EMUGE

SELF LOCK™
INTEGRATED THREAD LOCKING TOOLS

Get a Lock on Your Safety Critical Threading Applications with EMUGE

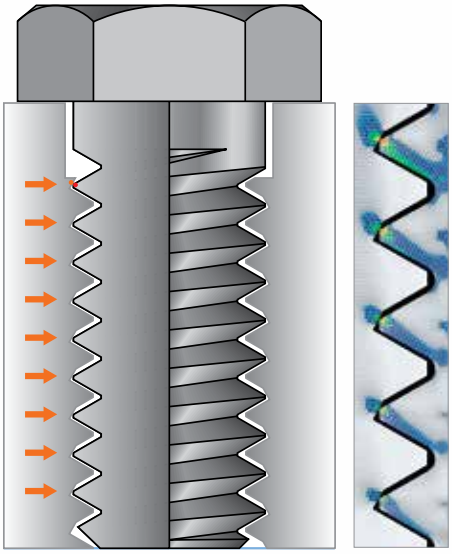
Now Emuge's legendary thread making tool quality is available in an integrated thread locking system; SELF-LOCK. Our special SELF-LOCK threading tools offer a high quality alternative in thread locking for applications in aerospace, medical, communications, transportation industries and more.

SELF LOCK™ EMUGE Thread Locking Technology.

A proven thread design, Emuge SELF-LOCK Threading Tools have been successfully working in thousands of safety critical manufacturing applications.

In an ideal screw connection for high-stress situations, where there is a standard external thread in an EMUGE SELF-LOCK internal thread, the internal thread yields a self-locking screw connection that can be used repeatedly. The special profile of the SELF-LOCK thread allows an even distribution of stress over the entire thread length and therefore eliminates slippage.

EMUGE SELF-LOCK Screw Connection

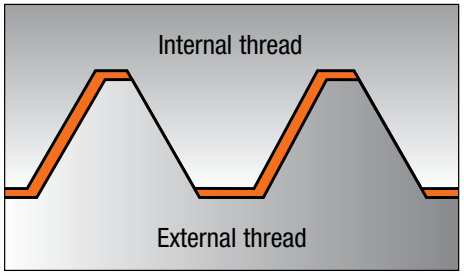


Shows even distribution of force over the entire length of the thread

EMUGE Thread Locking at Work

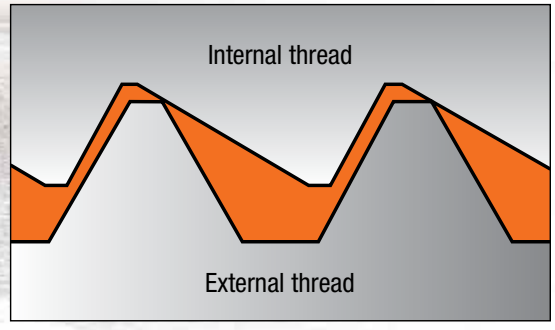
- The thread locking feature is integrated in the internal thread
- Modified profile with ramp surface in the direction of stress
- 30 degree ramp surface provides self-locking effect
- Easy assembly
- No assembly errors possible (forgetting the locking device)
- Use of standard external threads (screws) with tolerance class "medium"
- Even distribution of stress over the entire thread length
- **No stripping of threads**
- Economically efficient locking system, no additional components are necessary
- Constant, maximum holding power even under dynamic stress
- Repeated loosening and re-tightening without loss of function
- Internal threads can be produced with EMUGE taps, cold forming taps or thread mills
- Larger thread hole diameters – increased tool life for threading tools
- Larger tolerances for thread hole diameters

