

The Original

MultiTAP™ by
EMUGE

AHB
TOOLING & MACHINERY, INC.

COMPLETE METALWORKING SOLUTIONS

Industry's
broadest line of
Multi-Purpose
TAPS



NEW Expanded Line!

The Original

MultiTAP™ by EMUGE

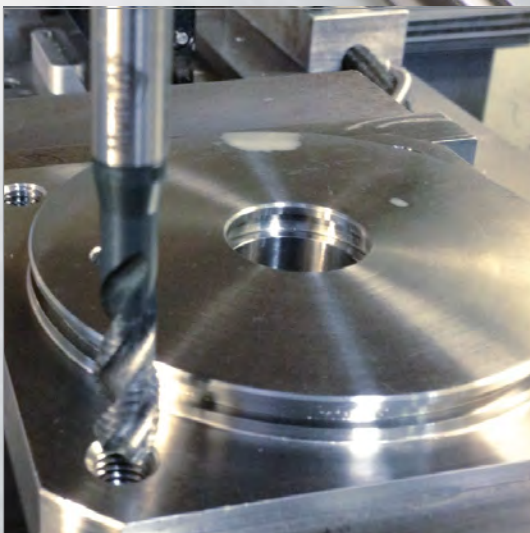
Introducing the **EXPANDED** MultiTAP line.

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.

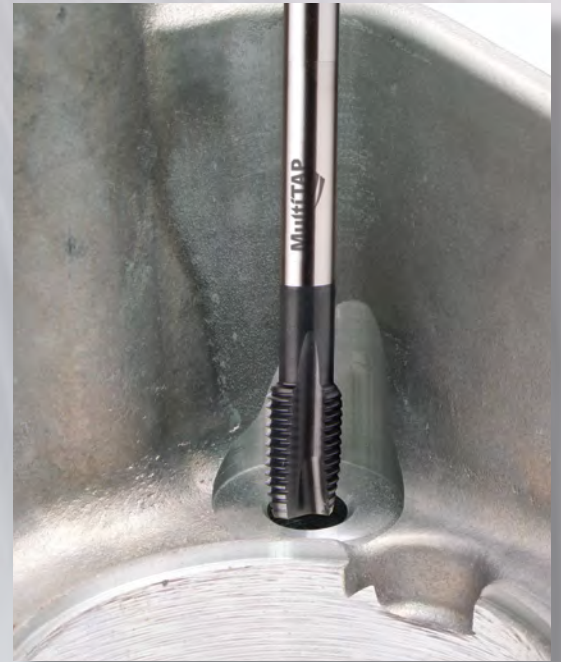
MultiTAP will significantly improve thread quality and boost output while reducing production costs, handling most common materials and applications. **MultiTAP eliminates the need to stock numerous types of taps in the tool crib.**



**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



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	5.511	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	5.511	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	5.511	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	5.511	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 14x1.0		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)
#6-32	UNC	4.409	0.141
#8-32	UNC	4.921	0.168
#10-24	UNC	5.512	0.194
1/4-20	UNC	6.299	0.255
5/16-18	UNC	7.087	0.318
3/8-16	UNC	7.874	0.381
7/16-14	UNC	7.874	0.323
1/2-13	UNC	8.819	0.367
5/8-11	UNC	8.819	0.480
#6-40	UNF	4.409	0.141
#8-36	UNF	4.921	0.168
#10-32	UNF	5.512	0.194
1/4-28	UNF	6.299	0.255
5/16-24	UNF	7.087	0.318
3/8-24	UNF	7.087	0.381
7/16-20	UNF	7.874	0.323
1/2-20	UNF	7.874	0.367
5/8-18	UNF	7.874	0.480
			EDP No.
			BU783200.5005
			BU783200.5006
			BU783200.5007
			BU783200.5009
			BU783200.5010
			BU783200.5011
			CU783200.5012
			CU783200.5013
			CU783200.5015
			BU783200.5039
			BU783200.5040
			BU783200.5041
			BU783200.5043
			BU783200.5044
			BU783200.5045
			CU783200.5046
			CU783200.5047
			CU783200.5049

