BAER GERMANY

BaerFix®

SELF-CUTTING THREAD INSERTS

WWW.BAERFIX.COM

2019

Precision and Quality

Good quality is the best marketing, because satisfied customers underline our success.
Our most important principle which inspires us is the commitment for products of the highest standards to meet the requirements of our customers to their utmost satisfaction - a mission we try to fulfill for our corporate philosophy every day.

Our quality check starts with the receipt of goods and continues until the outgoing of the products. At BAER Company customer satisfaction does not come by chance. Ongoing quality testings also influence all new product developments. New ideas and the most modern production facilities improve our products and make them even more precise.

Development and Improvement

Essential for the sustainability of our work is to invest continuously the long-term in new innovative products. Highest efforts in research and development focus on the needs of our customers. Our tools represent practical and reliable solutions which support an efficient and easy application.

Our cooperations with other industries, companies and research institutes make a strong networking possible. New inspirations are created in innovations, are produced, tested and adapted for practice. This way we are always up to the latest standards of knowledge related to thread technologies. All members of our company contribute to our innovations with their individual know-how.

Tradition and Experience

For more than 35 years we have been engaged in what we can do best: threading technology. With this far-reaching treasure trove of experience we have established ourselves as an expert by whom our customers can profit. We are proud to be a family company.
Our identification with the company is even stronger and more distinctive. Each customer, each modernization is at the same time an affair of the heart.

Tradition combined with innovation and progress - make us a flexible and competent partner when it is about threading tools.
Our claim: to contribute to a successful future and to develop tools which meet all kinds of requirements of our customers.

Distributors

For ensure further deliveries to the customer as soon as possible at home and abroad, we are expanding our distributer network.

BAER-distributors benefit from:
- The largest full range of products - for best price performance ratio
- Quality and reliability - for the highest demands
- Decades of experience in threading technology
- Reliable partnership - flexible and easy
- Sale supporting materials
- Exclusive products
- Exclusive sale territories
- Qualified product and sales trainings
- Attractive terms and conditions
- Innovative products

Contents

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BaerFix®
Catalog 2019

BaerFix® Thread Reinforcement & Thread Repair

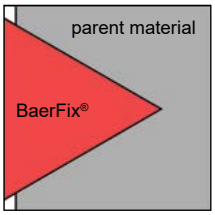
BaerFix® Thread Inserts, self-tapping with cutting slots

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.

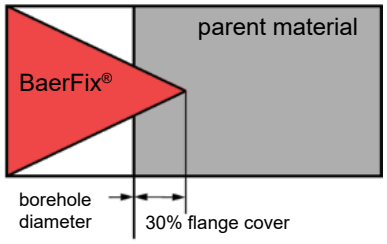
Large effective shearing surface

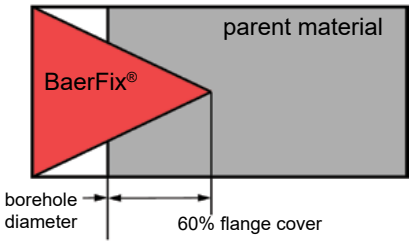


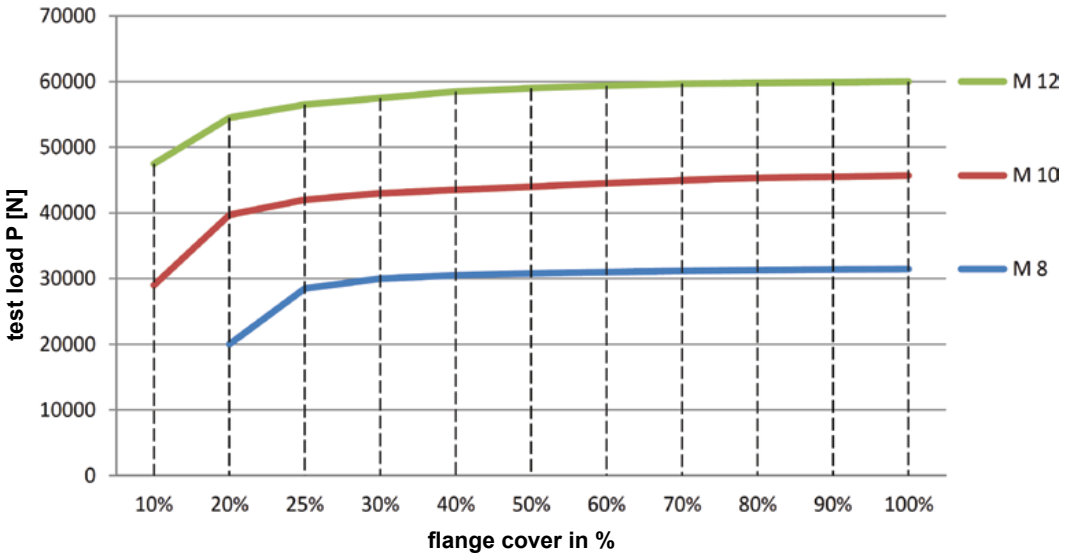
The BaerFix® Thread Insert has a larger effective surface, which ensures a higher degree of pull-out strength, i.e. an M 5 is often sufficient instead of a cut M 6 thread.

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

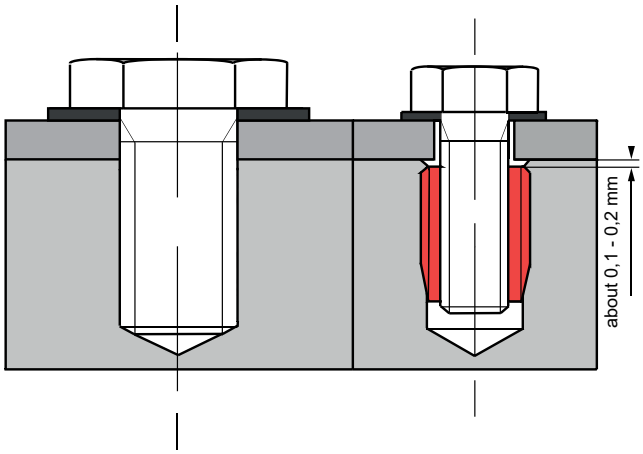
A BaerFix® Thread Insert is highly durable. Using in light alloys for example, helps achieving a pull-out strength which far exceeds the yield strength of a screw 8.8.

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.

