

MultiTAP™ by EMUGE

Industry's
broadest line of
Multi-Purpose
TAPS



NEW Expanded Line!

The Original

MultiTAP™ by EMUGE

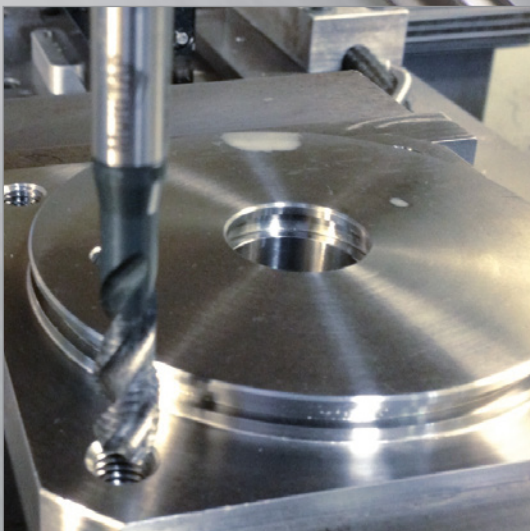
Introducing the **EXPANDED** MultiTAP line.

From cut taps to form taps, extended lengths to different coatings, Emuge, the inventor and leader of the high performance multi-purpose tap, now offers the broadest line in the industry.

*MultiTAP cuts a wide range of materials – carbon steel, steel alloys, stainless steel, aluminum, cast iron, copper, brass, and bronze. And MultiTAP is uniquely designed to produce threads within both **2B and 3B classes of fit**, eliminating the guesswork required when calculating H-limits.*

MultiTAP features an innovative geometric design and a special base material and surface treatment, allowing it to handle numerous materials and applications. Emuge has designed MultiTAP as an **affordable**, yet high performance tapping solution.

MultiTAP will significantly improve thread quality and boost output while reducing production costs, handling most common materials and applications. **MultiTAP eliminates the need to stock numerous types of taps in the tool crib.**



**Made in Germany
by Emuge**

Since Emuge introduced MultiTAP, imitators are trying to follow. But MultiTAP users know what works best.

MultiTAP is the ONE.



MultiTAP™ is GUARANTEED!

If MultiTAP doesn't outperform your current taps in a range of common materials, Emuge will refund your money

See MultiTAP in action online at:
www.emuge.com



MultiTAP™ Spiral Point Taps



- MultiTAP is constructed of a proprietary grade of cobalt, nitrided with an Ne2 surface treatment or available TiCN coated

