long-term 425°C short-term	standard applications for all property classes and materials for Thread Repair and Thread Reinforcement	
	Stainless Steel V4A AISI 316 X5CrNiMo17-12-2 Material-No.: 1.4401	>1400 N/mm <sup>2</sup>	315°C long-term 425°C short-term	- increased corrosion protection - low thread friction - for high alloyed CrNi steel screws	general lightweight construction sea water and chlorine-containing water
	Inconel X750 NiCr15Fe7TiAl Material-No.: 2.4669	>1150 N/mm <sup>2</sup>	550°C long-term 750°C short-term	- high thermal load - high corrosion protection	- aerospace technology - turbocharger - aeroplane engines - turbines - thermal power plants
	Bronze CuSn6 CW452K Material-No.: 2.1020	> 900 N/mm <sup>2</sup>	250°C long-term 300°C short-term	- translation threads - CrNi screws - Cu workpieces - non-magnetic	applications in sea water best electric conductivity

## Surface treatments

surface treatments	color	applications
cadmium plating	iridescent yellow	provides high corrosion resistance and lubrication to prevent galling - suitable up to 250°C
zinc plating	white	provides corrosion resistance as an alternative to cadmium
silver plating	silver white	to reduce galling of threads at high temperatures
cadmium plate & olive drab	olive drab	as specified on US military specs such as NASM21209.
Dry Film Lubricated	grey	additional lubrication in high friction applications - recommended for use with screw grip inserts

## Compatibility

BaerCoil® wire thread inserts and tools are compatible with wire thread inserts and tools from other manufacturers, in most cases. BaerCoil® inserts are mainly manufactured according to DIN 8140 so they have the same dimensions. Other standards like DIN65536, EN2944, LN9039, LN9490, LN9499, NASM21209, AS4736 to 4748, to 3799, MA3279 to 3281 and NASM214850 ect. are available, too. Compatibility cannot be guaranteed, so it is always recommended to test from case to case.

# UNI*T*AP

## UNI*T*ap - Universal High-End Threading Tap A real revolution in the production of internal threads

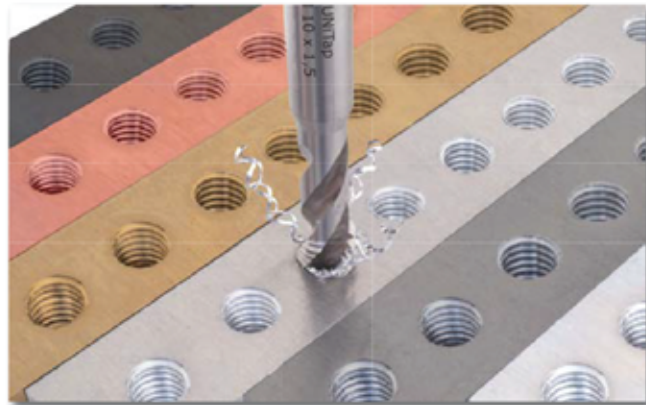
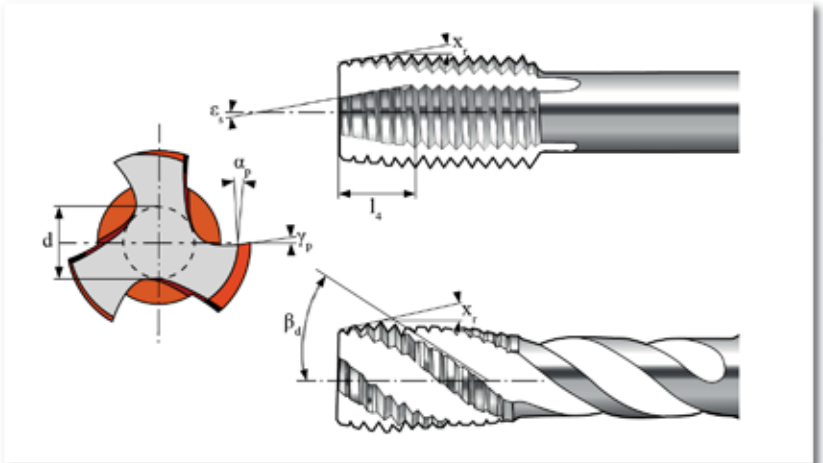
### UNI*T*ap - Unique cutting geometry