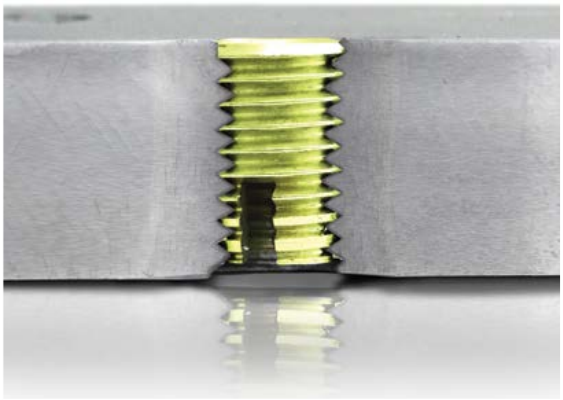
Applications

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

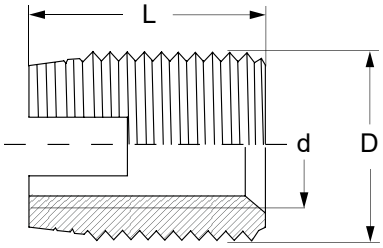
* on request

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 with cutting slots



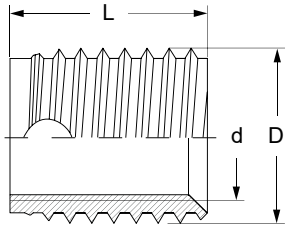
d	D	L	Case-hardened steel, zinc-plated, conform to RoHS			Stainless steel 1.4305 (AISI 303)			Brass		
			No.	packing unit	€ pack. unit	No.	packing unit	€ pack. unit	No.	packing unit	€ pack. unit
M											
M 2 x 0,4	M 4,5 x 0,5	6 mm	FE02	10	9,20						
			1-FE02	100	35,00						
M 2,5 x 0,45	M 4,5 x 0,5	6 mm	FE025	10	9,20						
			1-FE025	100	35,00						
M 3 x 0,5	M 5 x 0,5	6 mm	FE03	10	4,15	FA43	10	17,25			
			1-FE03	100	16,70	1-FA43	100	61,40	1-FMS43	100	12,00
M 4 x 0,7	M 6,5 x 0,75	8 mm	FE04	10	5,40	FA44	10	17,25			
			1-FE04	100	20,75	1-FA44	100	61,40	1-FMS44	100	16,50
M 5 x 0,8	M 8 x 1,0	10 mm	FE05	10	6,20	FA45	10	16,75			
			1-FE05	100	23,50	1-FA45	100	62,50	1-FMS45	100	21,50
M 6 x 1,0	M 9 x 1,0	12 mm	FE069	10	7,90	FA469	10	17,25			
			1-FE069	100	27,00	1-FA469	100	67,30	1-FMS469	100	*
M 6 x 1,0	M 10 x 1,5	14 mm	FE06	10	7,90	FA46	10	17,25			
			1-FE06	100	30,00	1-FA46	100	68,90	1-FMS46	100	28,90
M 8 x 1,25	M 12 x 1,5	15 mm	FE08	10	10,00	FA48	10	24,50			
			1-FE08	100	38,30	1-FA48	100	90,10	1-FMS48	100	44,80
M 10 x 1,5	M 14 x 1,5	18 mm	FE10	10	15,20	FA410	10	33,55			
			1-FE10	100	55,40	1-FA410	100	132,50	1-FMS410	100	71,50
M 12 x 1,5	M 16 x 1,5	22 mm	FE125	5	14,60						
			1-FE125	100	93,60						
M 12 x 1,75	M 16 x 1,5	22 mm	FE12	5	15,20	FA412	10	55,90			
			1-FE12	100	79,50	1-FA412	100	218,00	1-FMS412	100	*
M 14 x 1,5	M 18 x 1,5	24 mm	FE145	5	16,70						
M 14 x 2,0	M 18 x 1,5	24 mm	FE14	5	11,00						
			1-FE14	50	48,00						
M 16 x 2,0	M 20 x 1,5	22 mm	FE16	5	13,10	FA416	5	67,90			
			1-FE16	50	62,60	1-FA416	50	238,50	1-FMS416	50	*
M 18 x 2,5	M 22 x 1,5	24 mm	FE18	50	235,00						
M 20 x 2,5	M 26 x 1,5	27 mm	FE20	5	36,20	FA420	5	70,30			
			1-FE20	50	132,00	1-FA420	50	349,80			
M 22 x 2,5	M 26 x 1,5	30 mm	FE22	50	210,00						
M 24 x 3,0	M 30 x 1,5	30 mm	FE24	5	53,55						
			1-FE24	50	210,00	1-FA424	50	*			
UNC											
UNC 1/4 x 20*	M 10 x 1,5	14 mm	FE74	10	11,70						
			1-FE74	100	*						
UNC 5/16 x 18*	M 12 x 1,5	15 mm	FE75	10	14,90						
			1-FE75	100	*						
UNC 3/8 x 16*	M 14 x 1,5	18 mm	FE76	5	12,80						
			1-FE76	100	*						
UNC 7/16 x 14*	M 16 x 1,5	22 mm	FE77	5	15,50						
			1-FE77	100	*						
UNC 1/2 x 13*	M 18 x 1,5	22 mm	FE78	5	18,70						
			1-FE78	100	*						
UNC 5/8 x 11*	M 20 x 1,5	22 mm	FE79		*						
UNF											
UNF 1/4 x 28*	M 10 x 1,5	14 mm	FE84	10	11,70						
			1-FE84	100	*						
UNF 5/16 x 24*	M 12 x 1,5	15 mm	FE85	10	14,90						
			1-FE85	100	*						
UNF 3/8 x 24*	M 14 x 1,5	18 mm	FE86	5	12,80						
			1-FE86	100	*						
UNF 7/16 x 20*	M 16 x 1,5	22 mm	FE87	5	15,50						
			1-FE87	100	*						
UNF 1/2 x 20*	M 18 x 1,5	22 mm	FE88	5	18,70						
			1-FE88	100	*						
UNF 5/8 x 18*	M 20 x 1,5	22 mm	FE89		*						

Stainless steel 1.4105, and other materials on request

Please see borehole- and further technical information on page 22 - 23.

