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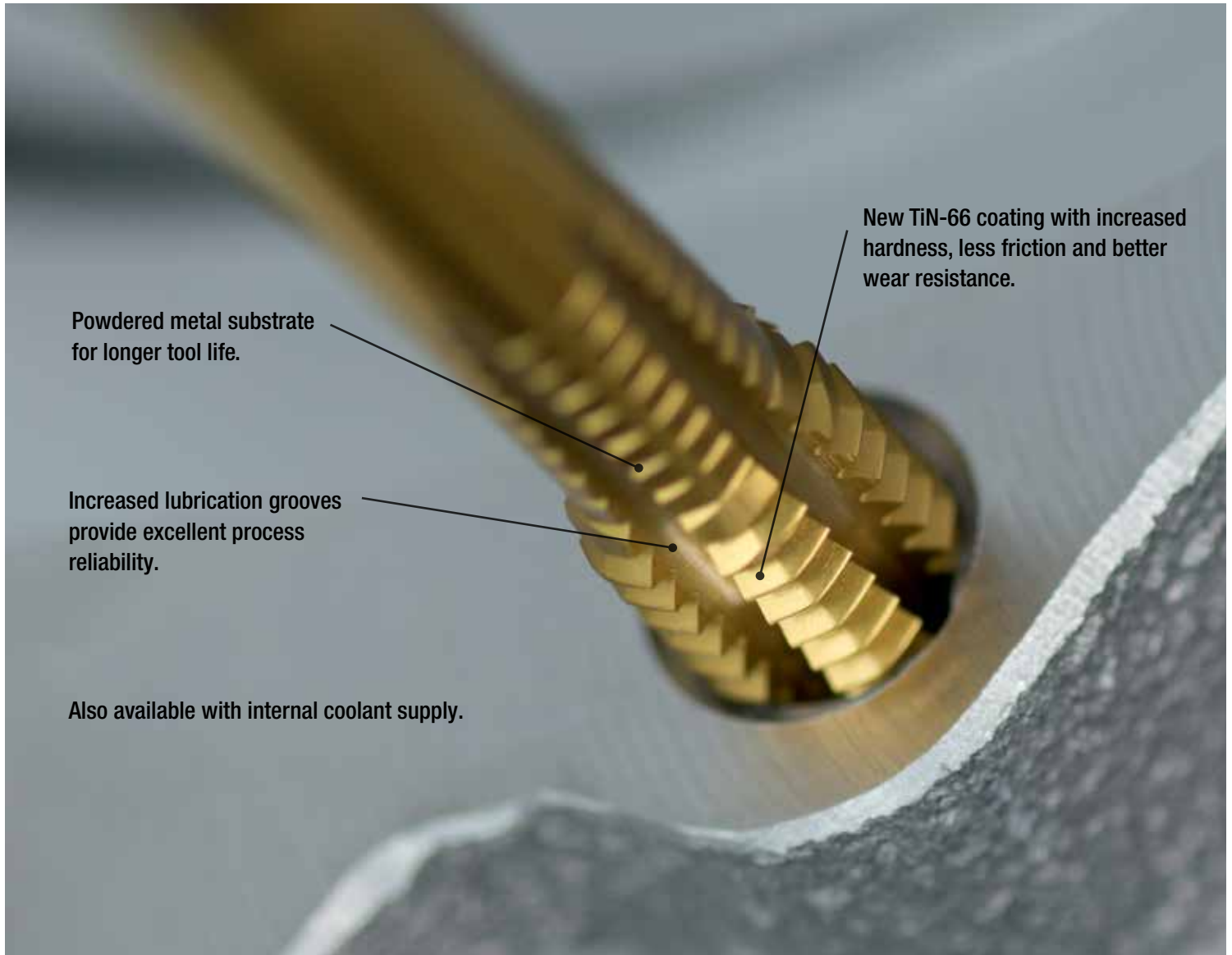
COMPLETE METALWORKING SOLUTIONS
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INNOFORM-STEEL-M TAPS FOR MEDIUM STRENGTH STEELS

INTRODUCING**InnoForm-STEEL-M HSSE-PM Taps for Medium Strength Steels**

Emuge's new InnoForm-STEEL-M Roll Form Taps feature an innovative geometric design, special base material, lubrication grooves and coating to provide unsurpassed performance in your medium steel threading applications. Improve your thread surface quality while increasing static and dynamic thread strength with Emuge InnoForm Taps.



