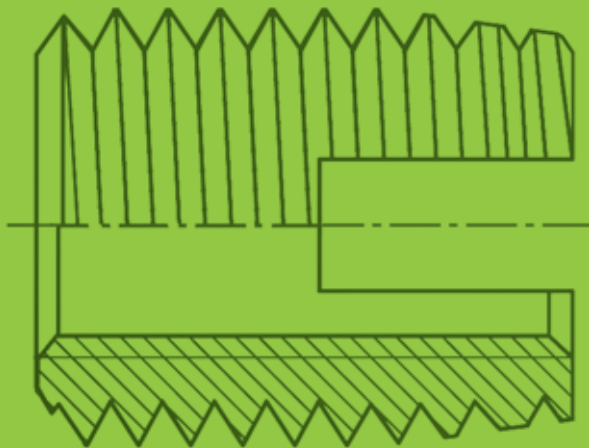


Threaded inserts for metal

Ensaf®
Mubux®-Z
Mubux®-M0



Technical publication

No.20



Dimensions	Product features	Retaining hole	Specifications	Other details
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Threaded inserts from KerbKonus ...

Tested quality; Test methods				Page 2 and 3
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Installation				Page 6

Installation tools / Montage

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Machine installation				Page 10
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M3,5 to M12	self-tapping with	Form cast	347 0 / 348 0	Page 23
	3 cutting bores	or drilled		

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M5 to M16	self-tapping with	Form cast	307 4 / 308 4	Page 24
	3 cutting bores	or drilled		

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M4 to M16	self-tapping with	Form cast	317 0 / 318 0	Page 25
	3 cutting bores	or drilled		

Ensats®-SBT 357 0 / 358 0

M4 to M12	self-tapping with	Form cast	357 0 / 358 0	Page 26
	3 cutting bores	or drilled		

Mubux®-Z 890 0

M4 to M6	Threaded insert	Form cast	890 0	Page 27
	for embedding	or drilled		

Mubux®-M/-MO 970 0

M3 to M12	Outside coated	drilled and	970 0	Page 28 and 29
	with precote® 80 for	tapped thread		
	anti-rotation and sealing	(standard thread)		

Ensats®-assortment and Repair kit

Repair kit				Page 30
Assortment				Page 31

Mubux®-Z – press-in threaded inserts ...



Mubux®-Z is a press-in threaded insert made of hardened and zinc-plated steel with helical annular gear around the outside.

Application range

For screw fasteners in cast components made of NF metal – primarily light alloy, for through holes and blind holes.

Mounting

Mubux®-Z is simply pressed into a normal borehole. The retaining hole is drilled or provided for during the casting processes.

Mubux®-Z is inserted with the guiding shoulder pointing downwards into the borehole. The press die should be smooth (if applicable polished) in order not to impede the rotary movement of the Mubux®-Z during the pressin process.

Product features

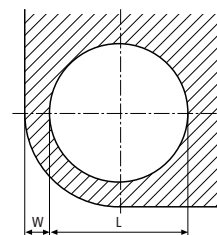
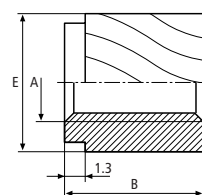
- simple assembly
- limited assembly costs thanks to press-in operations
- wear-resistant female thread
- no reaming

Press-in threaded insert

Mubux®-Z
Works Standard
890

Application

For the creation of wear-resistant screw joints with high load capability in cast alloy components. Suitable for through holes and blind holes.



Dimensions in mm

Article number	Internal thread A	External diameter E	Length B	Recommended retaining hole ¹⁾ L +0,1	Minimum spacing W
890 000 040.112	M 4	7,7	6,9	7,2	2,4
890 000 050.112	M 5	7,7	6,9	7,2	2,4
890 000 060.112	M 6	10,3	9,5	9,6	3,0

¹⁾ Reference values only. Trials on the resp. materials are recommended.

Example for finding the article number

Press-in threaded insert Mubux®-Z with internal thread A = M4 made of hardened, zinc plated, thick film passivated steel: Mubux®-Z 890 000 040.112

Material

Hardened steel, zinc plated, thick film passivated

Tolerances

ISO 2768-m

Thread

Internal thread: ISO 6H

Mubux®-MO – the coated threaded insert ...

Threaded insert Mubux®-MO is made of zinc-plated steel, with internal and external threads. It is coated on the outside with precote® 80.

Application range

Mubux®-MO is used wherever a vibration-free firm fit and extremely good sealing properties are required in addition to a high thread load capacity and wear resistance. It is suitable for a wide range of different materials from plastic to steel, for minimal wall thicknesses and extremely brittle materials.

Product features

- Low installation costs
- Simple installation without the need for costly special tools
- Exchange of threaded inserts without tool damage

precote® 80 coating

precote® 80 is a microcapsule acrylic-based pre-coating. When screwed into a nut thread, the capsules break open and the plastic flux begins to harden. This creates a firm, water-tight joint. Hand-tight after approx. 20 minutes, full loading capability after 24 hours.

precote® 80 coating is also available in different kind of colours.