Standard thread

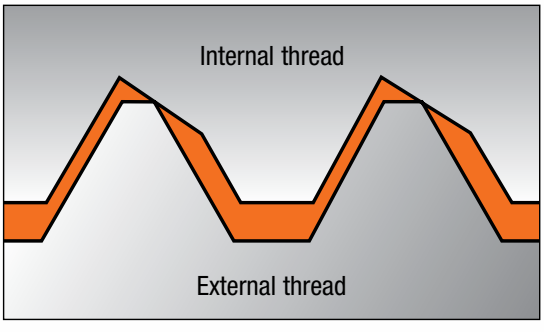


EMUGE SELF LOCK™ Threads

Saw-tooth profile up to pitch P ≤ 0.7 mm

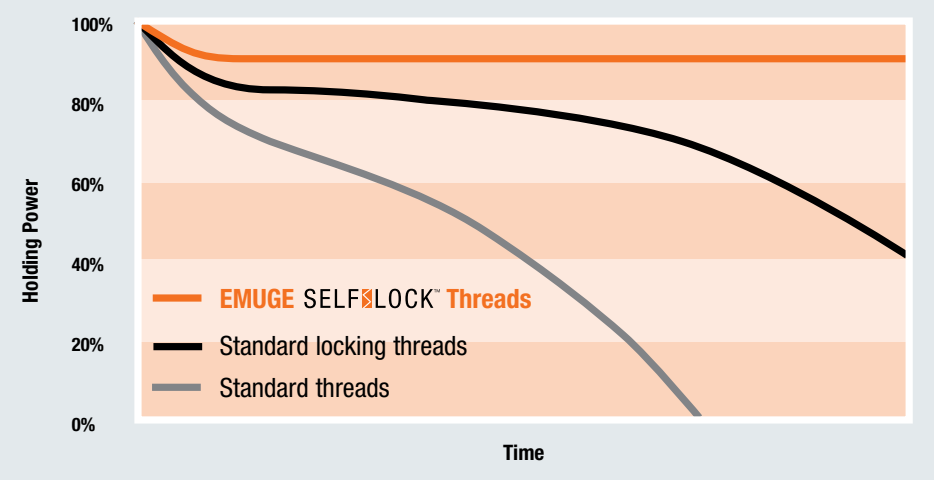


Standard profile from pitch P > 0.7 mm



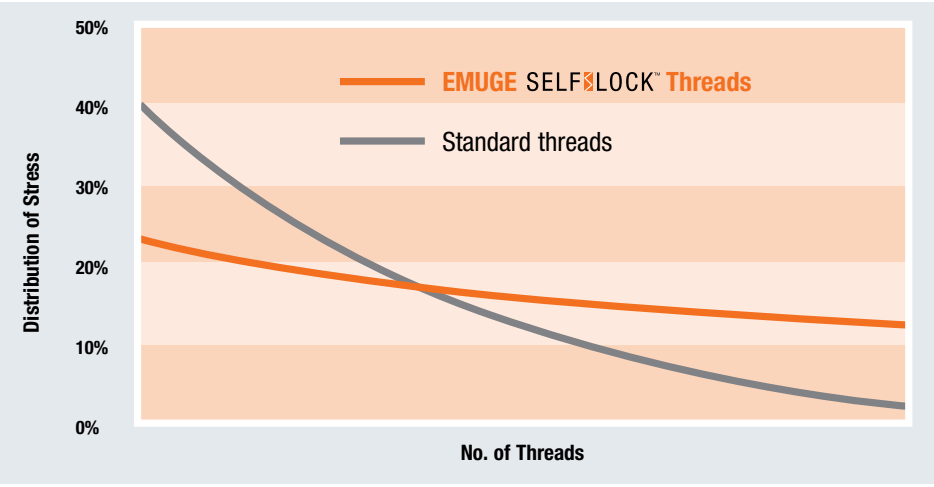
Holding power comparison in relation to time

Compared with standard threads, the **EMUGE SELF-LOCK internal thread shows constant, maximum holding power under dynamic stress.** This remains true even after repeated loosening and re-tightening of the thread connection. This locking effect is caused by the ramp-shaped surface integrated into the thread profile.



Load distribution comparison over the thread length

The concentration of the tightening force on the first few threads of a standard thread often leads to stripping of the nut thread, especially in soft workpiece materials. The special design of the **EMUGE SELF-LOCK internal thread creates an even distribution of stress over the entire thread length.** The first thread which is normally the most exposed to the danger of stripping is relieved, while the deeper, less exposed threads bear more of the natural stress.



Designation of EMUGE SELF-LOCK Threading tools

The EMUGE SELF-LOCK profile is designated by the letters “LK”. They are always printed before the thread size.
The abbreviation BT or TT is appended to the thread denomination.

The choice of a suitable tap type for blind BT or through holes TT must be made independent of that.

Example: **EMUGE SELF-LOCK blind hole tap M8):**
EMUGE – 2 Enorm LK-M8 BT

Example: **EMUGE SELF-LOCK through hole tap M8 x 0.75 with screw-in direction opposed to thread direction:**
EMUGE – Rekord 1B LK-M8 x 0.75 TT

The design of a thread milling cutter is specified according to the required functions (drilling, countersinking, thread milling).

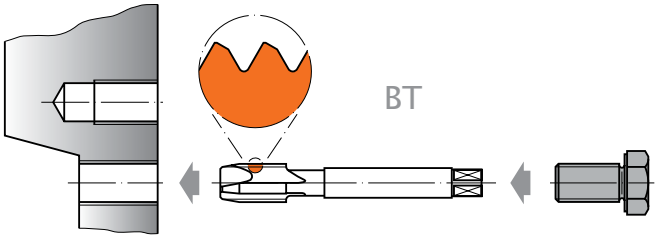
Example: **EMUGE GSF – M8 - 2xD):**
EMUGE – GSF LK-M8-2xD BT

Example: **EMUGE GSF – M8 - 2xD with screw-in direction opposed to thread direction):**
EMUGE – GSF LK-M8-2xD TT

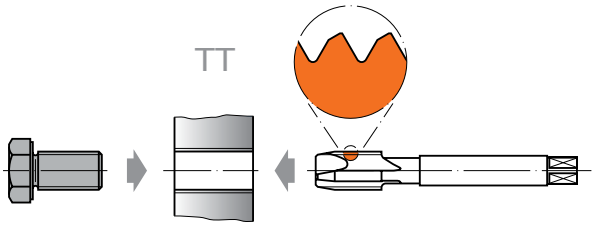
Specifying the direction of ramp surfaces

The ramp surfaces must be inclined in the screw-in, i.e., the load direction.

Ramp surface direction: Backwards
Designation: Back Taper
Abbreviation: BT
Application case:
- Blind hole threads
- Through hole threads with screw-in direction equal to thread cutting direction



Ramp surface direction: Forwards
Designation: Top Taper
Abbreviation: TT
Application case:
- Through hole threads with opposite screw-in and cutting direction



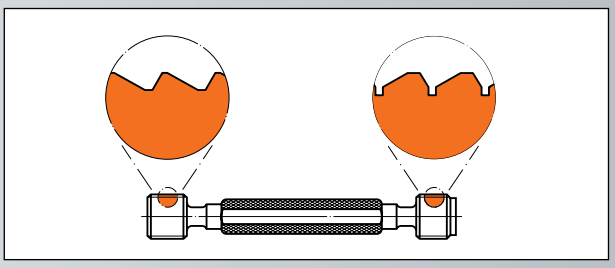
Gaging EMUGE SELF-LOCK Threads

EMUGE recommends using their two-piece gage system which corresponds to the usual combination of go and no-go gage and is perfectly sufficient for gaging of threads, provided that the LK threads were produced with EMUGE true-to-profile taps.