* prices are on request

BaerFix® Thread Inserts with cutting holes



Material
Case-hardened steel, zinc-plated, conform to RoHS

d	D	L	No.	packing unit	€ per pack. unit
M 3 x 0,5	M 5 x 0,6	4 mm	FEL03	10	6,30
			1-FEL03	100	25,50
M 4 x 0,7	M 6,5 x 0,8	6 mm	FEL04	10	7,70
			1-FEL04	100	30,90
M 4 x 0,7	M 6,5 x 0,8	8 mm	1-FELL04	100	32,00
M 5 x 0,8	M 8 x 1,0	7 mm	FEL05	10	8,40
			1-FEL05	100	33,80
M 5 x 0,8	M 8 x 1,0	10 mm	1-FELL05	100	35,20
M 6 x 1,0	M 10 x 1,25	8 mm	FEL06	10	8,80
			1-FEL06	100	38,60
M 6 x 1,0	M 10 x 1,25	12 mm	1-FELL06	100	43,90
M 8 x 1,25	M 12 x 1,5	9 mm	FEL08	10	10,70
			1-FEL08	100	42,70
M 8 x 1,25	M 12 x 1,5	14 mm	1-FELL08	100	53,00
M 10 x 1,5	M 14 x 1,5	10 mm	FEL10	10	14,50
			1-FEL10	100	57,00
M 10 x 1,5	M 14 x 1,5	18 mm	1-FELL10	100	67,00
M 12 x 1,75	M 16 x 1,75	12 mm	FEL12	10	19,95
			1-FEL12	100	80,00
M 12 x 1,75	M 16 x 1,75	22 mm	1-FELL12	100	101,00
M 16 x 2,0	M 20 x 2,0	14 mm	FELK16	5	15,75
			1-FELK16	50	85,00
M 16 x 2,0	M 20 x 2,0	24 mm	1-FEL16	50	93,50

Further dimensions on request

Material
Stainless steel 1.4305 (AISI 303)

d	D	L	No.	packing unit	€ per pack. unit
M 3 x 0,5	M 5 x 0,6	4 mm	FAL03	10	18,65
			1-FAL03	100	72,20
M 3 x 0,5	M 5 x 0,6	6 mm	1-FALL03	100	86,90
M 4 x 0,7	M 6,5 x 0,8	6 mm	FAL04	10	20,00
			1-FAL04	100	79,50
M 4 x 0,7	M 6,5 x 0,8	8 mm	1-FALL04	100	93,30
M 5 x 0,8	M 8 x 1,0	7 mm	FAL05	10	21,80
			1-FAL05	100	86,90
M 5 x 0,8	M 8 x 1,0	10 mm	1-FALL05	100	106,00
M 6 x 1,0	M 10 x 1,25	8 mm	FAL06	10	35,00
			1-FAL06	100	98,60
M 6 x 1,0	M 10 x 1,25	12 mm	1-FALL06	100	116,60
M 8 x 1,25	M 12 x 1,5	9 mm	FAL08	10	26,60
			1-FAL08	100	106,00
M 8 x 1,25	M 12 x 1,5	14 mm	1-FALL08	100	126,15
M 10 x 1,5	M 14 x 1,5	10 mm	FAL10	10	36,00
			1-FAL10	100	143,10
M 10 x 1,5	M 14 x 1,5	18 mm	1-FALL10	100	164,30
M 12 x 1,75	M 16 x 1,75	12 mm	FAL12	10	59,35
			1-FAL12	100	238,50

Further dimensions on request

BaerFix® Thread Inserts with cutting holes for spark plug

Material
Case-hardened steel, zinc-plated

d	D	L		No.	packing unit	€ pro VPE
M 10 x 1,0	special size	8 mm	12,4 mm	FE101008	5	13,50
M 10 x 1,0	special size	13 mm	12,4 mm	FE101013	5	13,50
M 12 x 1,25	special size	10 mm	14,5 mm	FE121210	5	13,50
M 12 x 1,25	special size	14 mm	14,5 mm	FE121214	5	13,50
M 14 x 1,25	M 17,7 x 1,25	9 mm	17,0 mm	FE141259	5	21,10
M 14 x 1,25	M 17,7 x 1,25	15 mm	17,0 mm	FE141251	5	26,45

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)

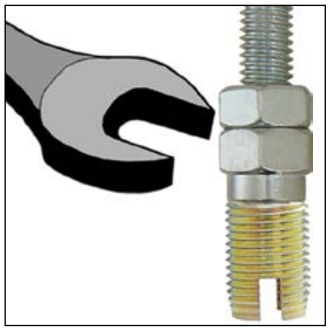
Installation by hand

1. Drilling

Clear the damaged thread with a drill bit or create a new hole in the parent material. For strong, hard and tough materials it is recommended to tap the thread (max. intermediate tap) before the installation of BaerFix® Inserts.

2. Screwing BaerFix® Insert on the inserting tool

Screw the BaerFix® Insert, with cutting slots or holes pointing downwards, on the inserting tool. Lock the BaerFix® Insert with the nut by wrench.

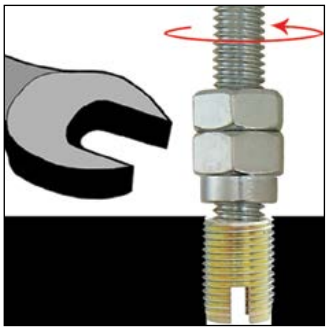


3. Installing the insert

Screw the BaerFix® Insert into the borehole. The BaerFix® Thread Insert is self-tapping. The inserting tool has a 1/4“ hexagonal shank and can be used by a cordless screwdriver or a wrench socket.

4. Screwing off the inserting tool

Unlock the counternut by a wrench and screw off the inserting tool. Created bolted connections with BaerFix® Inserts are vibration resistant, wear-free and have a high load capacity in materials with low shearing strength.



Installation by machine

1. Drilling

Clear the damaged thread with a drill bit or create a new hole in the parent material. For strong, hard and tough materials it is recommended to tap the thread (max. intermediate tap) before the installation of BaerFix® Inserts.

2. Configure the machine

Position the workpiece to ensure that hole and machine spindle are in alignment. Set the dimensions, speed values and driving depth (about 0,1 mm till 0,2 mm under the workpiece surface). Turn the external shell, so the stop pin can hold and drive the shell while rotating in clockwise direction. Screw the BaerFix® Insert, with cutting slots or holes pointing downwards, 2 till 4 windings on the inserting tool.

3. Installing the insert

Actuate the machine for screwing the insert into the hole, until the chosen driving depth is reached. Avoid a hard touchdown of the inserting tool on the workpiece to prevent damages on the inserting tool, thread insert or workpiece.

4. Screwing off the inserting tool

Set the machine on reverse running. The stop pin holds the shell while rotating in counterclockwise direction and screws out the inserting tool.

i Please see values for speed and installation torque on page 23.