MultiTAP – PLUG STYLE – 2B/3B Class of Fit			DIN / ANSI		Ne2 Coated	TiCN Coated
Size		OAL (in)	Shank Dia. (in)	EDP No.	EDP No.	EDP No.
#4-40	UNC	2.205	0.141	BU497300.5003	BU499300.5003	BU499300.5003
#5-40	UNC	2.205	0.141	BU497300.5004	BU499300.5004	BU499300.5004
#6-32	UNC	2.205	0.141	BU497300.5005	BU499300.5005	BU499300.5005
#8-32	UNC	2.480	0.168	BU497300.5006	BU499300.5006	BU499300.5006
#10-24	UNC	2.756	0.194	BU497300.5007	BU499300.5007	BU499300.5007
#12-24	UNC	3.150	0.220	BU497300.5008	BU499300.5008	BU499300.5008
1/4-20	UNC	3.150	0.255	BU497300.5009	BU499300.5009	BU499300.5009
5/16-18	UNC	3.543	0.318	BU497300.5010	BU499300.5010	BU499300.5010
3/8-16	UNC	3.937	0.381	BU497300.5011	BU499300.5011	BU499300.5011
7/16-14	UNC	3.937	0.323	CU497300.5012	CU499300.5012	CU499300.5012
1/2-13	UNC	3.937	0.367	CU497300.5013	CU499300.5013	CU499300.5013
9/16-12	UNC	3.937	0.429	CU497300.5014	CU499300.5014	CU499300.5014
5/8-11	UNC	3.937	0.480	CU497300.5015	CU499300.5015	CU499300.5015
3/4-10	UNC	4.330	0.590	CU497300.5016	CU499300.5016	CU499300.5016
7/8-9	UNC	4.921	0.697	CU497300.5017	CU499300.5017	CU499300.5017
1"-8	UNC	5.512	0.800	CU497300.5018	CU499300.5018	CU499300.5018
#4-48	UNF	2.205	0.141	BU497300.5037	BU499300.5037	BU499300.5037
#5-44	UNF	2.205	0.141	BU497300.5038	BU499300.5038	BU499300.5038
#6-40	UNF	2.205	0.141	BU497300.5039	BU499300.5039	BU499300.5039
#8-36	UNF	2.480	0.168	BU497300.5040	BU499300.5040	BU499300.5040
#10-32	UNF	2.756	0.194	BU497300.5041	BU499300.5041	BU499300.5041
#12-28	UNF	3.150	0.220	BU497300.5042	BU499300.5042	BU499300.5042
1/4-28	UNF	3.150	0.255	BU497300.5043	BU499300.5043	BU499300.5043
5/16-24	UNF	3.543	0.318	BU497300.5044	BU499300.5044	BU499300.5044
3/8-24	UNF	3.937	0.381	BU497300.5045	BU499300.5045	BU499300.5045
7/16-20	UNF	3.937	0.323	CU497300.5046	CU499300.5046	CU499300.5046
1/2-20	UNF	3.937	0.367	CU497300.5047	CU499300.5047	CU499300.5047
9/16-18	UNF	3.937	0.429	CU497300.5048	CU499300.5048	CU499300.5048
5/8-18	UNF	3.937	0.480	CU497300.5049	CU499300.5049	CU499300.5049
3/4-16	UNF	4.330	0.590	CU497300.5050	CU499300.5050	CU499300.5050
7/8-14	UNF	4.921	0.697	CU497300.5051	CU499300.5051	CU499300.5051
1"-12	UNF	5.512	0.800	CU497300.5052	CU499300.5052	CU499300.5052

MultiTAP – PLUG STYLE – METRIC COARSE – 6H Class of Fit									
DIN / ANSI			Ne2 Coated	TiCN Coated	DIN / DIN			Ne2 Coated	TiCN Coated
Size	OAL (mm)	Shank Dia. (in)	EDP No.	EDP No.	Size	OAL (mm)	Shank Dia. (mm)	EDP No.	EDP No.
M 4X0.7	63	0.168	BU497300.0040	BU499300.0040	M 4X0.7	63	4.5	B1577300.0040	B1579300.0040
M 5X0.8	70	0.194	BU497300.0050	BU499300.0050	M 5X0.8	70	6.0	B1577300.0050	B1579300.0050
M 6X1.0	80	0.255	BU497300.0060	BU499300.0060	M 6X1.0	80	6.0	B1577300.0060	B1579300.0060
M 8X1.25	90	0.318	BU497300.0080	BU499300.0080	M 8X1.25	90	8.0	B1577300.0080	B1579300.0080
M 10X1.5	100	0.381	BU497300.0100	BU499300.0100	M 10X1.5	100	10.0	B1577300.0100	B1579300.0100
M 12X1.75	110	0.367	CU497300.0112	CU499300.0112	M 12X1.75	110	9.0	C1577300.0112	C1579300.0112
M 16X2.0	110	0.480	CU497300.0116	CU499300.0116	M 16X2.0	110	12.0	C1577300.0116	C1579300.0116
M 18X2.5	125	0.542	CU497300.0118	CU499300.0118	M 18X2.5	125	14.0	C1577300.0118	C1579300.0118
M 20X2.5	140	0.652	CU497300.0120	CU499300.0120	M 20X2.5	140	16.0	C1577300.0120	C1579300.0120
M 24X3.0	160	0.760	CU497300.0124	CU499300.0124	M 24X3.0	160	18.0	C1577300.0124	C1579300.0124

MultiTAP™ Spiral Flute Taps



- All taps are made with Emuge's trademark long shanks – DIN length for extra reach. UNC and UNF taps are DIN length – ANSI shanks, metric taps are DIN length – DIN shanks or metric DIN length – ANSI shanks