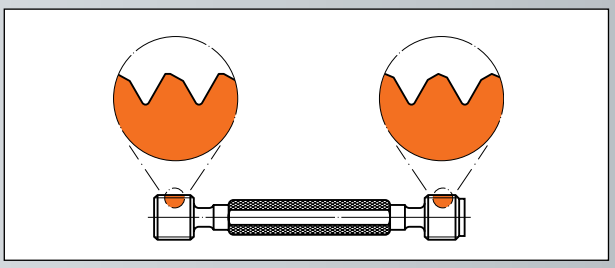
There is no generally applicable standard (e.g. DIN standard) for EMUGE SELF-LOCK threads, so other manufacturers may use different limit sizes for their threads. For this reason, **Emuge recommends gaging EMUGE SELF-LOCK threads exclusively with EMUGE SELF-LOCK gages.**

Gaging of saw-tooth profiles work on the same principle, the only difference being go and no-go plug gages have to be used in the correct direction.

Thread plug gage go/no-go $P \leq 0.7$ mm

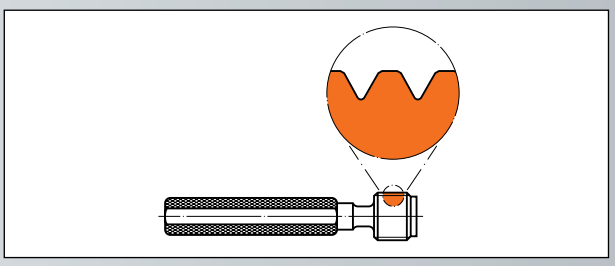


Thread plug gage go/no-go $P > 0.7$ mm



Wherever threads are produced by chasing or thread milling, we recommend the additional use of our **EMUGE HRPG gage** which checks the lower end of the ramp, and helps to identify any deviations in the angle of the ramp.

No-go plug gage HRPG $P > 0.7$ mm



Product finder and cutting data

Please note:
The cutting speeds and circumferential speeds (vc SFM) listed in the respective columns are standard values which have to be adjusted to individual work conditions (material, lubrication, machine etc.).

Coating:

GLT-1 (black-grey) PVD coating has a unique anti-friction property that results in improved tool life, reduced torque, optimized chip evacuation and superior thread finish.

TiCN - Titanium carbo-nitride (blue-grey) a multi-layer PVD coating with carbon added for increased edge hardness & surface lubricity.

TIN - Titanium nitride (gold) is a general purpose PVD coating for edge hardness and surface lubricity.

NT (silver) Nitrited to increase hardness and corrosion resistance.

