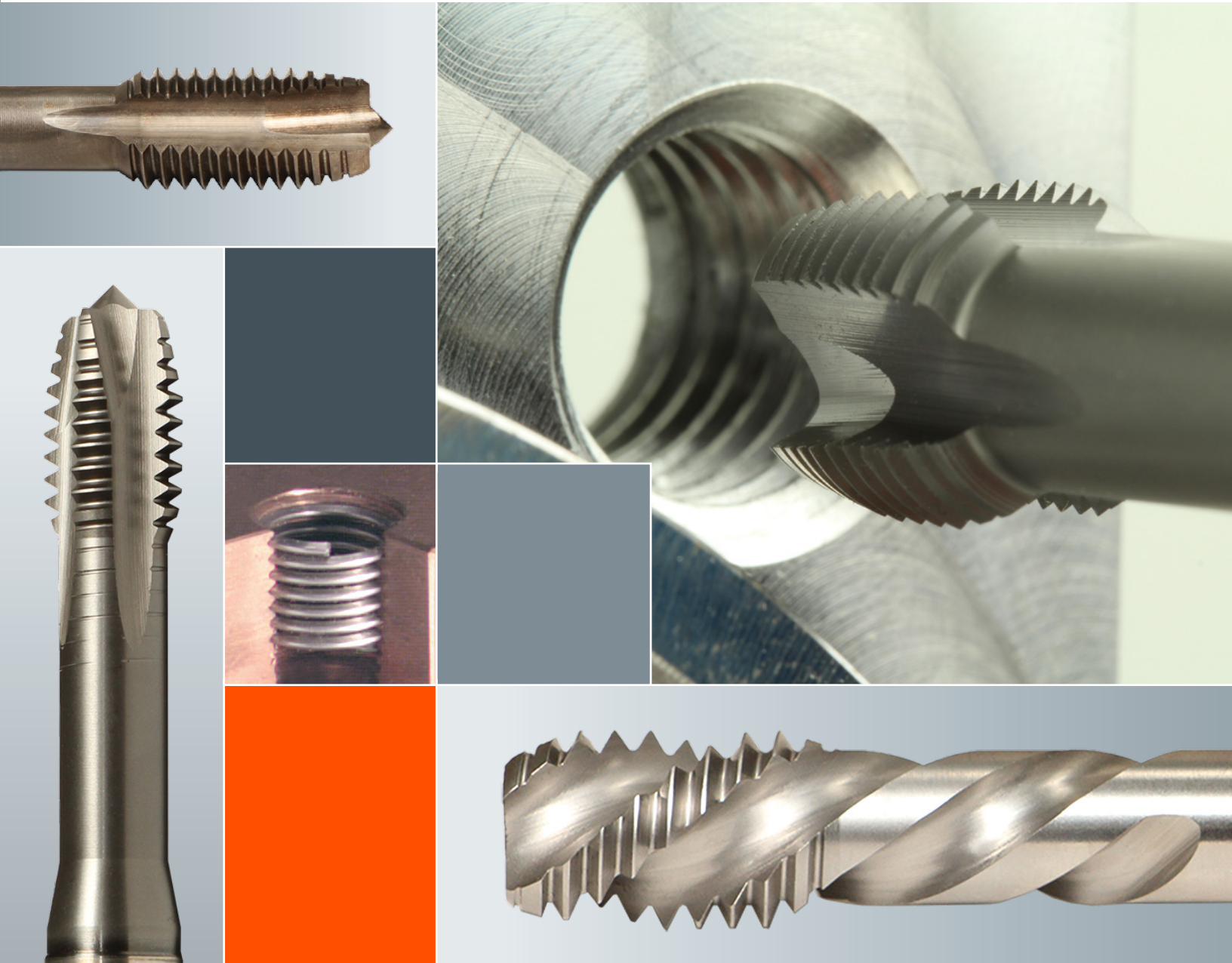


# EMUGE



## STI-SCREW THREAD INSERT TAP OPTIONS

EXPANDED  
OFFERING

# PREVENT STRIPPING on Safety Critical Threading Applications with STI.

## EMUGE

## STI – Screw Thread Insert Tapping Options



**EMUGE STI (Screw Thread Insert) Taps** are ideal for preventing the stripping of threads and are designed for threaded insert applications. STI taps should be used with a precision CNC machine to ensure proper class of fit.