MATERIALS AND SPEED RECOMMENDATIONS

Applications – Materials		Hardness Range			Material Examples	SFM		
		HRC	BHN	N/mm ²		Minimum	Recommended	Maximum
Steel materials								
P	1.1 Cold-extrusion steels, Construction steels, Free-cutting steels, etc.		≤ 180	≤ 600	1010 / 1018 / 1020 / 12L14 / 12L15 / A36 / T1		–	
	2.1 Construction steels, Cementation steels, Steel castings, etc.	≤ 22	≤ 235	≤ 800	A36 / T1 / 1030-1095 / 4140 / 4340 / 8620	33	66	131
	3.1 Cementation steels, Heat-treatable steels, Cold work steels, etc.	≤ 31	≤ 295	≤ 1000	4140 / 4340 / 8620 / P20 / H13 / D2 / A2 / S7 / H1150	33	50	82
	4.1 Heat-treatable steels, Cold work steels, Nitriding steels, etc.	≤ 38	≤ 355	≤ 1200	4140 / 4340 / 8620 / P20 / H13 / D2 / 300M / 52100 / M1-M42	17	33	66
	5.1 High-alloyed steels, Cold work steels, Hot work steels, etc.	≤ 44	≤ 415	≤ 1400	4140 / 4340 / 8620 / P20 / H13 / D2 / 300M / 52100	17	33	50

- TiN-66 Coating
- Powdered Metal Substrate
- Blind / Through Hole
- DIN Length / ANSI Shank
- C / 2-3 and E / 1.5-2 Chamfer Lengths
- 2BX Class of Fit



UNC – C / 2-3 Chamfer – Reinforced Shank

Size	T.P.I.	# Flutes	Shank Dia.	Square Width	OAL	EDP No.
#3	48	3	0.141"	0.110"	1.969"	BU377F00.5002
#4	40	3	0.141"	0.110"	2.205"	BU377F00.5003
#5	40	3	0.141"	0.110"	2.205"	BU377F00.5004
#6	32	4	0.141"	0.110"	2.205"	BU377F00.5005
#8	32	4	0.168"	0.131"	2.48"	BU377F00.5006
#10	24	5	0.194"	0.152"	2.756"	BU377F00.5007
#12	24	5	0.220"	0.165"	3.15"	BU377F00.5008
1/4	20	6	0.255"	0.191"	3.15"	BU377F00.5009
5/16	18	6	0.318"	0.238"	3.543"	BU377F00.5010
3/8	16	7	0.381"	0.286"	3.937"	BU377F00.5011

UNC – C / 2-3 Chamfer – Reinforced Shank

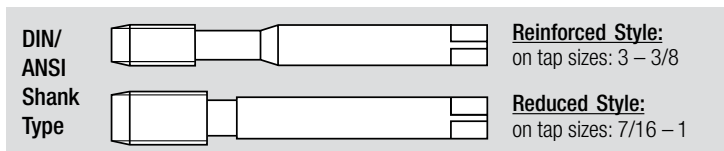
COOLANT-THRU						
1/4	20	6	0.255"	0.191"	3.15"	BU387F00.5009
5/16	18	6	0.318"	0.238"	3.543"	BU387F00.5010
3/8	16	7	0.381"	0.286"	3.937"	BU387F00.5011

UNC – E / 1.5-2 Chamfer – Reinforced Shank

COOLANT-THRU						
1/4	20	6	0.255"	0.191"	3.15"	BU447F00.5009 *
5/16	18	6	0.318"	0.238"	3.543"	BU447F00.5010 *
3/8	16	7	0.381"	0.286"	3.937"	BU447F00.5011 *

* Bottoming Taps

For Materials and Speed Recommendations, see page 3.