Taps




NEW

						Rekord A-GG	Rekord 1B	Rekord 1B-Z PM GLT1	Rekord B-VA
					Thread	Metric	UNC/UNF	UNC/UNF	Metric
					Style	DIN/DIN	DIN/ANSI	DIN/ANSI	DIN/DIN
					Coating	NT	Bright	GLT-1	NT
					Type	Semi-Bottoming	Plug	Plug	Plug
	Applications – Materials		**Hardness Range**	**Specific Material Grade**		**Chamfer**	C / 2-3	B / 4-5	B / 4-5	B / 4-5
P		**Steel materials**								
	1.1	Cold-extrusion steels, Construction steels, Free-cutting steels, etc.	≤ 600 N/mm 2	Cq15	1.1132					
				S235 7-2)	1.0037			16 - 82	**49 - 148**	5 - 25
				10SPb20	1.0722					
	2.1	Construction steels, Cementation steels, Steel castings, etc.	≤ 800 N/mm 2	E360 (St70-2)	1.0070					
				16MnCr5	1.7131			16 - 66	**33 - 131**	5 - 20
				GS-25CrMo4	1.7218					
	3.1	Cementation steels, Heat-treatable steels, Cold work steels, etc.	≤ 1000 N/mm 2	20MoCr3	1.7320					
				42CrMo4	1.7225				**16 - 82**	2 - 15
				102Cr6	1.2067					
	4.1	Heat-treatable steels, Cold work steels, Nitriding steels, etc.	≤ 1200 N/mm 2	50CrMo4	1.7228					
				X45NiCrMo4	1.2767				**16 - 66**	
				31CrMo12	1.8515					
	5.1	High-alloyed steels, Cold work steels, Hot work steels, etc.	≤ 1400 N/mm 2	X38CrMoV5-3	1.2367					
				X100CrMoV8-1-1	1.2990				7 - 33	
				X40CrMoV5-1	1.2344					
M		**Stainless steel materials**								
	1.1	Ferritic, martensitic	≤ 950 N/mm 2	X2CrTi12	1.4512				**16 - 66**	2 - 10
	2.1	Austenitic	≤ 950 N/mm 2	X6CrNiMoTi17-12-2	1.4571				**16 - 66**	2 - 10
	3.1	Austenitic-ferritic (Duplex)	≤ 1100 N/mm 2	X2CrNiMoN22-5-3	1.4462				**16 - 49**	
	4.1	Austenitic-ferritic heat-resistant (Super Duplex)	≤ 1250 N/mm 2	X2CrNiMoN25-7-4	1.4410					
K		**Cast materials**								
	1.1	Cast iron with lamellar graphite (GJL)	100 - 250 N/mm 2	EN-GJL-200 (GG20)	EN-JL-1030		**10 - 25**			
	1.2		250 - 450 N/mm 2	EN-GJL-300 (GG30)	EN-JL-1050		**10 - 20**			
	2.1	Cast iron with nodular graphite (GJS)	350 - 500 N/mm 2	EN-GJS-400-15 (GGG40)	EN-JS-1030				**33 - 98**	5 - 20
	2.2		500 - 900 N/mm 2	EN-GJS-700-2 (GGG70)	EN-JS-1070					
	3.1	Cast iron with vermicular graphite (GJV)	300 - 400 N/mm 2	GJV 300						
	3.2		400 - 500 N/mm 2	GJV 450						
	4.1	Malleable cast iron (GTMW, GTMB)	250 - 500 N/mm 2	EN-GJMW-350-4 (GTW-35)	EN-JM-1010					
	4.2		500 - 800 N/mm 2	EN-GJMB-450-6 (GTS-45)	EN-JM-1140					
N		**Non ferrous materials**								
		Aluminium alloys								
	1.1	Aluminium wrought alloys	≤ 200 N/mm 2	EN AW-AlMn1	EN AW-3103					
	1.2		≤ 350 N/mm 2	EN AW-AlMgSi	EN AW-6060					
	1.3		≤ 550 N/mm 2	EN AW-AlZn5Mg3Cu	EN AW-7022					
	1.4	Aluminium cast alloys Si ≤ 7%	Si ≤ 7%	EN AC-AlMg5	EN AC-51300				**49 - 131**	
	1.5	Aluminium cast alloys 7% < Si ≤ 12%	7% < Si ≤ 12%	EN AC-AlSi9Cu3	EN AC-46500				49 - 131	10 - 20
	1.6	Aluminium cast alloys 12% < Si ≤ 17%	12% < Si ≤ 17%	GD-AlSi17Cu4FeMg					33 - 98	
		Copper alloys								
	2.1	Pure copper, low-alloyed copper	≤ 400 N/mm 2	E-Cu 57	EN CW 004 A				**16 - 98**	
	2.2	Copper-zinc alloys (brass, long-chipping)	≤ 550 N/mm 2	CuZn37 (Ms63)	EN CW 508 L			**33 - 131**	**66 - 197**	
	2.3	Copper-zinc alloys (brass, short-chipping)	≤ 550 N/mm 2	CuZn36Pb3 (Ms58)	EN CW 603 N					
	2.4	Copper-aluminium alloys (alu bronze, long-chipping)	≤ 800 N/mm 2	CuAl10Ni5Fe4	EN CW 307 G					2 - 10
	2.5	Copper-tin alloys (tin bronze, long-chipping)	≤ 700 N/mm 2	CuSn8P	EN CW 459 K					2 - 10
	2.6	Copper-tin alloys (tin bronze, short-chipping)	≤ 400 N/mm 2	CuSn7 ZnPb (Rg7)	2.1090					
	2.7	Special copper alloys	≤ 600 N/mm 2	(Amcoo 8)						
	2.8		≤ 1400 N/mm 2	(Ampco 45)						
		Magnesium alloys								
	3.1	Magnesium wrought alloys	≤ 500 N/mm 2	MgAl6Zn	3.5612					
	3.2	Magnesium cast alloys	≤ 500 N/mm 2	EN-MCMgAl9Zn1	EN-MC21120					
		Synthetics								
	4.1	Duroplastics (short-chipping)		Bakelit, Pertinax						
	4.2	Thermoplastics (long-chipping)		PMMA, POM, PVC						
	4.3	Fibre-reinforced synthetics (fibre content ≤ 30%)		GFK, CFK, AFK						
	4.4	Fibre-reinforced synthetics (fibre content > 30%)		GFK, CFK, AFK						
		Special materials								
	5.1	Graphite		C 8000						
	5.2	Tungsten-copper alloys		W-Cu 80/20						
	5.3	Composite materials		Hylite, Alucobond						
S		**Special materials**								
		Titanium alloys								
	1.1	Pure titanium	≤ 450 N/mm 2	Ti1	3.7025				**16 - 49**	
	1.2	Titanium alloys	≤ 900 N/mm 2	TiAlT4	3.7165					
	1.3		≤ 1250 N/mm 2	TiAl4Mo4Sn2	3.7185					
		Nickel alloys, cobalt alloys and iron alloys								
	2.1	Pure nickel	≤ 600 N/mm 2	Ni 99,6	2.4060					
	2.2	Nickel-base alloys	≤ 1000 N/mm 2	Monel 400	2.4360					
	2.3		≤ 1600 N/mm 2	Inconel 718	2.4668					
	2.4	Cobalt-base alloys	≤ 1000 N/mm 2	Incoloy 800						
	2.5		≤ 1600 N/mm 2	Haynes 25	2.4964					
	2.6	Iron-base alloys	≤ 1500 N/mm 2	Incoloy 925	1.4958					
H		**Hard materials**								
	1.1	High strength steels, hardened steels, hard castings	44 - 50 HRC	Weldox 1100						
	1.2		50 - 55 HRC	Hardox 550						
	1.3		55 - 60 HRC	Armox 600T						
	1.4		60 - 63 HRC	Ferro-Titanit						
	1.5		63 - 66 HRC	HSSE						