BaerFix®
Thread Repair Kits

BaerFix® Thread Repair Kits - ECO

Drill Bit HSS
Inserting Tool with 1/4“ hexagonal drive
Adapter Nut - 1/4“ hexagonal drive to 10 mm hexagonal drive
BaerFix® Thread Insert with cutting slots
Material: Case-hardened steel, zinc-plated
Instruction for use

M ISO metric thread

					No.	€
M 2 x 0,4	EBS02*		4,20 mm	5	F001	18,90
M 2,5 x 0,45	EBS025*		4,20 mm	5	F002	18,90
M 3 x 0,5	KEBW03	NUT	4,70 mm	5	F003	18,90
M 4 x 0,7	KEBW04	NUT	6,10 mm	5	F004	18,90
M 5 x 0,8	KEBW05	NUT	7,50 mm	5	F005	19,90
M 6 x 1,0	KEBW06	NUT	9,30 mm	5	F006	18,90
M 8 x 1,25	KEBW08	NUT	11,40 mm	5	F008	21,00
M 10 x 1,5	KEBW10	NUT	13,25 mm	5	F010	26,30
M 12 x 1,5	KEBW1215	NUT	15,25 mm	5	F0125	54,35
M 12 x 1,75	KEBW12	NUT	15,25 mm	5	F012	30,50
M 14 x 1,5	BEBW1415*		17,00 mm	5	F0145	58,00
M 14 x 2,0	BEBW1420*		17,00 mm	5	F014	65,40
M 16 x 2,0	EBS16**		19,00 mm	5	F016	67,50
M 18 x 2,5	EBS18**		21,00 mm	5	F018	89,70
M 20 x 2,5	EBS20**		25,00 mm	5	F020	89,70

* Inserting Tool with 12 mm hexagonal drive instead of 1/4“ hexagonal drive

** with EBS-Inserting Tool instead of Inserting Tool with 1/4“ hexagonal drive

BaerFix® Thread Repair Kits - PRO

Drill Bit HSS
Countersink HSS with 1/4“ hexagonal drive
Inserting Tool with 1/4“ hexagonal drive
Adapter Nut - 1/4“ hexagonal drive to 10 mm hexagonal drive
BaerFix® Thread Insert with cutting slots
Material: Case-hardened steel, zinc-plated
Instruction for use

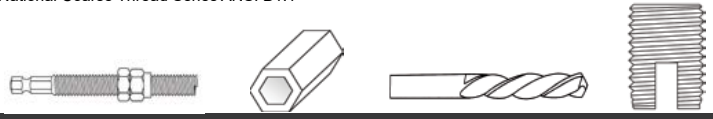
M ISO metric thread

						No.	€
M 3 x 0,5	KEBW03	NUT	10,4 mm	4,70 mm	10	F003P	30,10
M 4 x 0,7	KEBW04	NUT	10,4 mm	6,10 mm	10	F004P	30,10
M 5 x 0,8	KEBW05	NUT	10,4 mm	7,50 mm	10	F005P	30,10
M 6 x 1,0	KEBW06	NUT	10,4 mm	9,30 mm	10	F006P	30,10
M 8 x 1,25	KEBW08	NUT	16,5 mm	11,40 mm	10	F008P	34,30
M 10 x 1,5	KEBW10	NUT	16,5 mm	13,25 mm	10	F010P	41,00
M 12 x 1,75	KEBW12	NUT	16,5 mm	15,25 mm	10	F012P	47,50

BaerFix® Thread Repair Kits

Drill Bit HSS
Inserting Tool with 1/4“ hexagonal drive
Adapter Nut - 1/4“ hexagonal drive to 10 mm hexagonal drive
BaerFix® Thread Insert with cutting slots
Material: Case-hardened steel, zinc-plated
Instruction for use

UNC Unified National Coarse Thread Series ANSI B1.1



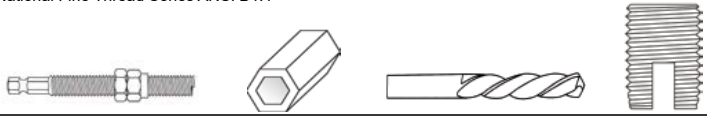
					No.	€
UNC 1/4 x 20	KEBW21	NUT	9,30 mm	5	FC001	48,40
UNC 5/16 x 18	KEBW22	NUT	11,40 mm	5	FC002	53,20
UNC 3/8 x 16	KEBW23	NUT	13,25 mm	5	FC003	69,50
UNC 7/16 x 14	KEBW24	NUT	15,25 mm	5	FC004	94,80
UNC 1/2 x 13	BEBW25*		17,00 mm	5	FC005	105,40

* Inserting Tool with 10 mm hexagonal drive instead of 1/4“ hexagonal drive

BaerFix® Thread Repair Kits

Drill Bit HSS
Inserting Tool with 1/4“ hexagonal drive
Adapter Nut - 1/4“ hexagonal drive to 10 mm hexagonal drive
BaerFix® Thread Insert with cutting slots
Material: Case-hardened steel, zinc-plated
Instruction for use

UNF Unified National Fine Thread Series ANSI B1.1

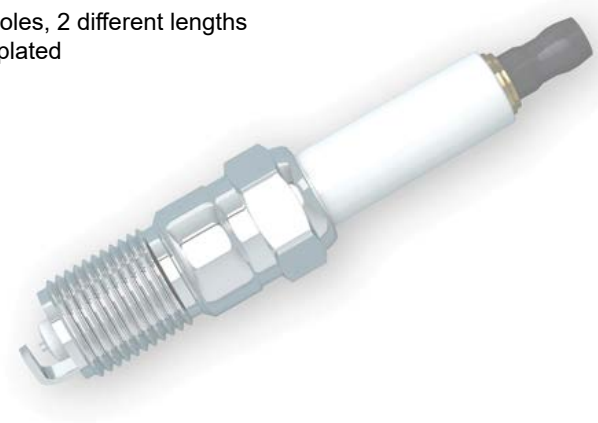


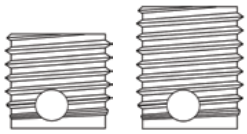
					No.	€
UNF 1/4 x 28	KEBW31	NUT	9,30 mm	5	FF001	48,40
UNF 5/16 x 24	KEBW32	NUT	11,40 mm	5	FF002	122,30
UNF 3/8 x 24	KEBW33	NUT	13,25 mm	5	FF003	63,20
UNF 7/16 x 20	KEBW34	NUT	15,25 mm	5	FF004	69,50
UNF 1/2 x 20	BEBW35*		17,00 mm	5	FF005	105,40