UNC – C / 2-3 Chamfer – Reduced Shank

Size	T.P.I.	# Flutes	Shank Dia.	Square Width	OAL	EDP No.
7/16	14	9	0.323"	0.242"	3.937"	CU377F00.5012
1/2	13	11	0.367"	0.275"	4.331"	CU377F00.5013
9/16	12	11	0.429"	0.322"	4.331"	CU377F00.5014
5/8	11	11	0.480"	0.360"	4.331"	CU377F00.5015
3/4	10	11	0.590"	0.442"	4.921"	CU377F00.5016
7/8	9	11	0.697"	0.523"	5.512"	CU377F00.5017
1	8	11	0.800"	0.600"	6.299"	CU377F00.5018

UNC – C / 2-3 Chamfer – Reduced Shank

COOLANT-THRU						
7/16	14	9	0.323"	0.242"	3.937"	CU387F00.5012
1/2	13	11	0.367"	0.275"	4.331"	CU387F00.5013
9/16	12	11	0.429"	0.322"	4.331"	CU387F00.5014
5/8	11	11	0.480"	0.360"	4.331"	CU387F00.5015
3/4	10	11	0.590"	0.442"	4.921"	CU387F00.5016
7/8	9	11	0.697"	0.523"	5.512"	CU387F00.5017
1	8	11	0.800"	0.600"	6.299"	CU387F00.5018



- TiN-66 Coated
- Powdered Metal Substrate
- Blind / Through Hole
- DIN Length / ANSI Shank
- C / 2-3 and E / 1.5-2 Chamfer Lengths
- 2BX Class of Fit

UNF – C / 2-3 Chamfer – Reinforced Shank

Size	T.P.I.	# Flutes	Shank Dia.	Square Width	OAL	EDP No.
10	32	5	0.194"	0.152"	2.756"	BU377F00.5041
1/4	28	6	0.255"	0.191"	3.15"	BU377F00.5043
5/16	24	6	0.318"	0.238"	3.543"	BU377F00.5044
3/8	24	7	0.381"	0.286"	3.937"	BU377F00.5045

UNF – C / 2-3 Chamfer – Reinforced Shank

COOLANT-THRU						
Size	T.P.I.	# Flutes	Shank Dia.	Square Width	OAL	EDP No.
10	32	5	0.194"	0.152"	2.756"	BU387F00.5041
1/4	28	6	0.255"	0.191"	3.15"	BU387F00.5043
5/16	24	6	0.318"	0.238"	3.543"	BU387F00.5044
3/8	24	7	0.381"	0.286"	3.937"	BU387F00.5045

UNF – E / 1.5-2 Chamfer – Reinforced Shank

COOLANT-THRU						
Size	T.P.I.	# Flutes	Shank Dia.	Square Width	OAL	EDP No.
10	32	5	0.194"	0.152"	2.756"	BU447F00.5041 *
1/4	28	6	0.255"	0.191"	3.15"	BU447F00.5043 *
5/16	24	6	0.318"	0.238"	3.543"	BU447F00.5044 *
3/8	24	7	0.381"	0.286"	3.937"	BU447F00.5045 *

* Bottoming Taps

UNF – C / 2-3 Chamfer – Reduced Shank

Size	T.P.I.	# Flutes	Shank Dia.	Square Width	OAL	EDP No.
7/16	20	9	0.323"	0.242"	3.937"	CU377F00.5046
1/2	20	11	0.367"	0.275"	3.937"	CU377F00.5047
9/16	18	11	0.429"	0.322"	3.937"	CU377F00.5048
5/8	18	11	0.480"	0.360"	3.937"	CU377F00.5049
3/4	16	11	0.590"	0.442"	4.331"	CU377F00.5050