	Taps				Form Taps			Thread Mills						
														
		NEW	NEW		NEW		NEW							
	Rekord B-VA TiN	Rekord D-Ti TiCN	Rekord C-Ti TiCN	Enorm Z/E	Enorm Z/E GLT1	Drück STEEL TiN	Drück STEEL /E-SN TiN T1	Drück STEEL-SN TiN	GSF		GF			
	Metric	UNC/UNF	UNC/UNF	Metric	UNC/UNCF	Metric	UNC/UNF	Metric	Cutting speed vc (m/min)		Feed per tooth fz (mm)			
	DIN/DIN	DIN/ANSI	DIN/ANSI	DIN/DIN	DIN/ANSI	DIN/DIN	DIN/ANSI	DIN/DIN						
	TiN	TiCN	TiCN	Bright	GLT-1	TiN	TiN-T1	TiN						
	Plug	Semi-Bottoming	Plug	Bottoming	Bottoming	Semi-Bottoming	Bottoming	Semi-Bottoming						
	B / 4-5	D / 4-5	C / 2-3	E / 1.5-2	E / 1.5-2	C / 2-3	E / 1.5-2	C / 2-3	uncoated	TiCN	ø d ≤ 4 mm	ø d ≤ 8 mm	ø d ≤ 8 mm	
	15 - 45			5 - 25	**49 - 148**	**20 - 80**	**66 - 262**	**20 - 80**	40 - 100	**80 - 250**	0.005 - 0.04	0.04 - 0.07	0.05 - 0.15	1.1
	10 - 40			5 - 20	**33 - 131**	**20 - 60**	**66 - 197**	**20 - 60**	30 - 80	**60 - 150**	0.005 - 0.04	0.04 - 0.07	0.05 - 0.15	2.1
	5 - 25			2 - 15	**16 - 82**	10 - 40	33 - 131	10 - 40	20 - 60	**40 - 120**	0.005 - 0.03	0.03 - 0.05	0.04 - 0.12	3.1
P	5 - 20	16 - 66	16 - 66	2 - 10	16 - 66				20 - 60	**40 - 120**	0.003 - 0.02	0.02 - 0.05	0.04 - 0.12	4.1
		7 - 33	**7 - 33**						20 - 60	**40 - 120**	0.003 - 0.02	0.02 - 0.05	0.04 - 0.12	5.1
	5 - 20			2 - 10	**16 - 66**	20 - 80	33 - 82 [2]	20 - 80		**40 - 120**	0.003 - 0.03	0.03 - 0.05	0.04 - 0.12	1.1
	5 - 20			2 - 10	**16 - 66**	20 - 60	33 - 82 [2]	20 - 60		**40 - 120**	0.003 - 0.03	0.03 - 0.05	0.04 - 0.12	2.1
M	5 - 15	**16 - 49**	**16 - 49**		**16 - 49**	10 - 40		10 - 40		**30 - 80**	0.003 - 0.02	0.02 - 0.05	0.04 - 0.10	3.1
		7 - 33	**7 - 33**							30 - 60	0.003 - 0.02	0.02 - 0.04	0.03 - 0.08	4.1
						10 - 25 [1]		10 - 25 [1]	80 - 140	**100 - 200**		0.04 - 0.07	0.05 - 0.15	1.1
						10 - 25 [1]		10 - 25 [1]	80 - 140	**100 - 200**		0.04 - 0.07	0.05 - 0.15	1.2
	10 - 30								60 - 120	**80 - 200**		0.04 - 0.07	0.05 - 0.15	2.1
		33 - 82	33 - 82						60 - 120	**80 - 200**		0.04 - 0.07	0.05 - 0.15	2.2
K									60 - 120	**80 - 200**		0.04 - 0.07	0.05 - 0.15	3.1
									60 - 120	**80 - 200**		0.04 - 0.07	0.05 - 0.15	3.2
									60 - 120	**80 - 200**		0.04 - 0.07	0.05 - 0.15	4.1
									60 - 120	**80 - 200**		0.04 - 0.07	0.05 - 0.15	4.2
									100 - 250	**150 - 400**	0.01 - 0.05	0.05 - 0.08	0.07 - 0.20	1.1
									100 - 250	**150 - 400**	0.01 - 0.05	0.05 - 0.08	0.07 - 0.20	1.2
									100 - 250	**150 - 400**	0.01 - 0.05	0.05 - 0.08	0.07 - 0.20	1.3
	15 - 40				**49 - 131**	20 - 60	66 - 197	20 - 60	150 - 250	**150 - 400**	0.01 - 0.05	0.05 - 0.08	0.07 - 0.20	1.4
	15 - 40				49 - 131	20 - 60	66 - 197	20 - 60	150 - 250	**150 - 400**	0.01 - 0.05	0.05 - 0.08	0.07 - 0.20	1.5
					33 - 98					**100 - 200**	0.01 - 0.05	0.05 - 0.08	0.07 - 0.20	1.6
				5 - 20	**16 - 98**	20 - 40	66 - 131	20 - 40	100 - 250	**150 - 400**	0.008 - 0.05	0.05 - 0.08	0.07 - 0.20	2.1
					66 - 197	40 - 80	131 - 262	40 - 80	100 - 250	**150 - 400**	0.008 - 0.05	0.05 - 0.08	0.07 - 0.20	2.2
									100 - 250	**150 - 400**	0.008 - 0.05	0.05 - 0.08	0.07 - 0.20	2.3
	5 - 25	**16 - 82**	**16 - 82**		**16 - 82**				60 - 150	**100 - 250**	0.008 - 0.04	0.04 - 0.07	0.05 - 0.15	2.4
	5 - 25	**16 - 82**	**16 - 82**		**16 - 82**				60 - 150	**100 - 250**	0.008 - 0.04	0.04 - 0.07	0.05 - 0.15	2.5
									80 - 200	**100 - 250**	0.008 - 0.04	0.04 - 0.07	0.05 - 0.15	2.6
N		**7 - 33**	**7 - 33**							**40 - 80**	0.003 - 0.02	0.02 - 0.05	0.04 - 0.15	2.7
										30 - 60	0.003 - 0.02	0.02 - 0.05	0.04 - 0.15	2.8
									150 - 250	**150 - 400**	0.01 - 0.05	0.05 - 0.08	0.07 - 0.20	3.1
									150 - 250	**150 - 400**	0.01 - 0.05	0.05 - 0.08	0.07 - 0.20	3.2
									60 - 150	**100 - 400**	0.01 - 0.05	0.05 - 0.10	0.08 - 0.25	4.1
									60 - 150	**100 - 400**	0.01 - 0.05	0.05 - 0.10	0.08 - 0.25	4.2
										80 - 120	0.01 - 0.05	0.05 - 0.10	0.08 - 0.25	4.3
										80 - 120	0.01 - 0.05	0.05 - 0.10	0.08 - 0.25	4.4
										100 - 200		0.04 - 0.07	0.08 - 0.25	5.1
									15 - 40	**30 - 60**		0.02 - 0.04	0.03 - 0.08	5.2
														5.3
		16 - 49	16 - 49		16 - 49				15 - 50	**30 - 80**	0.003 - 0.03	0.03 - 0.05	0.04 - 0.10	1.1
		7 - 33	**7 - 33**						15 - 50	**30 - 80**	0.003 - 0.03	0.03 - 0.05	0.04 - 0.10	1.2
		3 - 26	3 - 26						15 - 40	**30 - 60**	0.003 - 0.02	0.02 - 0.04	0.03 - 0.08	1.3
		7 - 33	7 - 33							30 - 60	0.003 - 0.02	0.02 - 0.04	0.03 - 0.08	2.1
		7 - 33	7 - 33							30 - 60	0.003 - 0.02	0.02 - 0.04	0.03 - 0.08	2.2
										30 - 40	0.003 - 0.02	0.02 - 0.04	0.03 - 0.08	2.3
S		7 - 33	7 - 33							30 - 60	0.003 - 0.02	0.02 - 0.04	0.03 - 0.08	2.4
										30 - 40	0.003 - 0.02	0.02 - 0.04	0.03 - 0.08	2.5
										30 - 40	0.003 - 0.02	0.02 - 0.04	0.03 - 0.08	2.6
										30 - 60		0.015 - 0.04	0.03 - 0.08	1.1
										30 - 60		0.015 - 0.04	0.03 - 0.08	1.2
														1.3
H														1.4
														1.5