**EMUGE offers a complete line of STI Tapping Solutions for a variety of materials.**

- Enorm-Z/E for steel and alloyed steels
- Enorm-Z/E with GLT-1 coating for stainless steel
- Enorm-AL GLT-8 coating for aluminum
- D-TI for Titanium and DF-NI for nickel alloys

### **GLT-1 Coating**

**Hard surface coating with anti-friction layer (dark-grey)**

- Coating thickness of 2-4  $\mu\text{m}$
- Hardness is approx. 3000 HV
- Hard surface coating with a superimposed anti-friction layer yields decisive tool life advantages
- Improved chip flow

### **GLT-8 Coating**

**Diamond-like, amorphous carbon coating (black-grey)**

- Coating thickness of 1-2  $\mu\text{m}$
- Hardness is approx. 2500 HV
- This mono-layer coating is an excellent choice for the machining of non-ferrous metals and aluminum with a low silicon content (< 9% Si)
- Low friction drastically reduces material adhesion
- Coating resistant up to approx. 350° C (662° F)

### **TiCN Coating**

**Titanium carbonitride (blue-grey)**

- Coating thickness of 2-4  $\mu\text{m}$
- Hardness is approx. 3000 HV
- Coating resistant up to approx. 400° C (752° F)



**STI-UNC / STI-UNF TAPS**

Bottoming and  
Semi-Bottoming Styles  
DIN / ANSI



		NEW	NEW	NEW FORM TAP
	Enorm-Z/E	Enorm-Z/E-GLT-1	Enorm-AL/E-GLT-8	Drück1-STEEL-SN-TiCN
<b>Class of Fit</b>	3B	3B	3B	3BX
<b>Coating</b>	Bright	GLT-1	GLT-8	TiCN
<b>Type</b>	Bottoming	Bottoming	Bottoming	Semi-Bottoming
<b>Chamfer</b>	E / 1.5-2 P	E / 1.5-2 P	E / 1.5-2 P	C / 2-3 P