MultiTAP – SEMI-BOTTOMING STYLE – 2B/3B Class of Fit

DIN / ANSI			Ne2 Coated	TiCN Coated	
Size		OAL (in)	Shank Dia. (in)	EDP No.	EDP No.
#4-40	UNC	2.205	0.141	BU533200.5003	BU539300.5003
#5-40	UNC	2.205	0.141	BU533200.5004	BU539300.5004
#6-32	UNC	2.205	0.141	BU533200.5005	BU539300.5005
#8-32	UNC	2.480	0.168	BU533200.5006	BU539300.5006
#10-24	UNC	2.756	0.194	BU533200.5007	BU539300.5007
#12-24	UNC	3.150	0.220	BU533200.5008	BU539300.5008
1/4-20	UNC	3.150	0.255	BU533200.5009	BU539300.5009
5/16-18	UNC	3.543	0.318	BU533200.5010	BU539300.5010
3/8-16	UNC	3.937	0.381	BU533200.5011	BU539300.5011
7/16-14	UNC	3.937	0.323	CU533200.5012	CU539300.5012
1/2-13	UNC	3.937	0.367	CU533200.5013	CU539300.5013
9/16-12	UNC	3.937	0.429	CU533200.5014	CU539300.5014
5/8-11	UNC	3.937	0.480	CU533200.5015	CU539300.5015
3/4-10	UNC	4.330	0.590	CU533200.5016	CU539300.5016
7/8-9	UNC	4.921	0.697	CU533200.5017	CU539300.5017
1"-8	UNC	5.512	0.800	CU533200.5018	CU539300.5018
#4-48	UNF	2.205	0.141	BU533200.5037	BU539300.5037
#5-44	UNF	2.205	0.141	BU533200.5038	BU539300.5038
#6-40	UNF	2.205	0.141	BU533200.5039	BU539300.5039
#8-36	UNF	2.480	0.168	BU533200.5040	BU539300.5040
#10-32	UNF	2.756	0.194	BU533200.5041	BU539300.5041
#12-28	UNF	3.150	0.220	BU533200.5042	BU539300.5042
1/4-28	UNF	3.150	0.255	BU533200.5043	BU539300.5043
5/16-24	UNF	3.543	0.318	BU533200.5044	BU539300.5044
3/8-24	UNF	3.937	0.381	BU533200.5045	BU539300.5045
7/16-20	UNF	3.937	0.323	CU533200.5046	CU539300.5046
1/2-20	UNF	3.937	0.367	CU533200.5047	CU539300.5047
9/16-18	UNF	3.937	0.429	CU533200.5048	CU539300.5048
5/8-18	UNF	3.937	0.480	CU533200.5049	CU539300.5049
3/4-16	UNF	4.330	0.590	CU533200.5050	CU539300.5050
7/8-14	UNF	4.921	0.697	CU533200.5051	CU539300.5051
1"-12	UNF	5.512	0.800	CU533200.5052	CU539300.5052

MultiTAP – SEMI-BOTTOMING STYLE – METRIC COARSE – 6H Class of Fit

DIN / ANSI			Ne2 Coated	TiCN Coated	DIN / DIN			Ne2 Coated	TiCN Coated
Size	OAL (mm)	Shank Dia. (in)	EDP No.	EDP No.	Size	OAL (mm)	Shank Dia. (mm)	EDP No.	EDP No.
M 4X0.7	63	0.168	BU533200.0040	BU539300.0040	M 4X0.7	63	4.5	B4933200.0040	B4939300.0040
M 5X0.8	70	0.194	BU533200.0050	BU539300.0050	M 5X0.8	70	6.0	B4933200.0050	B4939300.0050
M 6X1.0	80	0.255	BU533200.0060	BU539300.0060	M 6X1.0	80	6.0	B4933200.0060	B4939300.0060
M 8X1.25	90	0.318	BU533200.0080	BU539300.0080	M 8X1.25	90	8.0	B4933200.0080	B4939300.0080
M 10X1.5	100	0.381	BU533200.0100	BU539300.0100	M 10X1.5	100	10.0	B4933200.0100	B4939300.0100
M 12X1.75	110	0.367	CU533200.0112	CU539300.0112	M 12X1.75	110	9.0	C4933200.0112	C4939300.0112
M 16X2.0	110	0.480	CU533200.0116	CU539300.0116	M 16X2.0	110	12.0	C4933200.0116	C4939300.0116
M 18X2.5	125	0.542	CU533200.0118	CU539300.0118	M 18X2.5	125	14.0	C4933200.0118	C4939300.0118
M 20X2.5	140	0.652	CU533200.0120	CU539300.0120	M 20X2.5	140	16.0	C4933200.0120	C4939300.0120
M 24X3.0	160	0.760	CU533200.0124	CU539300.0124	M 24X3.0	160	18.0	C4933200.0124	C4939300.0124