UNF – C / 2-3 Chamfer – Reduced Shank

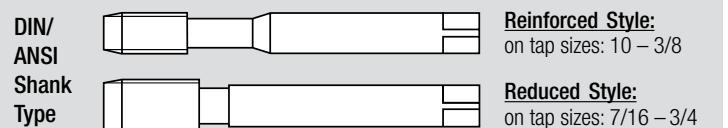
COOLANT-THRU						
Size	T.P.I.	# Flutes	Shank Dia.	Square Width	OAL	EDP No.
7/16	20	9	0.323"	0.242"	3.937"	CU387F00.5046
1/2	20	11	0.367"	0.275"	3.937"	CU387F00.5047
9/16	18	11	0.429"	0.322"	3.937"	CU387F00.5048
5/8	18	11	0.480"	0.360"	3.937"	CU387F00.5049
3/4	16	11	0.590"	0.442"	4.331"	CU387F00.5050

UNF – E / 1.5-2 Chamfer – Reduced Shank

COOLANT-THRU						
Size	T.P.I.	# Flutes	Shank Dia.	Square Width	OAL	EDP No.
7/16	20	9	0.323"	0.242"	3.937"	CU477F00.5046 *
1/2	20	11	0.367"	0.275"	3.937"	CU477F00.5047 *
9/16	18	11	0.429"	0.322"	3.937"	CU477F00.5048 *
5/8	18	11	0.480"	0.360"	3.937"	CU477F00.5049 *
3/4	16	11	0.590"	0.442"	4.331"	CU477F00.5050 *

* Bottoming Taps

For Materials and Speed Recommendations, see page 3.



- TiN-66 Coated
- Powdered Metal Substrate
- Blind / Through Hole
- DIN Length / DIN Shank
- C / 2-3 and E / 1.5-2 Chamfer Lengths
- 6HX Class of Fit



METRIC – C / 2-3 Chamfer – Reinforced Shank

Size	P (mm)	# Flutes	Shank Dia.	Square Width	OAL	EDP No.
M 3	0.5	3	3.5 mm	2.7 mm	56 mm	B5217F00.0030
M 4	0.7	4	4.5 mm	3.4 mm	63 mm	B5217F00.0040
M 5	0.8	5	6 mm	4.9 mm	70 mm	B5217F00.0050
M 6	1	6	6 mm	4.9 mm	80 mm	B5217F00.0060
M 8	1.25	7	8 mm	6.2 mm	90 mm	B5217F00.0080
M 10	1.5	9	10 mm	8 mm	100 mm	B5217F00.0100

METRIC – C / 2-3 Chamfer – Reinforced Shank

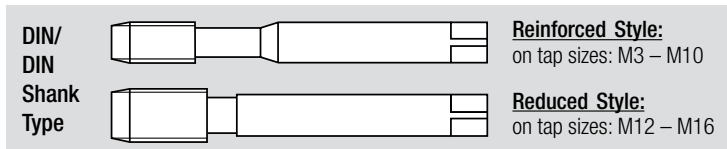
COOLANT-THRU						
Size	P (mm)	# Flutes	Shank Dia.	Square Width	OAL	EDP No.
M 4	0.7	4	4.5 mm	3.4 mm	63 mm	B5237F00.0040
M 5	0.8	5	6 mm	4.9 mm	70 mm	B5237F00.0050
M 6	1	6	6 mm	4.9 mm	80 mm	B5237F00.0060
M 8	1.25	7	8 mm	6.2 mm	90 mm	B5237F00.0080
M 10	1.5	9	10 mm	8 mm	100 mm	B5237F00.0100

METRIC – E / 1.5-2 Chamfer – Reinforced Shank

COOLANT-THRU						
Size	P (mm)	# Flutes	Shank Dia.	Square Width	OAL	EDP No.
M 4	0.7	4	4.5 mm	3.4 mm	63 mm	B5317F00.0040 *
M 5	0.8	5	6 mm	4.9 mm	70 mm	B5317F00.0050 *
M 6	1	6	6 mm	4.9 mm	80 mm	B5317F00.0060 *
M 8	1.25	7	8 mm	6.2 mm	90 mm	B5317F00.0080 *
M 10	1.5	9	10 mm	8 mm	100 mm	B5317F00.0100 *

* Bottoming Taps

For Materials and Speed Recommendations, see page 3.