Cutting speed v_c in SFM – Preferred suitable tap

[1] Restricted application possibilities with emulsion

[2] If possible, use paste lubrication

LK-UNC / LK-UNF TAPS

Plug Style
DIN / ANSI

- Rekord 1B-Z PM GLT1 is a powdered metal HSSE tap with GLT-1 coating for a wide range of applications.
- Rekord C-TI TICN is a HSSE tap designed specifically for titanium and aerospace alloys.

		NEW	NEW
	Rekord 1B	Rekord 1B-Z PM GLT1	Rekord C-TI TiCN
Coating	Bright	GLT-1	TiCN
Type	Plug	Plug	Plug
Chamfer	B / 4-5	B / 4-5	C / 2-3
Range of Application	P 1.1-2.1 N 2.2	P 1.1-5.1 M 1.1-3.1 K 2.1 N 1.4-6,2.1-2 S 1.1	P 4.1-5.1 M 3.1-4.1 K 2.2 N 2.4-5, 2.7 S 1.1-2.2, 2.4

Size	Thread	OAL	Shank	Square	EDP No.	EDP No.	EDP No.
4-40	UNC	2.205	0.141	0.110		BU20A6005656	BU3096005656
6-32		2.205	0.141	0.110		BU20A6005658	BU3096005658
8-32		2.480	0.168	0.131		BU20A6005659	BU3096005659
10-24		2.756	0.194	0.152		BU20A6005660	BU3096005660
12-24		3.150	0.220	0.165		BU20A6005661	BU3096005661
1/4-20		3.150	0.255	0.191	BU2010005662	BU20A6005662	BU3096005662
5/16-18		3.543	0.318	0.238	BU2010005663	BU20A6005663	BU3096005663
3/8-16		3.937	0.381	0.286	BU2010005664	BU20A6005664	BU3096005664
7/16-14		3.937	0.323	0.242		CU20A6005665	CU3096005665
1/2-13		4.331	0.367	0.275	CU2010005666	CU20A6005666	CU3096005666
9/16-12		4.331	0.429	0.322		CU20A6005667	
5/8-11		4.331	0.480	0.360		CU20A6005668	
3/4-10		4.921	0.590	0.442		CU20A6005669	
7/8-9		5.512	0.697	0.523		CU20A6005670	
1-8		6.299	0.800	0.600		CU20A6005671	
4-48	UNF	2.205	0.141	0.110		BU20A6005707	
6-40		2.205	0.141	0.110		BU20A6005709	
8-36		2.480	0.168	0.131		BU20A6005710	
10-32		2.756	0.194	0.152		BU20A6005711	
1/4-28		3.150	0.255	0.191		BU20A6005713	
5/16-24		3.543	0.318	0.238		BU20A6005714	
3/8-24		3.937	0.381	0.286		BU20A6005715	
7/16-20		3.937	0.323	0.242		CU20A6005716	
1/2-20		4.331	0.367	0.275		CU20A6005717	
9/16-18		4.331	0.429	0.322		CU20A6005718	
5/8-18		4.331	0.480	0.360		CU20A6005719	
3/4-16		4.921	0.590	0.442		CU20A6005720	

LK-UNC THREAD GAGE - Go / No-go

Specifically designed for
Self-Lock thread profile

Size	Pitch	EDP No.
4	40	L01001005656
6	32	L01001005658
8	32	L01001005659
10	24	L01001005660
12	24	L01001005661
1/4	20	L01001005662
5/16	18	L01001005663
3/8	16	L01001005664

Size	Pitch	EDP No.
7/16	14	L01001005665
1/2	13	L01001005666
9/16	12	L01001005667
5/8	11	L01001005668
3/4	10	L01001005669
7/8	9	L01001005670
1	8	L01001005671

LK-UNC / LK-UNF TAPS

Bottoming and
Semi-Bottoming Style
DIN / ANSI

- Enorm Z/E GLT1 is a full bottoming HSSE tap with GLT-1 coating for a wide range of applications.
- Rekord D-TI TiCN is a HSSE tap designed specifically for titanium and aerospace alloys.
- Drück Steel / E is a roll form tap for chipless tapping of low tensile materials

		NEW	NEW	NEW FORM TAP
	Enorm Z/E	Enorm Z/E GLT1	Rekord D-TI TiCN	Drück Steel / E -SN TIN T1
Coating	Bright	GLT-1	TiCN	TIN-T1
Type	Bottoming	Bottoming	Semi-Bottoming	Bottoming
Chamfer	E / 1.5-2	E / 1.5-2	D / 4-5	E / 1.5-2
Range of Application	P 1.1-4.1 M 1.1-2.1 N 2.1	P 1.1-4.1 M 1.1-3.1 N 1.4-6 N 2.1-2, 2.4-5 S 1.1	P 4.1-5.1 M 3.1-4.1 K 2.2 N 2.4-5, 2.7 S 1.1-2.2, 2.4	P 1.1-3.1 M 1.1-2.1 2) N 1.4-5, 2.1-2