* Inserting Tool with 10 mm hexagonal drive instead of 1/4“ hexagonal drive

BaerFix® Thread Repair Kits for Spark Plug

Drill Bit with reduced shank (13 mm) HSS
Inserting Tool with hexagonal drive
BaerFix® Thread Insert with cutting holes, 2 different lengths
Material: Case-hardened steel, zinc-plated
Instruction for use



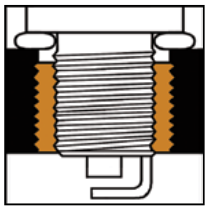


					No.	€
M 10 x 1,0	ZEBW10	12,40	8 mm 2	13 mm 2	F1010	52,50
M 12 x 1,25	ZEBW12	14,50	10 mm 2	14 mm 2	F12125	52,50
M 14 x 1,25	ZBEBW14	17,00	9 mm 2	15 mm 2	F14125	52,50

1. Drilling

2. Screwing a BaerFix® Insert on the inserting tool

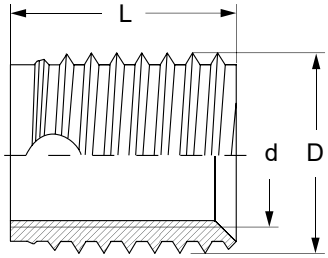
3. Installing the insert



4. Unlocking the counternut and screwing off the inserting tool

BaerFix® Thread Inserts with cutting holes for spark plug

Material
Case-hardened steel, zinc-plated



d	D	L		No.	packin unit	€ pro VPE
M 10 x 1,0	special size	8 mm	12,4 mm	FE101008	5	13,50
M 10 x 1,0	special size	13 mm	12,4 mm	FE101013	5	13,50
M 12 x 1,25	special size	10 mm	14,5 mm	FE121210	5	13,50
M 12 x 1,25	special size	14 mm	14,5 mm	FE121214	5	13,50
M 14 x 1,25	M 17,7 x 1,25	9 mm	17,0 mm	FE141259	5	21,10
M 14 x 1,25	M 17,7 x 1,25	15 mm	17,0 mm	FE141251	5	26,45

BaerFix® Thread Repair Workshop Kits

BaerFix® Thread Repair Workshop Kits - ECO

Drill Bit HSS
Inserting Tool with 1/4“ hexagonal drive
Adapter Nut - 1/4“ hexagonal drive to 10 mm hexagonal drive
BaerFix® Thread Insert with cutting slots
Material: Case-hardened steel, zinc-plated
Instruction for use

M 3 - M 12

					No.	€
M 3 x 0,5	KEBW03		4,70 mm	5		
M 4 x 0,7	KEBW04		6,10 mm	5		
M 5 x 0,8	KEBW05		7,50 mm	5		
M 6 x 1,0	KEBW06	NUT	9,30 mm	5	F312	156,40
M 8 x 1,25	KEBW08		11,40 mm	5		
M 10 x 1,5	KEBW10		13,25 mm	5		
M 12 x 1,75	KEBW12		15,25 mm	5		

M 5 - M 12

					No.	€
M 5 x 0,8	KEBW05		7,50 mm	5		
M 6 x 1,0	KEBW06		9,30 mm	5		
M 8 x 1,25	KEBW08	NUT	11,40 mm	5	F512	104,00
M 10 x 1,5	KEBW10		13,25 mm	5		
M 12 x 1,75	KEBW12		15,25 mm	5		

M 3 - M 10

					No.	€
M 3 x 0,5	KEBW03		4,70 mm	5		
M 4 x 0,7	KEBW04		6,10 mm	5		
M 5 x 0,8	KEBW05		7,50 mm	5		
M 6 x 1,0	KEBW06	NUT	9,30 mm	5	F310	103,90
M 8 x 1,25	KEBW08		11,40 mm	5		
M 10 x 1,5	KEBW10		13,25 mm	5		

BaerFix® Thread Repair Workshop Kits - ECO

Drill Bit HSS
Inserting Tool with 1/4“ hexagonal drive
Adapter Nut - 1/4“ hexagonal drive to 10 mm hexagonal drive
BaerFix® Thread Insert with cutting slots
Material: Case-hardened steel, zinc-plated
Instruction for use

UNC 1/4 - UNC 1/2

					No.	€
UNC 1/4 x 20	KEBW21		9,30 mm	5		
UNC 5/16 x 18	KEBW22		11,40 mm	5		
UNC 3/8 x 16	KEBW23	NUT	13,25 mm	5	FC300	461,00
UNC 7/16 x 14	KEBW24		15,25 mm	5		
UNC 1/2 x 13	BEBW25*		17,00 mm	5		

*Inserting Tool with 10 mm hexagonal drive instead of 1/4“ hexagonal drive

UNF 1/4 - UNF 1/2

					No.	€
UNF 1/4 x 28	KEBW31		9,30 mm	5		
UNF 5/16 x 24	KEBW32		11,40 mm	5		
UNF 3/8 x 24	KEBW33	NUT	13,25 mm	5	FF300	503,00
UNF 7/16 x 20	KEBW34		15,25 mm	5		
UNF 1/2 x 20	BEBW35*		17,00 mm	5		

*Inserting Tool with 10 mm hexagonal drive instead of 1/4“ hexagonal drive

BaerFix® Thread Repair Workshop Kits - PRO

Drill Bit HSS
Countersink HSS with 1/4“ hexagonal drive
Inserting Tool with 1/4“ hexagonal drive
Adapter Nut - 1/4“ hexagonal drive to 10 mm hexagonal drive
BaerFix® Thread Insert with cutting slots
Material: Case-hardened steel, zinc-plated
Instruction for use

M 3 - M 12

						No.	€
M 3 x 0,5	KEBW03	NUT	10,4 mm	4,70 mm	10	F312P	199,40
M 4 x 0,7	KEBW04			6,10 mm	10		
M 5 x 0,8	KEBW05			7,50 mm	10		
M 6 x 1,0	KEBW06			9,30 mm	10		
M 8 x 1,25	KEBW08		16,5 mm	11,40 mm	10		
M 10 x 1,5	KEBW10			13,25 mm	10		
M 12 x 1,75	KEBW12			15,25 mm	10		