Size	TPI	Thread	OAL	Shank	Square	EDP No.	EDP No.	EDP No.	EDP No.
2	56	UNC	2.205	0.141	0.110	BU5135105609	BU51C4105609	BU51S8105609	BU9290105609
4	40		2.205	0.141	0.110	BU5135105611	BU51C4105611	BU51S8105611	BU9290105611
5	40		2.480	0.168	0.131	BU5135105612	BU51C4105612		
6	32		2.756	0.194	0.152	BU5135105613	BU51C4105613	BU51S8105613	BU9290105613
8	32		3.150	0.220	0.165	BU5135105614	BU51C4105614	BU51S8105614	BU9290105614
10	24		3.150	0.255	0.191	BU5135105615	BU51C4105615	BU51S8105615	BU9290105615
12	24		3.543	0.318	0.238	BU5135105616	BU51C4105616		
1/4	20		3.543	0.318	0.238	BU5135105617	BU51C4105617	BU51S8105617	BU9290105617
5/16	18		3.937	0.381	0.286	BU5135105618	BU51C4105618	BU51S8105618	BU9290105618
3/8	16		3.937	0.367	0.275	CU5135105619	CU51C4105619	CU51S8105619	CU9290105619
7/16	14		4.331	0.429	0.322	CU5135105620	CU51C4105620	CU51S8105620	CU9290105620
1/2	13		4.331	0.480	0.360	CU5135105621	CU51C4105621	CU51S8105621	CU9290105621
5/8	11		4.921	0.590	0.442	CU5135105623	CU51C4105623		
3/4	10		5.512	0.697	0.523	CU5135105624	CU51C4105624		
7/8	9		7.087	0.896	0.672		CU51C4105625		
1	8		7.087	1.021	0.766		CU51C4105626		
4	48	UNF	2.205	0.141	0.110	BU5135105633	BU51C4105633	BU51S8105633	BU9290105633
6	40		2.480	0.168	0.131	BU5135105635	BU51C4105635	BU51S8105635	BU9290105635
8	36		3.150	0.220	0.165	BU5135105636	BU51C4105636	BU51S8105636	BU9290105636
10	32		3.150	0.255	0.191	BU5135105637	BU51C4105637	BU51S8105637	BU9290105637
1/4	28		3.543	0.318	0.238	BU5135105639	BU51C4105639	BU51S8105639	BU9290105639
5/16	24		3.937	0.381	0.286	BU5135105640	BU51C4105640	BU51S8105640	BU9290105640
3/8	24		3.937	0.323	0.242	CU5135105641	CU51C4105641	CU51S8105641	CU9290105641
7/16	20		3.937	0.367	0.275	CU5135105642	CU51C4105642	CU51S8105642	CU9290105642
1/2	20		3.937	0.429	0.322	CU5135105643	CU51C4105643	CU51S8105643	CU9290105643
9/16	18		3.937	0.480	0.360	CU5135105644	CU51C4105644		
5/8	18		4.331	0.542	0.406	CU5135105645	CU51C4105645		
3/4	16		4.921	0.652	0.489	CU5135105646	CU51C4105646		
7/8	14		5.512	0.800	0.600		CU51C4105647		
1	12		5.986	0.896	0.672		CU51C4105648		

**STI-M METRIC TAPS**

Bottoming and  
Semi-Bottoming Styles  
DIN / DIN

		NEW		
	Enorm-Z/E	Enorm-Z/E-GLT-1	Enorm-Z	Enorm-AL/E-GLT-8
<b>Class of Fit</b>	6H mod	6H mod	6H mod	6H mod
<b>Coating</b>	Bright	GLT-1	Bright	GLT-8
<b>Type</b>	Bottoming	Bottoming	Semi-Bottoming	Bottoming
<b>Chamfer</b>	E / 1.5-2 P	E / 1.5-2 P	C / 2-3 P	E / 1.5-2 P

Size	TPI	OAL	Shank	Square	EDP No.	EDP No.	EDP No.	EDP No.
M2.5	0.45	56.0	3.5	2.7	B05135000965	B051C4000965	B05035000965	B050S8000965
M3	0.50	63.0	4.5	3.4	B05135000966	B051C4000966	B05035000966	B050S8000966
M4	0.70	70.0	6.0	4.9	B05135000968	B051C4000968	B05035000968	B050S8000968
M5	0.80	80.0	6.0	4.9	B05135000970	B051C4000970	B05035000970	B050S8000970
M6	1.00	90.0	8.0	6.2	B05135000971	B051C4000971	B05035000971	B050S8000971
M8	1.25	100.0	10.0	8.0	B05135000973	B051C4000973	B05035000973	B050S8000973
M10	1.50	100.0	9.0	7.0	C05135000975	C051C4000975	C05035000975	
M12	1.75	110.0	11.0	9.0	C05135000977	C051C4000977	C05035000977	
M16	2.00	125.0	14.0	11.0	C05135000979	C051C4000979	C05035000979	
M20	2.50	160.0	18.0	14.5	C05135000981	C051C4000981	C05035000981	