Other coating variants for screw locking and thread sealing are described in more detail in our publication no. 60.

Installation

1. Drill the retaining hole.
2. Tap the thread with a standard thread tap.
3. Screw in the MO with simple tools; either manually, semi-automatically or fully automatic.

All Ensaf® driving tools and machines can also be used for Mubux®-MO.

Installing under pre-tension increases the breakaway torque.

Important: The parts must be free of oil and grease prior to installation.





Threaded insert

coated with precote® 80 microcapsules
recommended lengths

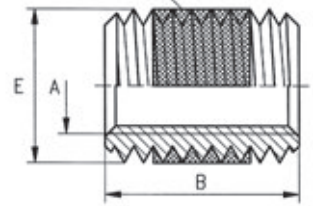
Mubux®-M/MO
Works Standard
970

Application

For the creation of wear-resistant screw joints with good load capability in formend components made of light alloy, cast iron and steel.

Suitable for through holes and blind holes.

360° precote® 80 coated



Dimensions in mm

Article number first group of digits	Length ¹⁾ B	Article number second and third group of digits	Internal thread A	External thread E	Standard length ¹⁾ B			
					1 A	1,5 A	2 A	2,5 A
971	1 A	... 000 030 ...	M 3	M 5		4,5	6	
972	1,5 A	... 000 040 ...	M 4	M 6		6	8	10
973	2 A	... 000 050 ...	M 5	M 7		7,5	10	12,5
974	2,5 A	... 000 060 ...	M 6	M 8		9	12	15
		... 000 080 ...	M 8	M 12		12	16	20
		... 000 100 ...	M 10	M 14		15	20	25
		... 000 120 ...	M 12	M 16	12	18	24	30

¹⁾ Tolerance $\pm 0,25$ mm

Example for finding the article number

Threaded insert Mubux®-MO with internal thread A = M6, length B = 12 mm made of zinc plated and blue passivated steel and coated with microcapsule-based adhesive precote® 80: Mubux®-MO 973 000 060.101, without coating: Mubux®-M 973 000 060.110

Materials

Zinc plated, blue passivated steel; coated with precote® 80
Zinc plated, blue passivated steel; without coating

Article no. (fourth group of digits) 101
Article no. (fourth group of digits) 110

Other materials, designs (e. g. fine thread) and finishes on request.

Thread

Internal thread A: as per ISO 6H • External thread E: screwable in standard thread

Coating

Microcapsule pre-coating on an acrylic basis precote® 80,
maximum storage capability 4 years at room temperature.

Recommended length

Dimensions in mm

Workpiece shear strength N/mm²	Tensile strength of screw	Recommended length				
		M 3	M 4	M 5	M 6/M 8/M 10	M 12
≥ 70	4.8	2 A	1,5 A	2 A	2 A	—
≥ 140	4.8	2 A	1,5 A	2 A	1,5 A	1 A
	6.8	2 A	1,5 A	2 A	1,5 A	1,5 A
	8.8	2 A	1,5 A	2 A	2 A	2 A
≥ 210	6.8	2 A	1,5 A	2 A	1,5 A	1 A
	8.8	2 A	1,5 A	2 A	1,5 A	1,5 A
	12.9	2 A	1,5 A	2 A	1,5 A	2 A
	14.9	2 A	2 A	2 A	2 A	2,5 A
≥ 280	6.8	2 A	1,5 A	2 A	1,5 A	1 A
	8.8/12.9	2 A	1,5 A	2 A	1,5 A	1,5 A
	14.9	2 A	1,5 A	2 A	1,5 A	2 A

Example

Shearing strength of the workpiece appr. 140 N/mm², screw M6, strength class 8.8
Recommended length: 2A = 2x6 mm = 12 mm.

Thread repair with Ensat® ...

The Ensat® repair set

The Ensat® repair set was put together specifically for repairing broken threads.

It comprises:


- 1 tap wrench
- 1 HSS drill
- 1 manual driving tool
- 10 threaded inserts

Available with the following Ensat® types

- Ensat®-SB* M 4 to M 12
- Ensat®-SBE* M 5 to M 12

*Information: Ensat®-SB see page 16; Ensat®-SBE see page 24



	Ensat® repair set	Ensat® Works Standard 300																																					
<table><tr><th>Article number (repair set)</th><th>Thread</th><th>Length B</th><th>Number of threaded inserts</th><th>Article number (Threaded insert)</th></tr><tr><td>300 308 040 ...</td><td>M 4</td><td>8</td><td>10</td><td>308 000 040 ...</td></tr><tr><td>300 308 050 ...</td><td>M 5</td><td>10</td><td>10</td><td>308 000 050 ...</td></tr><tr><td>300 308 060 ...</td><td>M 6</td><td>12</td><td>10</td><td>308 000 060 ...</td></tr><tr><td>300 308 080 ...</td><td>M 8</td><td>14</td><td>10</td><td>308 000 080 ...</td></tr><tr><td>300 308 100 ...</td><td>M 10</td><td>18</td><td>10</td><td>308 000 100 ...</td></tr><tr><td>300 308 120 ...</td><td>M 12</td><td>22</td><td>10</td><td>308 000 120 ...</td></tr></table>	Article number (repair set)	Thread	Length B	Number of threaded inserts	Article number (Threaded insert)	300 308 040 ...	M 4	8	10	308 000 040 ...	300 308 050 ...	M 5	10	10	308 000 050 ...	300 308 060 ...	M 6	12	10	308 000 060 ...	300 308 080 ...	M 8	14	10	308 000 080 ...	300 308 100 ...	M 10	18	10	308 000 100 ...	300 308 120 ...	M 12	22	10	308 000 120 ...				
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Materials	Case-hardened steel, zinc plated, blue passivated Stainless steel 1.4305			Article no. (fourth group of digits) 110 Article no. (fourth group of digits) 500																																			
Thread	Female thread: ISO 6H																																						
Tolerances	ISO 2768-m																																						