M 5 - M 12

						No.	€
M 5 x 0,8	KEBW05	NUT	10,4 mm	7,50 mm	10	F512P	146,90
M 6 x 1,0	KEBW06			9,30 mm	10		
M 8 x 1,25	KEBW08		16,5 mm	11,40 mm	10		
M 10 x 1,5	KEBW10			13,25 mm	10		
M 12 x 1,75	KEBW12			15,25 mm	10		

M 3 - M 10

						No.	€
M 3 x 0,5	KEBW03	NUT	10,4 mm	4,70 mm	10	F310P	146,90
M 4 x 0,7	KEBW04			6,10 mm	10		
M 5 x 0,8	KEBW05			7,50 mm	10		
M 6 x 1,0	KEBW06			9,30 mm	10		
M 8 x 1,25	KEBW08		16,5 mm	11,40 mm	10		
M 10 x 1,5	KEBW10			13,25 mm	10		

BaerFix® Inserting Tools

BaerFix® Inserting Tools

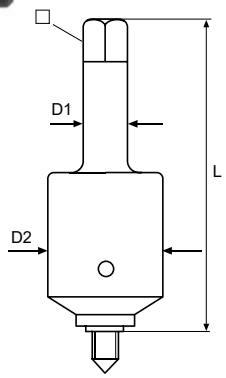
with 1/4“ hexagonal drive

	Length			No.	€
M 3 x 0,5	46,00 mm	5,50 mm	1/4“	1-KEBW03	8,60
M 4 x 0,7	48,00 mm	7,00 mm	1/4“	1-KEBW04	8,60
M 5 x 0,8	57,00 mm	8,00 mm	1/4“	1-KEBW05	8,60
M 6 x 1,0	62,00 mm	10,00 mm	1/4“	1-KEBW06	8,60
M 7 x 1,0	72,00 mm	11,00 mm	1/4“	1-KEBW07	9,00
M 8 x 1,25	72,00 mm	13,00 mm	1/4“	1-KEBW08	10,50
M 10 x 1,0	77,00 mm	17,00 mm	1/4“	1-KEBW1010	12,30
M 10 x 1,5	82,00 mm	17,00 mm	1/4“	1-KEBW10	12,30
M 12 x 1,25	79,00 mm	19,00 mm	1/4“	1-KEBW1212	13,50
M 12 x 1,5	79,00 mm	19,00 mm	1/4“	1-KEBW1215	13,50
M 12 x 1,75	92,00 mm	19,00 mm	1/4“	1-KEBW12	12,90
M 14 x 1,5	114,00 mm	19,00 mm	12 mm	BEBW1415	13,50
M 14 x 2,0	114,00 mm	19,00 mm	12 mm	BEBW1420	13,50
UNC 1/4 x 20	62,00 mm	7/16 "	1/4“	1-KEBW21	8,60
UNC 5/16 x 18	67,00 mm	1/2 "	1/4“	1-KEBW22	8,60
UNC 3/8 x 16	77,00 mm	9/16 "	1/4“	1-KEBW23	10,50
UNC 7/16 x 14	87,00 mm	11/16 "	1/4“	1-KEBW24	11,70
UNC 1/2 x 13	117,00 mm	3/4 "	10 mm	BEBW25	13,50
UNF 1/4 x 28	62,00 mm	7/16 "	1/4“	1-KEBW31	8,60
UNF 5/16 x 24	67,00 mm	1/2 "	1/4“	1-KEBW32	8,60
UNF 3/8 x 24	77,00 mm	9/16 "	1/4“	1-KEBW33	10,50
UNF 7/16 x 20	87,00 mm	11/16 "	1/4“	1-KEBW34	11,70
UNF 1/2 x 20	117,00 mm	3/4 "	10 mm	BEBW35	13,50

BaerFix® Machine Inserting Tools

with square drive

	D1	D2	L	□	No.	€
M 3 x 0,5	8 mm	18 mm	80 mm	6 mm	MEBW03	71,50
M 4 x 0,7	8 mm	18 mm	80 mm	6 mm	MEBW04	71,50
M 5 x 0,8	12,5 mm	30 mm	96,5 mm	10 mm	MEBW05	90,70
M 6 x 1,0	12,5 mm	30 mm	96,5 mm	10 mm	MEBW06	90,70
M 8 x 1,25	12,5 mm	30 mm	96,5 mm	10 mm	MEBW08	90,70
M 10 x 1,5	13 mm	40 mm	110 mm	10 mm	MEBW10	117,70
M 12 x 1,75	13 mm	40 mm	110 mm	10 mm	MEBW12	117,70
M 14 x 2,0	13 mm	40 mm	110 mm	10 mm	MEBW14	213,40
M 16 x 2,0	13 mm	40 mm	110 mm	10 mm	MEBW16	226,60



Please see values for speed and installation torque on page 23.

BaerFix® Inserting Tools for spark plug

with hexagonal drive

	Length		No.	€
M 10 x 1,0	128,00 mm	17 mm	ZEBW10	16,70
M 12 x 1,25	128,00 mm	19 mm	ZEBW12	17,75
M 14 x 1,25	128,00 mm	19 mm	ZEBW14	18,80

BaerFix® Drill Bits

DIN 338 - HSS Straight Shank Drill Bit

DIN 338-A - HSS Reduced Shank Drill Bit (13 or 16 mm)

DIN 345 - HSS Morse Taper Shank Drill Bit

Ø	M	M	UNC	UNF	BSW	DIN	No.	€
4,20 mm	M 2 x 0,4	M 2,5 x 0,45				338	16142	1,20
4,70 mm	M 3 x 0,5		UNC 4 x 40	UNF 4 x 40		338	16147	1,10
5,60 mm	M 3,5 x 0,6		UNC 6 x 32	UNF 6 x 40		338	16156	1,90
6,10 mm	M 4 x 0,7		UNC 8 x 32	UNF 8 x 36		338	16161	2,10
7,50 mm	M 5 x 0,8		UNC 10 x 24	UNF 10 x 32		338	16175	2,80
9,30 mm	M 6 x 1,0		UNC 1/4 x 20	UNF 1/4 x 28	BSW 1/4 x 20	338	16193	4,00
11,30 mm	M 8 x 1,25		UNC 5/16 x 18	UNF 5/16 x 24	BSW 5/16 x 18	338	161113	7,30
12,40 mm	M 10 x 1,0*					338-A	161124	8,90
13,25 mm	M 10 x 1,5		UNC 3/8 x 16	UNF 3/8 x 24	BSW 3/8 x 16	338-A	111132	17,30
14,50 mm	M 12 x 1,25*					338-A	111145	16,00
15,25 mm	M 12 x 1,75		UNC 7/16 x 14	UNF 7/16 x 20	BSW 7/16 x 14	338-A	111152	25,00
17,00 mm	M 14 x 2,0	M 14 x 1,25*	UNC 1/2 x 13	UNF 1/2 x 20	BSW 1/2 x 13	338-A	111170	31,30
19,00 mm	M 16 x 2,0		UNC 5/8 x 11	UNF 5/8 x 18	BSW 5/8 x 11	338-A	111190	31,30
21,00 mm	M 18 x 2,5					338-A	111210	42,50
25,00 mm	M 20 x 2,5	M 22 x 2,5	UNC 3/4 x 10	UNF 3/4 x 16		338-A	111250	57,80
29,00 mm	M 24 x 3,0					338-A	111290	78,80
33,00 mm	M 27 x 3,0					345	130330	173,20
35,00 mm	M 30 x 3,5					345	130350	194,20