Size	Thread	OAL	Shank	Square	EDP No.	EDP No.	EDP No.	EDP No.
4-40	UNC	2.205	0.141	0.110		BU51C4005656	BU4596005656	BU93F3005656
6-32		2.205	0.141	0.110		BU51C4005658	BU4596005658	BU93F3005658
8-32		2.480	0.168	0.131		BU51C4005659	BU4596005659	BU93F3005659
10-24		2.756	0.194	0.152		BU51C4005660	BU4596005660	BU93F3005660
12-24		3.150	0.220	0.165		BU51C4005661	BU4596005661	BU93F3005661
1/4-20		3.150	0.255	0.191	BU5135005662	BU51C4005662	BU4596005662	BU93F3005662
5/16-18		3.543	0.318	0.238	BU5135005663	BU51C4005663	BU4596005663	BU93F3005663
3/8-16		3.937	0.381	0.286	BU5135005664	BU51C4005664	BU4596005664	BU93F3005664
7/16-14		3.937	0.323	0.242		CU51C4005665	CU4596005665	CU93F3005665
1/2-13		4.331	0.367	0.275	CU5135005666	CU51C4005666	CU4596005666	CU93F3005666
9/16-12		4.331	0.429	0.322		CU51C4005667		
5/8-11		4.331	0.480	0.360		CU51C4005668		
3/4-10		4.921	0.590	0.442		CU51C4005669		
7/8-9		5.512	0.697	0.523		CU51C4005670		
1-8		6.299	0.800	0.600		CU51C4005671		
4-48	UNF	2.205	0.141	0.110		BU51C4005707		BU93F3005707
6-40		2.205	0.141	0.110		BU51C4005709		BU93F3005709
8-36		2.480	0.168	0.131		BU51C4005710		BU93F3005710
10-32		2.756	0.194	0.152		BU51C4005711		BU93F3005711
1/4-28		3.150	0.255	0.191		BU51C4005713		BU93F3005713
5/16-24		3.543	0.318	0.238		BU51C4005714		BU93F3005714
3/8-24		3.937	0.381	0.286		BU51C4005715		BU93F3005715
7/16-20		3.937	0.323	0.242		CU51C4005716		CU93F3005716
1/2-20		4.331	0.367	0.275		CU51C4005717		CU93F3005717
9/16-18		4.331	0.429	0.322		CU51C4005718		
5/8-18		4.331	0.480	0.360		CU51C4005719		
3/4-16		4.921	0.590	0.442		CU51C4005720		

LK-UNF THREAD GAGE - Go / No-go

Specifically designed for
Self-Lock thread profile

Size	Pitch	EDP No.
4	48	L01001005707
6	40	L01001005709
8	36	L01001005710
10	32	L01001005711
1/4	28	L01001005713
5/16	24	L01001005714

Size	Pitch	EDP No.
3/8	24	L01001005715
7/16	20	L01001005716
1/2	20	L01001005717
9/16	18	L01001005718
5/8	18	L01001005719
3/4	16	L01001005720

LK-M METRIC TAPS

Plug and Semi-Bottoming Style • DIN / DIN

	Rekord A-GG	Rekord B-VA	Rekord B-VA TIN
Coating	NT	NT	TIN
Type	Semi-Bottoming	Plug	Plug
Chamfer	C / 2-3	B / 4-5	B / 4-5
Range of Application	K 1.1-2	P 1.1-3.1 M 1.1-2.1 K 2.1 N 1.5, 2.4-5	P 1.1-5.1 M 1.1-3.1 K 2.1 N 1.4-5, 2.4-5

Size	Pitch	OAL	Shank	Square	EDP No.	EDP No.	EDP No.
M3	0.50	56.0	3.5	2.7			
M4	0.70	63.0	4.5	3.4			
M5	0.80	70.0	6.0	4.9			
M6	1.00	80.0	6.0	4.9	B01020001052	B02030001052	B02031001052
M8	1.25	90.0	8.0	6.2	B01020001054	B02030001054	B02031001054
M10	1.50	100.0	10.0	8.0	B01020001056	B02030001056	B02031001056
M12	1.75	110.0	9.0	7.0	CU1020001058	CU2030001058	CU2031001058
M14	2.00	110.0	11.0	9.0			
M16	2.00	110.0	12.0	9.0	CU1020001060	CU2030001060	CU2031001060
M20	2.50	140.0	16.0	12.0	CU1020001062		
M24	3.00	160.0	18.0	14.5	CU1020001064		

LK-M METRIC FORM TAPS

Semi-Bottoming Style • DIN / DIN

	Drück Steel TIN	Drück Steel-SN TIN
Coating	TIN	TIN
Type	Semi-Bottoming	Semi-Bottoming
Chamfer	C / 2-3	C / 2-3
Range of Application	P 1.1-3.1 M 1.1-3.1 2) N 1.4-5, 2.1-2	

Size	Pitch	OAL	Shank	Square	EDP No.	EDP No.
M3	0.50	56.0	3.5	2.7	B09114001046	B09214001046
M4	0.70	63.0	4.5	3.4	B09114001048	B09214001048
M5	0.80	70.0	6.0	4.9	B09114001050	B09214001050
M6	1.00	80.0	6.0	4.9	B09114001052	B09214001052
M8	1.25	90.0	8.0	6.2	B09114001054	B09214001054
M10	1.50	100.0	10.0	8.0	B09114001056	B09214001056

LK-M METRIC TAPS

Bottoming Style • DIN / DIN

	Enorm Z/E
Coating	BRIGHT
Type	Bottoming
Chamfer	E / 1.5-2
Range of Application	P 1.1-4.1 M 1.1-2.1 N 2.1