**STI-UNC / STI-UNF TAPS**

Plug and Semi-Bottoming Styles  
DIN / ANSI



	<b>NEW</b>	<b>NEW</b>	<b>NEW</b>	<b>NEW</b>
<b>Rekord B-VA</b>	<b>Rekord B-VA-GLT-1</b>	<b>Rekord B-AL-GLT-8</b>	<b>Rekord D-TI</b>	<b>Rekord 1DF-NI-TiCN</b>
3B	3B	3B	3BX	3BX
NT	GLT-1	GLT-8	NT2	TiCN
Plug	Plug	Plug	Semi-Bottoming	Semi-Bottoming
B / 4-5 P	B / 4-5 P	B / 4-5 P	C / 2-3 P	C / 2-3 P
<b>EDP No.</b>	<b>EDP No.</b>	<b>EDP No.</b>	<b>EDP No.</b>	<b>EDP No.</b>
BU2030105611	BU20C3105611	BU20S8105611	BU4560115611	
BU2030105612	BU20C3105612		BU4560115612	
BU2030105613	BU20C3105613	BU20S8105613	BU4560115613	
BU2030105614	BU20C3105614	BU20S8105614	BU4560115614	
BU2030105615	BU20C3105615	BU20S8105615	BU4560115615	
BU2030105616	BU20C3105616		BU4560115616	
BU2030105617	BU20C3105617	BU20S8105617	BU4560115617	
BU2030105618	BU20C3105618	BU20S8105618	BU4560115618	
CU2030105619	CU20C3105619	CU20S8105619	CU4560115619	
CU2030105620	CU20C3105620		CU4560115620	
CU2030105621	CU20C3105621	CU20S8105621	CU4560115621	
CU2030105623	CU20C3105623		CU4560115622	
CU2030105624	CU20C3105624		CU4560115623	
	CU20C3105625		CU4560115624	
	CU20C3105626			
BU2030105633	BU20C3105633		BU4560115633	
BU2030105635	BU20C3105635	BU20S8105635	BU4560115635	
BU2030105636	BU20C3105636	BU20S8105636	BU4560115636	
BU2030105637	BU20C3105637	BU20S8105637	BU4560115637	BU35J4115637
BU2030105639	BU20C3105639	BU20S8105639	BU4560115639	BU35J4115639
BU2030105640	BU20C3105640	BU20S8105640	BU4560115640	BU35J4115640
CU2030105641	CU20C3105641	CU20S8105641	CU4560115641	CU35J4115641
CU2030105642	CU20C3105642		CU4560115642	CU35J4115642
CU2030105643	CU20C3105643	CU20S8105643	CU4560115643	
CU2030105644	CU20C3105644		CU4560115644	
CU2030105645	CU20C3105645		CU4560115645	
CU2030105646	CU20C3105646		CU4560115646	
	CU20C3105647			
	CU20C3105648			

**STI-M METRIC TAPS**

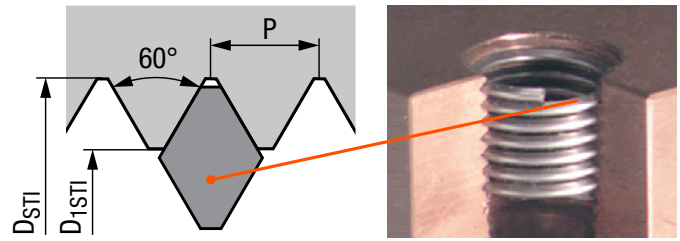
Plug Style  
DIN / DIN

		<b>NEW</b>	
	<b>Rekord B-VA</b>	<b>Rekord B-VA-GLT-1</b>	<b>Rekord B-AL-GLT-8</b>
<b>Class of Fit</b>	6H mod	6H mod	6H mod
<b>Coating</b>	NT	GLT-1	GLT-8
<b>Type</b>	Plug	Plug	Plug
<b>Chamfer</b>	B / 4-5 P	B / 4-5 P	B / 4-5 P