The unique geometry of UNI*T*ap Taps is the result of years of research, which enables the user to machine all materials and makes the tap universally suitable for almost all applications.

During threading an internal thread, the major forces occur at the lead-in chamfer, which is strikingly relieved by structural changes in the UNI*T*ap. The consequence is a reduced torque and a longer life time of the tap. In addition, the areas directly after the lead-in chamfer have been changed to lead the chip optimally and avoid possible jammings. An over-feeding of the thread is also not possible with this profile change.

The design sets new standards in ease of use, durability, and versatility

- for nearly all materials
- for nearly all applications
- excellent cut results
- high tool life time
- unique patented cutting geometry
- ideal tap for all workshops and industrial productions with changing requirements
- huge cost savings - only one threading tool for all applications



### A professional for all applications and materials

- Steels and Steel alloys up to 1200 N/mm<sup>2</sup>
- Stainless Steels; Innoxable Steels up to 1000 N/mm<sup>2</sup>; -VA-Steels; INOX; V2A; V4A
- Pure Aluminium; Aluminium Cast and Wrought Alloys
- Grey Cast Iron; Ductile/Nodular/Spheroidal Graphite Cast Iron; Malleable Cast Iron up to 1000 N/mm<sup>2</sup>
- Pure Titanium and Titanium alloys up to 900 N/mm<sup>2</sup>
- Pure Nickel and Nickel alloys up 900 N/mm<sup>2</sup>
- Pure Copper; Copper alloys; Brass; Bronze (all chip lengths)

### Cost savings and flexibility

Due to its universal application possibilities, one UNI*T*ap can do the work of several conventional taps. As a result you can save about 90% of expenses.

Comparison of expenses:

Machine Taps M6 for	EUR / pc.
normal steels	6,98
stainless steels	11,68
aluminium and alloys	34,57
cast and grey cast iron	19,64
titanium and alloys	47,30
brass and copper	11,81
<b>total:</b>	<b>131,98</b>

same result with

**UNI*T*AP** BAER HSSE UNI*T*ap Machine Tap for through holes M 6 x 1,0

**17,33 EUR** over 85% savings



## Coatings

On request, taps are also available with a TIN or TiAIN coating.

The TIN surface treatment (titanium-nitride gold-yellow) increases the surface hardness (approx. 2300 HV) and the sliding properties. As a result, it provides a better cutting performance and an increased tool life time.

The TiAIN surface treatment increases the surface hardness (approx. 3300 HV), the sliding properties (friction coefficient: 0,25) and with the temperature resistance up to 800°C. As a result, it provides a better cutting performance and an increased tool life time.



## Examples of application materials and cutting speeds

Soft Iron, Constructional Steel, Free Cutting Steel, Cementation Steel		cutting speed $v_c$ in m/min for machine taps for through holes	cutting speed $v_c$ in m/min for machine taps for blind holes
1.1014	RFe80	25 - 50	25 - 50
1.0570	St52-3	25 - 50	25 - 50
1.0718	9SMnPb28	25 - 50	25 - 50
1.6523	20NiCrMo2	6 - 30	6 - 30

Stainless Steel, Inoxable Steel (ferritic, austenitic, martensitic)		cutting speed $v_c$ in m/min for machine taps for through holes	cutting speed $v_c$ in m/min for machine taps for blind holes
1.4104	X14CrMoS17	12 - 35	12 - 35
1.4301	X5CrNi18-10 (V2A)	12 - 15	12 - 15
1.4571	X6CrNiMoTi17-12-2 (V4A)	12 - 15	12 - 15
1.4125	X105CrMo17	12 - 15	12 - 15