Size	Pitch	OAL	Shank	Square	EDP No.
M3	0.50	56.0	3.5	2.7	B05135001046
M4	0.70	63.0	4.5	3.4	B05135001048
M5	0.80	70.0	6.0	4.9	B05135001050
M6	1.00	80.0	6.0	4.9	B05135001052
M8	1.25	90.0	8.0	6.2	B05135001054
M10	1.50	100.0	10.0	8.0	B05135001056
M12	1.75	110.0	9.0	7.0	CU5135001058
M14	2.00	110.0	11.0	9.0	
M16	2.00	110.0	12.0	9.0	CU5135001060
M20	2.50	140.0	16.0	12.0	
M24	3.00	160.0	18.0	14.5	

LK-M THREAD GAGE
Go / No-go

Specifically designed for Self-Lock thread profile

Size	Pitch	EDP No.
3	0.50	L01001001046
4	0.70	L01001001048
5	0.80	L01001001050
6	1.00	L01001001052
8	1.25	L01001001054
10	1.50	L01001001056
12	1.75	L01001001058
14	2.00	L01001001059
16	2.00	L01001001060
20	2.50	L01001001062
24	3.00	L01001001064

LK-M METRIC THREAD MILLS with Countersink

Coolant Fed • 2xD Style

	GSF-2xD IKZ-HB	GSF-2xD IKZ-HE	GSF-2xD IKZ-HA
Shank	HB	HE	HA
Range of Application	P 1.1-5.1, K 1.1-4.2, N 1.1-5, 2.1-6, 3.1-2, 4.1-2, 5.2, S 1.1-3		

Size	Pitch	Cutter Dia.	LOC	OAL	Shank Dia.	# Flutes	EDP No.	EDP No.	EDP No.
M5	0.80	4.0	10.7	55.0	6.0	3	GF3331011050	GF3334011050	GF3337011050
M6	1.00	4.8	12.4	62.0	8.0	3	GF3331011052	GF3334011052	GF3337011052
M8	1.25	6.5	16.7	74.0	10.0	3	GF3331011054	GF3334011054	GF3337011054
M10	1.50	8.2	20.1	80.0	12.0	3	GF3331011056	GF3334011056	GF3337011056
M12	1.75	9.9	25.2	90.0	14.0	4	GF3331011058	GF3334011058	GF3337011058

LK-M METRIC THREAD MILLS with Countersink

Coolant Fed • 2xD Style • TiCN coating

	GSF-2xD IKZ-HB TiCN	GSF-2xD IKZ-HE TiCN	GSF-2xD IKZ-HA TiCN
Shank	HB	HE	HA
Range of Application	P 1.1-5.1, M 1.1-4.1, K 1.1-4.2, N 1.1-5.2, S 1.1-2.6, H 1.1-2		

Size	Pitch	Cutter Dia.	LOC	OAL	Shank Dia.	# Flutes	EDP No.	EDP No.	EDP No.
M5	0.80	4.0	10.7	55.0	6.0	3	GF3331061050	GF3334061050	GF3337061050
M6	1.00	4.8	12.4	62.0	8.0	3	GF3331061052	GF3334061052	GF3337061052
M8	1.25	6.5	16.7	74.0	10.0	3	GF3331061054	GF3334061054	GF3337061054
M10	1.50	8.2	20.1	80.0	12.0	3	GF3331061056	GF3334061056	GF3337061056
M12	1.75	9.9	25.2	90.0	14.0	4	GF3331061058	GF3334061058	GF3337061058

LK-M METRIC THREAD MILLS

Coolant Fed

	GF-IKZ HB	GF-IKZ HE	GF-IKZ HA
Shank	HB	HE	HA
Range of Application	P 1.1-5.1, K 1.1-4.2, N 1.1-5, 2.1-6, 3.1-2, 4.1-2, 5.2, S 1.1-3		

Pitch	Dia. (min)	Cutter Dia.	LOC	OAL	Shank Dia.	# Flutes	EDP No.	EDP No.	EDP No.
1.00	14.00	9.9	16.4	70.0	10.0	4	GF1632119757	GF1635119757	GF1638119757
1.00	16.00	11.9	20.4	80.0	12.0	4	GF1631219757	GF1634219757	GF1637219757
1.50	14.00	9.9	17.0	70.0	10.0	4	GF1632119664	GF1635119664	GF1638119664
1.50	16.00	11.9	21.5	80.0	12.0	4	GF1631219664	GF1634219664	GF1637219664
2.00	22.00	15.9	26.7	90.0	16.0	5	GF1631319705	GF1634319705	GF1637319705
3.00	30.00	19.9	34.1	105.0	20.0	5	GF1631519767	GF1634519767	GF1637519767

LK-M METRIC THREAD MILLS

Coolant Fed • TiCN coating

	GF-IKZ HB TiCN	GF-IKZ HE TiCN	GF-IKZ HA TiCN
Shank	HB	HE	HA
Range of Application	P 1.1-5.1, M 1.1-4.1, K 1.1-4.2, N 1.1-5.2, S 1.1-2.6, H 1.1-2		

Pitch	Dia. (min)	Cutter Dia.	LOC	OAL	Shank Dia.	# Flutes	EDP No.	EDP No.	EDP No.
1.00	14.00	9.9	16.4	70.0	10.0	4	GF1632169757	GF1635169757	GF1638169757
1.00	16.00	11.9	20.4	80.0	12.0	4	GF1631269757	GF1634269757	GF1637269757
1.50	14.00	9.9	17.0	70.0	10.0	4	GF1632169664	GF1635169664	GF1638169664
1.50	16.00	11.9	21.5	80.0	12.0	4	GF1631269664	GF1634269664	GF1637269664
2.00	22.00	15.9	26.7	90.0	16.0	5	GF1631369705	GF1634369705	GF1637369705
3.00	30.00	19.9	34.1	105.0	20.0	5	GF1631569767	GF1634569767	GF1637569767

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