<b>Size</b>	<b>TPI</b>	<b>OAL</b>	<b>Shank</b>	<b>Square</b>	<b>EDP No.</b>	<b>EDP No.</b>	<b>EDP No.</b>
M2.5	0.45	56.0	3.5	2.7	B02030000965	B020C3000965	B020S8000965
M3	0.50	63.0	4.5	3.4	B02030000966	B020C3000966	B020S8000966
M4	0.70	70.0	6.0	4.9	B02030000968	B020C3000968	B020S8000968
M5	0.80	80.0	6.0	4.9	B02030000970	B020C3000970	B020S8000970
M6	1.00	90.0	8.0	6.2	B02030000971	B020C3000971	B020S8000971
M8	1.25	100.0	10.0	8.0	B02030000973	B020C3000973	B020S8000973
M10	1.50	100.0	9.0	7.0	C02030000975	C020C3000975	C020S8000975
M12	1.75	110.0	11.0	9.0	C02030000977	C020C3000977	C020S8000977
M16	2.00	125.0	14.0	11.0	C02030000979	C020C3000979	
M20	2.50	160.0	18.0	14.5	C02030000981	C020C3000981	

## Recommended Cut Tap Drill Sizes

When preparing a hole to accept a wire screw thread insert, a Screw Thread Insert or STI tap is used to prepare the hole. The recommended drill is utilized to open the hole to the correct minor diameter. The STI tap is then used to create the proper threads in the piece.



### STI-UNC

Unified coarse thread ASME B18.29.1 for wire thread inserts

Nominal Size	MAJOR thread dia. of the internal thread (Tol. 2B)		MINOR thread dia. of the internal thread (Tol. 2B)		Rec. tap drill size
	P [T.P.I.]	D <sub>STI</sub> min.	D <sub>1STI</sub> min.	D <sub>1STI</sub> max.	
STI-No. 2	56	0.1092	0.0899	0.0961	0.0906
STI-No. 3	48	0.1261	0.1036	0.1104	0.1063
STI-No. 4	40	0.1445	0.1175	0.1252	0.1220
STI-No. 5	40	0.1575	0.1305	0.1373	0.1339
STI-No. 6	32	0.1786	0.1448	0.1527	0.1496
STI-No. 8	32	0.2046	0.1708	0.1781	0.1732
STI-No. 10	24	0.2441	0.1990	0.2080	0.2047
STI-No. 12	24	0.2701	0.2250	0.2340	0.2283
STI- 1/4	20	0.3150	0.2608	0.2704	0.2638
STI- 5/16	18	0.3847	0.3245	0.3342	0.3307
STI- 3/8	16	0.4562	0.3885	0.3987	0.3937
STI- 7/16	14	0.5303	0.4530	0.4639	0.4567
STI- 1/2	13	0.5999	0.5166	0.5273	0.5236
STI- 9/16	12	0.6708	0.5806	0.5918	0.5866
STI- 5/8	11	0.7431	0.6447	0.6564	0.6496
STI- 3/4	10	0.8799	0.7716	0.7838	0.7776
STI- 7/8	9	1.0193	0.8990	0.9119	0.9055
STI- 1	8	1.1624	1.0271	1.0421	1.0335
STI- 1 1/8	7	1.3106	1.1559	1.1730	1.1614
STI- 1 1/4	7	1.4356	1.2809	1.2980	1.2894
STI- 1 3/8	6	1.5915	1.4110	1.4310	1.4173
STI- 1 1/2	6	1.7165	1.5360	1.5560	1.5453