Ensats® assortment box

Ensats®
Works Standard 300

The Ensats® assortment box comprises 315 different threaded inserts type Ensats®-S of Works Standard series 302 in 12 dimensions from M2,5 to M16.



Article number	Thread	Length B	Number of threaded inserts	Thread	Length B	Number of threaded inserts	Thread	Length B	Number of threaded inserts
300 000 003 ...	M 2,5	6	50	M 5	10	40	M 10	18	8
	M 3	6	50	M 6(a)	12	25	M 12	22	5
	M 3,5	8	50	M 6	14	20	M 14	24	3
	M 4	8	50	M 8	15	12	M 16	22	2

Materials Case-hardened steel, zinc plated, blue passivated
Stainless steel 1.4305

Article no. (**fourth** group of digits) ... 110
Article no. (**fourth** group of digits) ... 500

Thread Female thread: ISO 6H

Tolerances ISO 2768-m



Ensats® installation assortment box

Ensats®
Works Standard 300

The Ensats® installation assortment box comprises 260 different threaded inserts type Ensats®-S of Works Standard series 302, in 4 dimensions from M4 to M8 with the relevant driving tool.



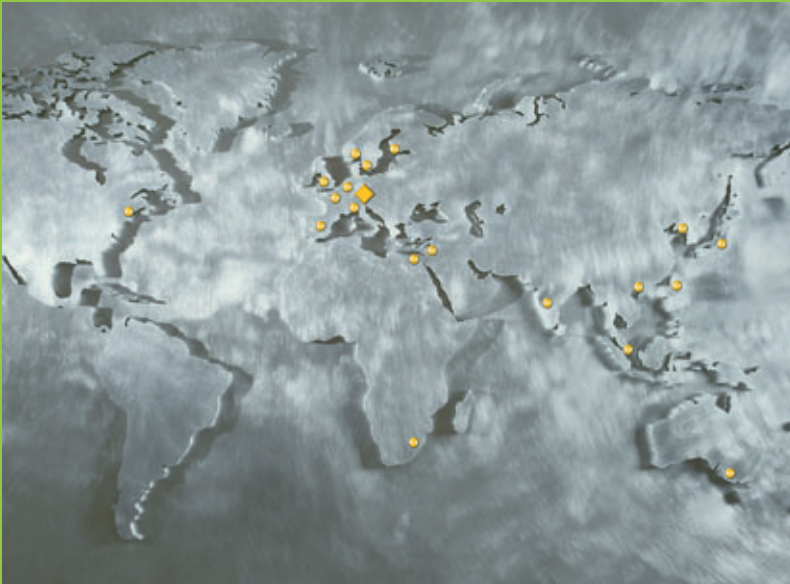
Article number	Thread	Length B	Number of threaded inserts	Tool	Tap wrench
300 000 007 ...	M 4	8	80	1	1
	M 5	10	80	1	
	M 6	14	50	1	
	M 8	15	50	1	

Materials Case-hardened steel, zinc plated, blue passivated
Stainless steel 1.4305

Article no. (**fourth** group of digits) ... 110
Article no. (**fourth** group of digits) ... 500

Thread Female thread: ISO 6H

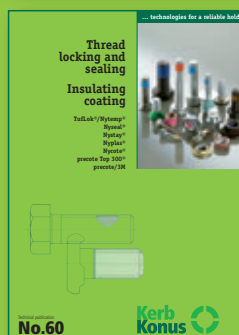
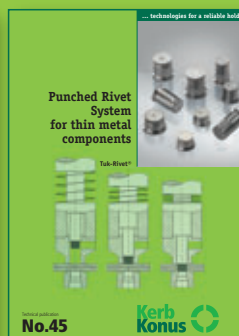
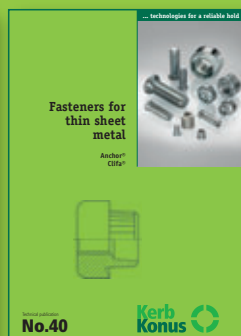
Tolerances ISO 2768-m



KerbKonus – close to its customers. Around the world. Across every sector of industry.

First and foremost, for you customer proximity means a rapid response to your requirements and the fast, efficient realisation of the right fastening solution for you.

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for further products and applications
get in our technical publications.



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