MultiTAP™ Extended Length Spiral Point Taps

**ALL
NEW**



MultiTAP – PLUG STYLE – 2B/3B Class of Fit

DIN / ANSI			ALL NEW Ne2 Coated	
Size		OAL (in)	Shank Dia. (in)	EDP No.
#6-32	UNC	4.409	0.141	BU797300.5005
#8-32	UNC	4.921	0.168	BU797300.5006
#10-24	UNC	5.512	0.194	BU797300.5007
1/4-20	UNC	6.299	0.255	BU797300.5009
5/16-18	UNC	7.087	0.318	BU797300.5010
3/8-16	UNC	7.874	0.381	BU797300.5011
7/16-14	UNC	7.874	0.323	CU797300.5012
1/2-13	UNC	8.819	0.367	CU797300.5013
5/8-11	UNC	8.819	0.480	CU797300.5015
#6-40	UNF	4.409	0.141	BU797300.5039
#8-36	UNF	4.921	0.168	BU797300.5040
#10-32	UNF	5.512	0.194	BU797300.5041
1/4-28	UNF	6.299	0.255	BU797300.5043
5/16-24	UNF	7.087	0.318	BU797300.5044
3/8-24	UNF	7.087	0.381	BU797300.5045
7/16-20	UNF	7.874	0.323	CU797300.5046
1/2-20	UNF	7.874	0.367	CU797300.5047
5/8-18	UNF	7.874	0.480	CU797300.5049

MultiTAP – PLUG STYLE – METRIC COARSE – ISO2 / 6H Class of Fit

DIN / DIN			ALL NEW Ne2 Coated	
Size		OAL (mm)	Shank Dia. (mm)	EDP No.
M 3X0.5		100	3.5	B1667300.0030
M 4X0.7		125	4.5	B1667300.0040
M 5X0.8		140	6.0	B1667300.0050
M 6X1.0		160	6.0	B1667300.0060
M 8X1.25		180	8.0	B1667300.0080
M 10X1.5		200	7.0	C1667300.0100
M 12X1.75		224	9.0	C1667300.0112
M 14X2.0		224	11.0	C1667300.0114
M 16X2.0		224	12.0	C1667300.0116
M 18X2.5		250	14.0	C1667300.0118
M 20X2.5		280	16.0	C1667300.0120



Extended Length Spiral Flute Taps



MultiTAP – SEMI-BOTTOMING – 2B/3B Class of Fit

DIN / ANSI			ALL NEW Ne2 Coated	
Size		OAL (in)	Shank Dia. (in)	EDP No.
#6-32	UNC	4.409	0.141	BU783200.5005
#8-32	UNC	4.921	0.168	BU783200.5006
#10-24	UNC	5.512	0.194	BU783200.5007
1/4-20	UNC	6.299	0.255	BU783200.5009
5/16-18	UNC	7.087	0.318	BU783200.5010
3/8-16	UNC	7.874	0.381	BU783200.5011
7/16-14	UNC	7.874	0.323	CU783200.5012
1/2-13	UNC	8.819	0.367	CU783200.5013
5/8-11	UNC	8.819	0.480	CU783200.5015
#6-40	UNF	4.409	0.141	BU783200.5039
#8-36	UNF	4.921	0.168	BU783200.5040
#10-32	UNF	5.512	0.194	BU783200.5041
1/4-28	UNF	6.299	0.255	BU783200.5043
5/16-24	UNF	7.087	0.318	BU783200.5044
3/8-24	UNF	7.087	0.381	BU783200.5045
7/16-20	UNF	7.874	0.323	CU783200.5046
1/2-20	UNF	7.874	0.367	CU783200.5047
5/8-18	UNF	7.874	0.480	CU783200.5049