* for spark plug thread inserts

The drill bit diameters are approximate diameters. Brittle, tough and hard materials need a larger borehole than soft or elastic materials.

BaerFix® Countersink HSSG

with 1/4“ hexagonal drive
to countersink a borehole

Ø	M	UNC	UNF	BSW	⬡	No.	€
10,4 mm	M 2 x 0,4 - M 6 x 1,0	UNC 4 x 40 – UNC 1/4	UNF 4 x 48 – UNF 1/4		1/4“	B9402	9,35
16,5 mm	M 8 x 1,25 - M 12 x 1,75	UNC 5/16 – UNC 7/16	UNF 5/16 – UNF 7/16	BSW 1/4 – BSW 7/16	1/4“	B9403	10,40

Generally it is not necessary to countersink the bore hole. However, we do recommend a countersink to avoid warping the workpiece surface when screwing in the insert.

BaerFix® Adapter Nut

1/4“ internal hexagon to 10 mm outside hexagon

internal hexagon	external hexagon	No.	€
1/4“	10 mm	B9501	3,35

BaerFix®
Technical Information

Recommended borehole diameter

		BaerFix® Thread Inserts with cutting slots				BaerFix® Thread Inserts with cutting holes			
materials	Light alloys tensile strength [N/mm²]	< 250 N/mm²	< 300 N/mm²	< 350 N/mm²	> 350 N/mm²	< 300 N/mm²	< 350 N/mm²	> 350 N/mm²	
	Brass, NF-metals, bronze				> 350 N/mm²			> 350 N/mm²	
	Cast iron brinell hardness [HB]	< 150 HB	< 150 HB	< 200 HB	> 200 HB	< 150 HB	< 200 HB	> 200 HB	
internal thread	**M 2 x 0,4**		4,1 mm	4,2 mm	4,3 mm				
	M 2,5 x 0,45		4,1 mm	4,2 mm	4,3 mm				
	M 3 x 0,5		4,6 mm	4,7 mm	4,8 mm	4,6 mm	4,7 mm		4,8 mm
	M 4 x 0,7	5,9 mm	6,0 mm	6,1 mm	6,2 mm	6,0 mm	6,1 mm		6,2 mm
	M 5 x 0,8	7,2 mm	7,3 mm	7,5 mm	7,6 mm	7,4 mm	7,5 mm	7,6 mm	7,7 mm
	M 6 x 1,0 thin walled	8,2 mm	8,3 mm	8,5 mm	8,6 mm				
	M 6 x 1,0	8,8 mm	9,0 mm	9,2 mm	9,4 mm	9,3 mm	9,4 mm	9,5 mm	9,6 mm
	M 8 x 1,25	10,8 mm	11,0 mm	11,2 mm	11,4 mm	11,1 mm	11,2 mm	11,3 mm	11,5 mm
	M 10 x 1,5	12,8 mm	13,0 mm	13,2 mm	13,4 mm	13,1 mm	13,2 mm	13,3 mm	13,5 mm
	M 12 x 1,75	14,8 mm	15,0 mm	15,2 mm	15,4 mm	15,0 mm	15,1 mm	15,2 mm	15,4 mm
	M 14 x 2,0	16,8 mm	17,0 mm	17,2 mm	17,4 mm	17,0 mm	17,1 mm	17,2 mm	17,4 mm
	M 16 x 2,0	18,8 mm	19,0 mm	19,2 mm	19,4 mm	19,0 mm	19,1 mm	19,2 mm	19,4 mm
	M 18 x 2,5	20,8 mm	21,0 mm	21,2 mm	21,4 mm				
	M 20 x 2,5	24,8 mm	25,0 mm	25,2 mm	25,4 mm				
	M 22 x 2,5	24,8 mm	25,0 mm	25,2 mm	25,4 mm				
	M 24 x 3,0	28,8 mm	29,0 mm	29,2 mm	29,4 mm				
	M 27 x 3,0	32,8 mm	33,0 mm	33,2 mm	33,4 mm				
	M 30 x 3,5	34,8 mm	35,0 mm	35,2 mm	35,4 mm				
	Flange cover	ca. 60%	ca. 50%	ca. 40%	ca. 30%	ca. 80%	ca. 70%	ca. 60%	ca. 50%
		possibly lubrication required				possibly lubrication required			

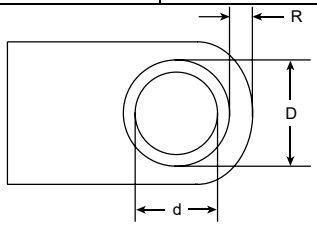
Minimum wall thickness for BaerFix® inserts