Grey Cast Iron		cutting speed $v_c$ in m/min for machine taps for through holes	cutting speed $v_c$ in m/min for machine taps for blind holes
0.6010	GG10	35 - 50	35 - 50
0.6020	GG20	35 - 50	35 - 50
0.6030	GG30	35 - 50	35 - 50
0.6040	GG40	35 - 50	35 - 50

Pure Titanium and Titanium alloys		cutting speed $v_c$ in m/min for machine taps for through holes	cutting speed $v_c$ in m/min for machine taps for blind holes
3.7024	Ti99.5	3 - 15	3 - 15
3.7034	Ti99.7	3 - 15	3 - 15
3.7165	TiAl6V4	1 - 5	1 - 5
3.7174	TiAl6V4Sn2	1 - 5	1 - 5

Pure Aluminium, Aluminium Cast and Wrought Alloys (all chip lengths)		cutting speed $v_c$ in m/min for machine taps for through holes	cutting speed $v_c$ in m/min for machine taps for blind holes
3.0205	Al99	50 - 65	50 - 65
3.1645	AlCuMgPb	50 - 65	50 - 65
3.2373	G-AlSi9Mg	40 - 65	40 - 65
3.2583	G-AlSi12(Cu)	40 - 65	40 - 65

Carbon Steel, Spring Steel, Alloy Steel, Heat-treatable Steel		cutting speed $v_c$ in m/min for machine taps for through holes	cutting speed $v_c$ in m/min for machine taps for blind holes
1.0503	C45	20 - 30	20 - 30
1.1269	Ck85	20 - 30	20 - 30
1.7218	25CrMo4	6 - 30	6 - 30
1.2344	X40CrMoV5-1	6 - 30	6 - 30

Pure Nickel and Nickel alloys		cutting speed $v_c$ in m/min for machine taps for through holes	cutting speed $v_c$ in m/min for machine taps for blind holes
1.3926	RNi12	3 - 10	3 - 10
2.4668	NiCr19Fe19NbMo (Inconel 718)	3 - 10	3 - 10
2.4630	Ni-Cr20Ti (Nimonic 75)	1 - 5	1 - 5
2.4665	NiCr22Fe18Mo (Hastelloy X)	1 - 5	1 - 5

Ductile/Nodular/ Spheroidal Graphite Cast Iron, Malleable Cast Iron		cutting speed $v_c$ in m/min for machine taps for through holes	cutting speed $v_c$ in m/min for machine taps for blind holes
0.7040	GGG40	12 - 45	12 - 45
0.7060	GGG60	12 - 45	12 - 45
0.7070	GGG70	12 - 45	12 - 45
0.8035	GTW35-04	10 - 25	10 - 25

Pure Copper and Copper alloys, Brass, Bronze (all chip lengths)		cutting speed $v_c$ in m/min for machine taps for through holes	cutting speed $v_c$ in m/min for machine taps for blind holes
2.0065	E-Cu 58	50 - 60	50 - 60
2.1247	CuBe2	30 - 65	30 - 65
2.0360	CuZn40	30 - 65	30 - 65
2.1020	CuSn6	12 - 20	12 - 20

$$\text{cutting speed } v_c \text{ [m/min]} = (\text{diameter} * \pi * \text{number of rotations}) / 1000$$

$$\text{number of rotations } n \text{ [1/min]} = (\text{cutting speed in m/min} * 1000) / (\text{diameter} * \pi)$$

$$\text{feed programming [mm/min]} = \text{number of rotations} * \text{pitch}$$

Please keep in mind that the cutting speeds as stated above serve only as guidelines. The right cutting speed depends on lubrication and application.

Cutting paste, cutting oil or emulsion is recommended.



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