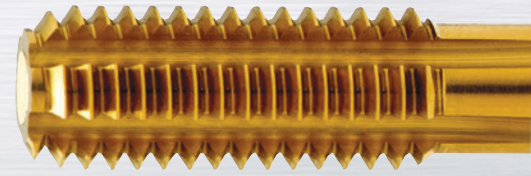
MultiTAP – SEMI-BOTTOMING – METRIC COARSE – ISO2 / 6H Class of Fit

DIN / DIN			ALL NEW Ne2 Coated	
Size		OAL (mm)	Shank Dia. (mm)	EDP No.
M 3X0.5		100	3.5	B5863200.0030
M 4X0.7		125	4.5	B5863200.0040
M 5X0.8		140	6.0	B5863200.0050
M 6X1.0		160	6.0	B5863200.0060
M 8X1.25		180	8.0	B5863200.0080
M 10X1.5		200	7.0	C5863200.0100
M 12X1.75		224	9.0	C5863200.0112
M 14X2.0		224	11.0	C5863200.0114
M 16X2.0		224	12.0	C5863200.0116
M 18X2.5		250	14.0	C5863200.0118
M 20X2.5		280	16.0	C5863200.0120



**ALL
NEW**

MultiTAP™-Form Roll Form Taps

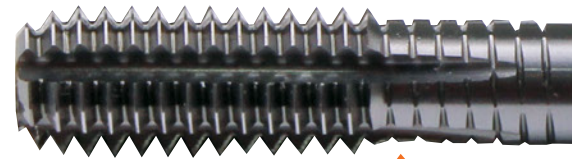


The industry's first general purpose tap is also available in a full line of form taps featuring innovative geometric design, special base material and coatings to handle numerous materials and applications at **unsurpassed performance levels.**

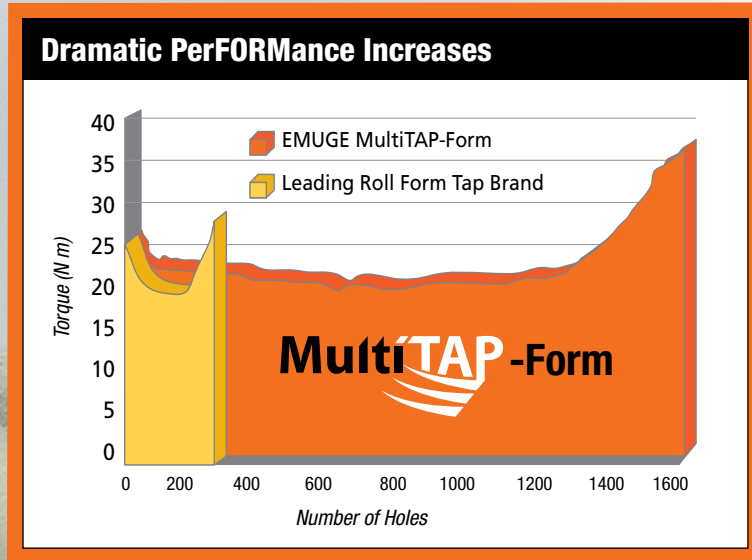
- Constructed of a proprietary grade of cobalt and TiN or TiCN coated for exceptionally long life and versatility
- Short chamfer lead of 1.5-2 pitch, ideal for bottom tapping
- Lubrication grooves allow coolant flow-to-form action, ideal for holes with long thread length
- **Form both 2B and 3B threads with the same tap,** eliminating the guesswork of calculating H-limits
- **All taps made with Emuge's trademark long shanks-*DIN length for extra reach.*** UNC and UNF taps are DIN length – ANSI shanks, metric taps are DIN length – DIN shanks