MultiTAP – SEMI-BOTTOMING – METRIC COARSE – ISO2 / 6H Class of Fit			
DIN / DIN			ALL NEW NE2 Coated
Size		OAL (mm)	Shank Dia. (mm)
M 3X0.5		100	3.5
M 4X0.7		125	4.5
M 5X0.8		140	6.0
M 6X1.0		160	6.0
M 8X1.25		180	8.0
M 10X1.5		200	7.0
M 12X1.75		224	9.0
M 14x1.0		224	11.0
M 16X2.0		224	12.0
M 18X2.5		250	14.0
M 20X2.5		280	16.0
			EDP No.
			B5863200.0030
			B5863200.0040
			B5863200.0050
			B5863200.0060
			B5863200.0080
			C5863200.0100
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			C5863200.0118
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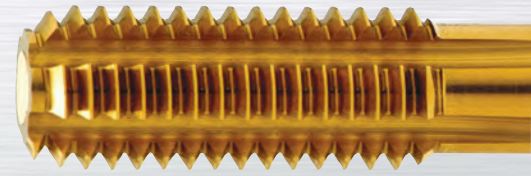


**ALL
NEW**

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 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

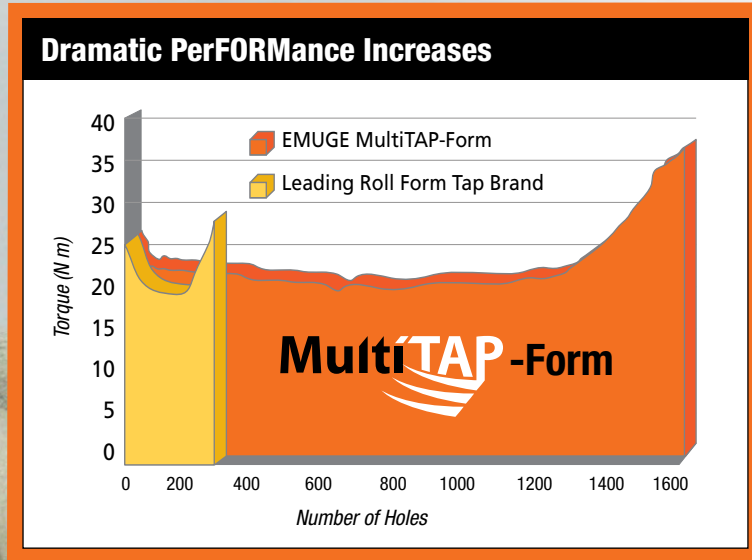


MultiTAP-Form – TiN COATED – 2B/3B class of fit							
DIN / ANSI			TiN Coated	DIN / ANSI			TiN Coated
Size	OAL (in)	Shank Dia. (in)	EDP No.	Size	OAL (in)	Shank Dia. (in)	EDP No.
#4-40 UNC	2.205	0.141	BU591410.5003	#12-28 UNF	3.150	0.220	BU591410.5042
#5-40 UNC	2.205	0.141	BU591410.5004	1/4-28 UNF	3.150	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 3x0.5	56	3.5	B5991400.0030
1/2-13 UNC	4.330	0.367	CU031410.5013	M 4x.07	63	4.3	B5991400.0040
#4-48 UNF	2.205	0.141	BU591410.5037	M 5x.08	70	4.9	B5991400.0050
#5-44 UNF	2.205	0.141	BU591410.5038	M 6x1.0	80	6.5	B5991400.0060
#6-40 UNF	2.205	0.141	BU591410.5039	M 8x1.25	90	8.1	B5991400.0080
#8-36 UNF	2.480	0.168	BU591410.5040	M 10x1.5	100	9.7	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 3x0.5	56	3.5	B5999000.0030
1/2-13 UNC	4.330	0.367	CU039010.5013	M 4x.07	63	4.3	B5999000.0040
#4-48 UNF	2.205	0.141	BU591410.5037	M 5x.08	70	4.9	B5999000.0050
#5-44 UNF	2.205	0.141	BU591410.5038	M 6x1.0	80	6.5	B5999000.0060
#6-40 UNF	2.205	0.141	BU591410.5039	M 8x1.25	90	8.1	B5999000.0080
#8-36 UNF	2.480	0.168	BU591410.5040	M 10x1.5	100	9.7	B5999000.0100
#10-32 UNF	2.756	0.194	BU591410.5041				

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 3x0.5	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	Crome 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.

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- **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



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