### STI-UNF

Unified fine thread ASME B18.29.1 for wire thread inserts

Nominal Size	MAJOR thread dia. of the internal thread (Tol. 2B)		MINOR thread dia. of the internal thread (Tol. 2B)		Rec. tap drill size
	P [T.P.I.]	D <sub>STI</sub> min.	D <sub>1STI</sub> min.	D <sub>1STI</sub> max.	
STI-No. 2	64	0.1063	0.0894	0.0947	0.0906
STI-No. 3	56	0.1222	0.1029	0.1086	0.1063
STI-No. 4	48	0.1391	0.1166	0.1229	0.1181
STI-No. 6	40	0.1705	0.1435	0.1503	0.1457
STI-No. 8	36	0.2001	0.1701	0.1771	0.1732
STI-No. 10	32	0.2306	0.1968	0.2041	0.2008
STI- 1/4	28	0.2964	0.2577	0.2646	0.2598
STI- 5/16	24	0.3666	0.3215	0.3288	0.3248
STI- 3/8	24	0.4291	0.3840	0.3910	0.3858
STI- 7/16	20	0.5025	0.4483	0.4561	0.4528
STI- 1/2	20	0.5650	0.5108	0.5186	0.5157
STI- 9/16	18	0.6347	0.5745	0.5826	0.5787
STI- 5/8	18	0.6972	0.6370	0.6451	0.6398
STI- 3/4	16	0.8312	0.7635	0.7720	0.7677
STI- 7/8	14	0.9678	0.8905	0.8994	0.8957
STI- 1	12	1.1083	1.0181	1.0281	1.0236
STI- 1 1/8	12	1.2333	1.1431	1.1531	1.1516
STI- 1 1/4	12	1.3583	1.2681	1.2781	1.2795
STI- 1 3/8	12	1.4833	1.3931	1.4031	1.3976
STI- 1 1/2	12	1.6083	1.5181	1.5281	1.5256

### STI-M

ISO Metric coarse thread DIN 8140-2 for wire thread inserts

Nominal Size	MAJOR thread dia. of the internal thread (Tol. 6H mod.)		MINOR thread dia. of the internal thread (Tol. 6H mod.)		Recommended tap drill size	
	P [mm]	D <sub>STI</sub> min. [mm]	D <sub>1STI</sub> min. [mm]	D <sub>1STI</sub> max. [mm]	[mm]	[inch]
STI-M 2	0.4	2.520	2.087	2.177	2.10	0.0827
STI-M 2.5	0.45	3.084	2.597	2.697	2.65	0.1043
STI-M 3	0.5	3.650	3.108	3.220	3.15	0.1240
STI-M 4	0.7	4.910	4.152	4.292	4.20	0.1654
STI-M 5	0.8	6.040	5.174	5.334	5.25	0.2067
STI-M 6	1	7.300	6.217	6.407	6.30	0.2480
STI-M 8	1.25	9.624	8.271	8.483	8.40	0.3307
STI-M 10	1.5	11.948	10.324	10.560	10.50	0.4134
STI-M 12	1.75	14.274	12.379	12.644	12.50	0.4921
STI-M 14	2	16.598	14.433	14.733	14.50	0.5709
STI-M 16	2	18.598	16.433	16.733	16.50	0.6496
STI-M 18	2.5	21.248	18.541	18.896	18.75	0.7382
STI-M 20	2.5	23.248	20.541	20.896	20.75	0.8169
STI-M 22	2.5	25.248	22.541	22.896	22.75	0.8957
STI-M 24	3	27.897	24.649	25.049	24.75	0.9744
STI-M 27	3	30.897	27.649	28.049	27.75	1.0925
STI-M 30	3.5	34.546	30.757	31.207	31.00	1.2205



# EMUGE HIGH PERFORMANCE TOOLS

## EMUGE Corp. Technology Center

West Boylston, MA, USA



**EMUGE Corp.** is a wholly owned subsidiary of EMUGE-Werk Richard Glimpel GmbH & Co. KG (Lauf, Germany) that has been the product technology and performance leader in their field for nearly 100 years. Emuge manufactures an extensive line of taps, thread mills, end mills, drills, toolholders, clamping devices and other rotary cutting tools, over 100,000 items sold through distributors worldwide. Emuge also offers end-user technical support through a network of in-the-field engineers and in-house product specialists, all with extensive tooling and application experience.



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