	BaerFix® Thread Inserts with cutting slots			BaerFix® Thread Inserts with cutting holes		
	light alloys	cast iron	plastics	light alloys	cast iron	plastics
M 2 x 0,4	0,90 mm	1,35 mm	1,13 mm			
M 2,5 x 0,45	0,90 mm	1,35 mm	1,13 mm			
M 3 x 0,5	1,00 mm	1,50 mm	1,25 mm	1,00 mm	1,50 mm	1,25 mm
M 4 x 0,7	1,30 mm	1,95 mm	1,63 mm	1,30 mm	1,95 mm	1,63 mm
M 5 x 0,8	1,60 mm	2,40 mm	2,00 mm	1,60 mm	2,40 mm	2,00 mm
M 6 x 1,0	2,00 mm	3,00 mm	2,50 mm	2,00 mm	3,00 mm	2,50 mm
M 8 x 1,25	2,40 mm	3,60 mm	3,00 mm	2,40 mm	3,60 mm	3,00 mm
M 10 x 1,5	2,80 mm	4,20 mm	3,50 mm	2,80 mm	4,20 mm	3,50 mm
M 12 x 1,75	3,20 mm	4,80 mm	4,00 mm	3,20 mm	4,80 mm	4,00 mm
M 14 x 2,0	3,60 mm	5,40 mm	4,50 mm	3,60 mm	5,40 mm	4,50 mm
M 16 x 2,0	4,00 mm	6,00 mm	5,00 mm	4,00 mm	6,00 mm	5,00 mm
M 18 x 2,5	4,40 mm	6,60 mm	5,50 mm			
M 20 x 2,5	5,20 mm	7,80 mm	6,50 mm			
M 22 x 2,5	5,20 mm	7,80 mm	6,50 mm			
M 24 x 3,0	6,00 mm	9,00 mm	7,50 mm			
M 27 x 3,0	6,80 mm	10,20 mm	8,50 mm			
M 30 x 3,5	7,20 mm	10,80 mm	9,00 mm			

Calculation for minimum values

d = internal diameter BaerFix® Insert
D = external diameter BaerFix® Insert
R = remaining wall thickness

R_{min} (light alloys) = 0,2 x D
R_{min} (cast iron) = 0,3 x D
R_{min} (plastics) = 0,25 x D



Minimal borehole depth

Internal Thread	BaerFix® Thread Inserts with cutting slots  Min. borehole depth for through holes	Min. borehole depth for blind holes
M 2 x 0,4	6,00 mm	8,00 mm
M 2,5 x 0,45	6,00 mm	8,00 mm
M 3 x 0,5	6,00 mm	8,00 mm
M 4 x 0,7	8,00 mm	10,00 mm
M 5 x 0,8	10,00 mm	13,00 mm
M 6 x 1,0	14,00 mm	17,00 mm
M 8 x 1,25	15,00 mm	18,00 mm
M 10 x 1,5	18,00 mm	22,00 mm
M 12 x 1,75	22,00 mm	26,00 mm
M 14 x 2,0	24,00 mm	28,00 mm
M 16 x 2,0	22,00 mm	27,00 mm
M 18 x 2,5	24,00 mm	29,00 mm
M 20 x 2,5	27,00 mm	32,00 mm
M 22 x 2,5	30,00 mm	36,00 mm
M 24 x 3,0	30,00 mm	36,00 mm
M 27 x 3,0	30,00 mm	36,00 mm
M 30 x 3,5	40,00 mm	46,00 mm

Internal Thread	Length	BaerFix® Thread Inserts with cutting holes  Min. borehole depth for through holes	Min. borehole depth for blind holes
M 3 x 0,5	4,00 mm	4,00 mm	6,00 mm
M 3 x 0,5	6,00 mm	6,00 mm	8,00 mm
M 4 x 0,7	6,00 mm	6,00 mm	8,00 mm
M 4 x 0,7	8,00 mm	8,00 mm	10,00 mm
M 5 x 0,8	7,00 mm	7,00 mm	9,00 mm
M 5 x 0,8	10,00 mm	10,00 mm	13,00 mm
M 6 x 1,0	8,00 mm	8,00 mm	10,00 mm
M 6 x 1,0	12,00 mm	12,00 mm	15,00 mm
M 8 x 1,25	9,00 mm	9,00 mm	11,00 mm
M 8 x 1,25	14,00 mm	14,00 mm	17,00 mm
M 10 x 1,5	10,00 mm	10,00 mm	13,00 mm
M 10 x 1,5	18,00 mm	18,00 mm	22,00 mm
M 12 x 1,75	12,00 mm	12,00 mm	15,00 mm
M 12 x 1,75	22,00 mm	22,00 mm	26,00 mm
M 16 x 2,0	24,00 mm	24,00 mm	28,00 mm

Internal Thread	BaerFix® Thread Inserts with cutting slots  Min. borehole depth for through holes	Min. borehole depth for blind holes
UNC 4 x 40	6,00 mm	8,00 mm
UNC 6 x 32	8,00 mm	10,00 mm
UNC 8 x 32	8,00 mm	10,00 mm
UNC 10 x 24	10,00 mm	13,00 mm
UNC 1/4 x 20	14,00 mm	17,00 mm
UNC 5/16 x 18	15,00 mm	18,00 mm
UNC 3/8 x 16	18,00 mm	22,00 mm
UNC 7/16 x 14	22,00 mm	26,00 mm
UNC 1/2 x 13	22,00 mm	28,00 mm
UNC 5/8 x 11	22,00 mm	27,00 mm

Internal Thread	BaerFix® Thread Inserts with cutting slots  Min. borehole depth for through holes	Min. borehole depth for blind holes
UNF 4 x 48	6,00 mm	8,00 mm
UNF 6 x 40	8,00 mm	10,00 mm
UNF 8 x 36	8,00 mm	10,00 mm
UNF 10 x 32	10,00 mm	13,00 mm
UNF 1/4 x 28	14,00 mm	17,00 mm
UNF 5/16 x 24	15,00 mm	18,00 mm
UNF 3/8 x 24	18,00 mm	22,00 mm
UNF 7/16 x 20	22,00 mm	26,00 mm
UNF 1/2 x 20	22,00 mm	28,00 mm
UNF 5/8 x 18	22,00 mm	27,00 mm

Tolerances

BaerFix® Inserts are produced according to ISO 2768-m
Internal metric threads: ISO 6H
External metric threads: works standard

Recommended values for machine installation

Speed values for light alloys

BaerFix® Internal Thread	Speed per min
M 2,5 - M 3	650 - 900
M 4 - M 5	400 - 600
M 6 - M 8	280 - 400
M 10 - M 12	200 - 300
M 14 - M 16	150 - 200
M 18 - M 20	120 - 200
M 22 - M 24	100 - 160
M 27 - M 30	80 - 140

Values for installation torque

BaerFix® Internal Thread	Torque [Nm]
M 2,5 x 0,45	1,5 Nm
M 3 x 0,5	2,5 Nm
M 4 x 0,7	5,5 Nm
M 5 x 0,8	10,0 Nm
M 6 x 1,0	15,0 Nm
M 8 x 1,25	28,0 Nm
M 10 x 1,5	40,0 Nm
M 12 x 1,75	60,0 Nm

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