MultiTAP-Form – TiN COATED – 2B/3B class of fit							
DIN / ANSI			TiN Coated	DIN / ANSI			TiN Coated
Size	OAL (in)	Shank Dia. (in)	EDP No.	Size	OAL (in)	Shank Dia. (in)	EDP No.
#4-40 UNC	2.205	0.141	BU591410.5003	#12-28 UNF	3.150	0.220	BU591410.5042
#5-40 UNC	2.205	0.141	BU591410.5004	1/4-28 UNF	3.150	0.255	BU591410.5043
#6-32 UNC	2.205	0.141	BU591410.5005	5/16-24 UNF	3.543	0.318	BU591410.5044
#8-32 UNC	2.480	0.168	BU591410.5006	3/8-24 UNF	3.937	0.381	BU591410.5045
#10-24 UNC	2.756	0.194	BU591410.5007	7/16-20 UNF	3.937	0.323	CU031410.5046
#12-24 UNC	3.150	0.220	BU591410.5008	1/2-20 UNF	4.330	0.367	CU031410.5047
1/4-20 UNC	3.150	0.255	BU591410.5009	METRIC – DIN / DIN – TiN COATED – 6H class of fit			
5/16-18 UNC	3.543	0.318	BU591410.5010	Size	OAL (mm)	Shank Dia. (mm)	EDP No.
3/8-16 UNC	3.937	0.381	BU591410.5011	M 2X.04	45	2.8	B5991400.0020
7/16-14 UNC	3.937	0.323	CU031410.5012	M 3X.05	56	3.5	B5991400.0030
1/2-13 UNC	4.330	0.367	CU031410.5013	M 4X.07	63	4.5	B5991400.0040
#4-48 UNF	2.205	0.141	BU591410.5037	M 5X.08	70	6.0	B5991400.0050
#5-44 UNF	2.205	0.141	BU591410.5038	M 6X1.0	80	6.0	B5991400.0060
#6-40 UNF	2.205	0.141	BU591410.5039	M 8X1.25	90	8.0	B5991400.0080
#8-36 UNF	2.480	0.168	BU591410.5040	M 10X1.5	100	10.0	B5991400.0100
#10-32 UNF	2.756	0.194	BU591410.5041				

MultiTAP™-Form Roll Form Taps



NEW
TiCN Coated



Making threads without chips has advantages:

- Excellent thread surface quality
- No risk of poor threads due to axial "miscutting"
- Increased static and dynamic strength of thread
- Elevated tapping speeds are possible



MultiTAP-Form – NEW TiCN COATED – 2B/3B class of fit

DIN / ANSI			ALL NEW TiCN Coated	DIN / ANSI			ALL NEW TiCN Coated
Size	OAL (in)	Shank Dia. (in)	EDP No.	Size	OAL (in)	Shank Dia. (in)	EDP No.
#4-40 UNC	2.205	0.141	BU599010.5003	#12-28 UNF	3.150	0.220	BU599010.5042
#5-40 UNC	2.205	0.141	BU599010.5004	1/4-28 UNF	3.150	0.255	BU599010.5043
#6-32 UNC	2.205	0.141	BU599010.5005	5/16-24 UNF	3.543	0.318	BU599010.5044
#8-32 UNC	2.480	0.168	BU599010.5006	3/8-24 UNF	3.937	0.381	BU599010.5045
#10-24 UNC	2.756	0.194	BU599010.5007	7/16-20 UNF	3.937	0.323	CU039010.5046
#12-24 UNC	3.150	0.220	BU599010.5008	1/2-20 UNF	4.330	0.367	CU039010.5047
1/4-20 UNC	3.150	0.255	BU599010.5009	METRIC – DIN / DIN – TiCN COATED – 6H class of fit			
5/16-18 UNC	3.543	0.318	BU599010.5010	Size	OAL (mm)	Shank Dia. (mm)	EDP No.
3/8-16 UNC	3.937	0.381	BU599010.5011	M 2X.04	45	2.8	B5999000.0020
7/16-14 UNC	3.937	0.323	CU039010.5012	M 3X.05	56	3.5	B5999000.0030
1/2-13 UNC	4.330	0.367	CU039010.5013	M 4X.07	63	4.5	B5999000.0040
#4-48 UNF	2.205	0.141	BU599010.5037	M 5X.08	70	6.0	B5999000.0050
#5-44 UNF	2.205	0.141	BU599010.5038	M 6X1.0	80	6.0	B5999000.0060
#6-40 UNF	2.205	0.141	BU599010.5039	M 8X1.25	90	8.0	B5999000.0080
#8-36 UNF	2.480	0.168	BU599010.5040	M 10X1.5	100	10.0	B5999000.0100
#10-32 UNF	2.756	0.194	BU599010.5041				