METRIC – C / 2-3 Chamfer – Reduced Shank

Size	P (mm)	# Flutes	Shank Dia.	Square Width	OAL	EDP No.
M 12	1.75	11	9 mm	7 mm	110 mm	C5217F00.0112
M 16	2	11	12 mm	9 mm	110 mm	C5217F00.0116

METRIC FINE – C / 2-3 Chamfer – Reduced Shank

Size	P (mm)	# Flutes	Shank Dia.	Square Width	OAL	EDP No.
M 12	1.5	11	9 mm	7 mm	100 mm	C5217F00.0303
M 14	1.5	11	11 mm	9 mm	100 mm	C5217F00.0331
M 16	1.5	11	12 mm	9 mm	100 mm	C5217F00.0359

METRIC – C / 2-3 Chamfer – Reduced Shank

RADIAL COOLANT-THRU						
Size	P (mm)	# Flutes	Shank Dia.	Square Width	OAL	EDP No.
M 12	1.75	11	9 mm	7 mm	110 mm	C5267F00.0112
M 16	1	11	12 mm	9 mm	110 mm	C5267F00.0116

METRIC FINE – C / 2-3 Chamfer – Reduced Shank

RADIAL COOLANT-THRU						
Size	P (mm)	# Flutes	Shank Dia.	Square Width	OAL	EDP No.
M 12	1.5	11	9 mm	7 mm	100 mm	C5267F00.0303
M 14	1.5	11	11 mm	9 mm	100 mm	C5267F00.0331
M 16	1.5	11	12 mm	9 mm	100 mm	C5267F00.0359

METRIC – E / 1.5-2 Chamfer – Reduced Shank

RADIAL COOLANT-THRU						
Size	P (mm)	# Flutes	Shank Dia.	Square Width	OAL	EDP No.
M 12	1.75	11	9 mm	7 mm	110 mm	C5337F00.0112 *
M 16	1	11	12 mm	9 mm	110 mm	C5337F00.0116 *

METRIC FINE – E / 1.5-2 Chamfer – Reduced Shank

RADIAL COOLANT-THRU						
Size	P (mm)	# Flutes	Shank Dia.	Square Width	OAL	EDP No.
M 12	1.5	11	9 mm	7 mm	100 mm	C5337F00.0303 *
M 14	1.5	11	11 mm	9 mm	100 mm	C5337F00.0331 *
M 16	1.5	11	12 mm	9 mm	100 mm	C5337F00.0359 *

* Bottoming Taps

Increase tool life & thread quality with our unique design

Featuring patented constructional separation of the transmission of torque and axial force.

The EMUGE collet holder type **KSN/Softsynchro®** makes the optimum use of a synchronous spindle possible, with the *best imaginable tool life and thread surface quality.*

- Freedom from rotational play in the C-axis due to **form-positive transmission of torque by means of steel balls.**
- **Soft minimum length compensation on tension and compression,** with axial force transmission by means of pre-tensioned elastomer springs that are coolant resistant.
- Patented elastomer springs which, by means of their absorption characteristics, **prevent axial pressure forces that act negatively on the tap flank surfaces.**
- Minimum length compensation system **automatically corrects for small pitch errors** between synchronized spindle and tap lead during feed cycle and critically when spindle reverses direction of rotation to exit.
- Precision ball grooves minimize rolling friction on torque transmission balls to **guarantee precise micro correction of lead errors in a rigid tapping cycle,** even under the most demanding machining conditions.



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Combination carbide drill-chamfer tools, **many sizes available from stock or order customized lengths in less than 4 weeks!**

- Tools are coolant-fed, 4 margin design with TiALN-T14 coating
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- Save time – one tool handles two operations in a wide range of materials
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