MultiTAP™ Tap Drill Size Recommendations

TAP DRILL SIZE RECOMMENDATIONS

MULTITAP

Size	Recommended Drill Size (mm)	Size	Recommended Drill Size (mm)
#4-40 UNC	2.26	1/4-28 UNF	5.50
#5-40 UNC	2.58	5/16-24 UNF	6.90
#6-32 UNC	2.80	3/8-24 UNF	8.50
#8-32 UNC	3.50	7/16-20 UNF	9.90
#10-24 UNC	3.90	1/2-20 UNF	11.50
#12-24 UNC	4.50	9/16-18 UNF	13.00
1/4-20 UNC	5.20	5/8-18 UNF	14.50
5/16-18 UNC	6.60	3/4-16 UNF	17.50
3/8-16 UNC	8.00	7/8-14 UNF	20.50
7/16-14 UNC	9.40	1"-12 UNF	23.42
1/2-13 UNC	10.72	METRIC MULTITAP	
9/16-12 UNC	12.30		
5/8-11 UNC	13.50	M 4X0.7	3.30
3/4-10 UNC	16.70	M 5X0.8	4.20
7/8-9 UNC	19.45	M 6X1.0	5.00
1"-8 UNC	22.23	M 8X1.25	6.80
#4-48 UNF	2.40	M 10X1.5	8.50
#5-44 UNF	2.70	M 12X1.75	10.20
#6-40 UNF	3.00	M 16X2.0	14.00
#8-36 UNF	3.50	M 18X2.5	15.50
#10-32 UNF	4.10	M 20X2.5	17.50
#12-28 UNF	4.60	M 24X3.0	21.00

MULTITAP-FORM

Size	Recommended Drill Size (mm)	Size	Recommended Drill Size (mm)
#4-40 UNC	2.55	#12-28 UNF	5.10
#5-40 UNC	2.90	1/4-28 UNF	5.95
#6-32 UNC	3.15	5/16-24 UNF	7.45
#8-32 UNC	3.80	3/8-24 UNF	9.05
#10-24 UNC	4.35	7/16-20 UNF	10.55
#12-24 UNC	5.00	1/2-20 UNF	12.15
1/4-20 UNC	5.75	METRIC MULTITAP-FORM	
5/16-18 UNC	7.25		
3/8-16 UNC	8.80	M 2X.04	1.85
7/16-14 UNC	10.25	M 3X.05	2.80
1/2-13 UNC	11.80	M 4X.07	3.70
#4-48 UNF	2.62	M 5X.08	4.65
#5-44 UNF	2.92	M 6X1.0	5.60
#6-40 UNF	3.20	M 8X1.25	7.45
#8-36 UNF	3.85	M 10X1.5	9.35
#10-32 UNF	4.45		

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MultiTAP™ Material Sampling and Operating Parameters

MultiTAP SFM SPECIFICATIONS						SFM		
Material Group	Hardness Range			Material Example	MULTITAP	MULTITAP-Form		
	HRC	BHN	N/mm2					
Steel materials								
P	1.1	Cold-extrusion steels, Magnetic soft iron	-	≤ 120	≤ 400	1008 / 1010	25 - 60	35 - 85
	2.1	Free cutting steels, General construction steels	-	≤ 180	≤ 600	1008 / 1010 / 12L14 / A36 11L17 / 1149 / 12L15	25 - 60	35 - 85
	3.1	Free cutting steels, Construction steels, Alloyed steels, Steel castings	≤ 25	≤ 250	≤ 850	1018 / 1060 / 4130 / 4140 / 41L30 41L45 / 86L20 / 86L40 / 1045	15 - 40	35 - 75
	4.1	Crume alloy steel, Cold work steels, Heat-treatable steels, Nitriding steels	≤ 36	≤ 320	≤ 1100	5115 / A29 / A519 / J404 / 4130 / 8030 4140 / 4330 / Nitrally 125, 135, 230	10 - 35	15 - 40
Stainless Steel materials								
M	1.1	Corrosion/ acid-proof steels, Heat-resistant steels	≤ 25	≤ 250	≤ 850	303 / 304 / 316 / 316L / 416 / 420	10 - 30	15 - 45
	2.1	Corrosion/ acid-proof steels, Heat-resistant steels	≤ 35	≤ 320	≤ 1100	410 / 420 / Cf8m / 17-4PH	10 - 25	15 - 45
Cast materials								
K	1.1	Cast iron	-	≤ 280	-	ASTM A48 / SAE J431c / 1800	35 - 65	N/A
	2.1	Cast iron with nodular graphite	-	-	≤ 1000	ASTM A48 class 20, 30, 35, 40	15 - 50	N/A
	3.1	Cast iron with vermicular graphite	-	≤ 280	-	-	15 - 50	N/A
	4.1	Malleable cast iron	-	-	≤ 700	ASTM A47 grade 32510, 35018	35 - 65	N/A
Non-ferrous materials								
Aluminum Alloys								
N	1.1	Aluminum wrought alloys	-	-	-	2014 / 2117 / 5050 / 6061 / 7004	35 - 65	35 - 100
	1.2	Aluminum cast alloys ≤ 5% Si	-	-	-	201 / 213 / 295 / 435.3 / 511.0	35 - 65	35 - 100
	1.3	Aluminum cast alloys 5% < Si ≤ 12%	-	-	-	319 / 333 / 343 / 356 / 369 / 380	35 - 65	35 - 100
	1.4	Aluminum cast alloys 12% < Si ≤ 1	-	-	-	390 / 393 / 413	20 - 50	35 - 85
Copper, Copper Alloys, Bronze, Brass								
N	2.1	Pure Copper and low alloyed copper	-	≤ 150	≤ 500	-	15 - 40	35 - 100
	2.2	Copper-zinc alloys (brass, long chipping)	-	-	-	-	35 - 80	35 - 100
	2.3	Copper-zinc alloys (brass, short chipping)	-	-	-	-	35 - 80	35 - 100
	2.4	Copper-aluminum alloys (alubronze, long chipping) Copper-tin alloys (bronze, long chipping)	-	-	-	-	10 - 35	20 - 50
	2.5	Copper-tin alloys (bronze, short chipping)	-	-	-	-	15 - 45	35 - 85

MultiTAP-Form also ideal in a wide range of plastics and composites.

Ask about our convenient **NEW EF-C Drill-Chamfer Tool Program.**

NEW
EF-C STEP
DRILLS

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- Tools are coolant-thru, 4 margin design with TiALN T14 coating
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- 90° chamfer style
- Cut or Form thread diameters



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EMUGE Tapping Fluid is an extreme duty drilling and tapping fluid. It does not contain chlorinated solvents and is considered environmentally safe. **EMUGE Tapping Fluid** is thick like honey and will stick to the tap throughout the tapping operation. Ideal for tapping and drilling stainless steel, carbon steel, inconel, monel, hastalloy, titanium, aluminum and other alloys and exotics.

- **Greatly extends tap and drill life**
- **Reduces torque**
- **Improves finish and size**
- **Mild pleasant odor**
- **Does not contain chlorinated solvents**

Typical Analysis

Appearance:	Light amber oil
Specific Gravity:	1.108
Viscosity @100° F:	>900 SUS
Flash Point (PMCC):	415° F
% Petroleum Distillate:	None



EMUGE

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