NEW PROGRAM

EMUGE FRANKEN

INTRODUCING THE

EMUGE MultiTOOL PROGRAM

INTRODUCING THE

MultiTOOL PROGRAM

Now EMUGE-FRANKEN, creators of the Industry-leading MultiTAP, has significantly expanded its successful Multi-tool concept to also include versatile, affordable, high-quality Thread Mills and Drills!

MultiTAP™ From cut taps to form taps, UN to metric and now NPT/NPTF pipe taps, EMUGE-FRANKEN, the inventor and leader of the high performance multi-purpose tap, offers the broadest line in the industry. **See pages 4-13.**

MultiTHREAD™ MILL MultiTHREAD MILLS are ideal for job shops where part applications and materials frequently change. MultiTHREAD provides a versatile solution for many threadmaking requirements, enabling shops to boost their production and save on costs, as fewer types of thread mills need to be stocked in the tool crib.
See pages 14-21.

MultiDRILL™ The MultiDRILL program offers affordable high quality solid carbide drills for manufacturers that have limited quantity production runs or operate in a job shop environment with many materials. MultiDRILL can be used successfully in a wide range of materials, providing longer tool life and productivity — a truly “multi-purpose” high-penetration rate drill for everyday use. **See pages 22-33.**

Made in Germany
by EMUGE-FRANKEN

Taps, Thread Mills and Drills.

A Complete Threadmaking Solution.

- Quality
- Performance
- Versatility
- Reliability
- Value

The MultiTOOL Program

Perfect for a wide range of materials in high-mix, low volume applications.

MultiTAP™

From cut taps to form taps, extended lengths to different coatings, EMUGE-FRANKEN, the inventor and leader of the high performance multi-purpose tap, 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-FRANKEN has designed MultiTAP as an ***affordable,*** yet versatile, high quality 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.**

Since EMUGE-FRANKEN introduced MultiTAP, imitators are trying to follow. But MultiTAP users know what works best. *MultiTAP is the ONE.*

Made in Germany
by EMUGE-FRANKEN

MultiTAP™ is an affordable yet versatile, high quality tapping solution.

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

For technical information see page 34.

- MultiTAP spiral point taps are constructed of a premium Cobalt high speed steel (HSS-E) with optional surface treatment NT2 (nitriding and steam oxidization) or TICN coating.
- **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 DIN length – ANSI shanks.

UNC – PLUG STYLE – 2B/3B Class of Fit

DIN / ANSI				
Size	OAL (in)`	Shank Dia. (in)	NT2 Coated EDP No.	TICN Coated EDP No.
#4-40	2.205	0.141	BU497300.5003	BU499300.5003
#5-40	2.205	0.141	BU497300.5004	BU499300.5004
#6-32	2.205	0.141	BU497300.5005	BU499300.5005
#8-32	2.480	0.168	BU497300.5006	BU499300.5006
#10-24	2.756	0.194	BU497300.5007	BU499300.5007
#12-24	3.150	0.220	BU497300.5008	BU499300.5008
1/4-20	3.150	0.255	BU497300.5009	BU499300.5009
5/16-18	3.543	0.318	BU497300.5010	BU499300.5010
3/8-16	3.937	0.381	BU497300.5011	BU499300.5011
7/16-14	3.937	0.323	CU497300.5012	CU499300.5012
1/2-13	4.331	0.367	CU497300.5013	CU499300.5013
9/16-12	4.331	0.429	CU497300.5014	CU499300.5014
5/8-11	4.331	0.480	CU497300.5015	CU499300.5015
3/4-10	4.921	0.590	CU497300.5016	CU499300.5016
7/8-9	5.512	0.697	CU497300.5017	CU499300.5017
1"-8	6.299	0.800	CU497300.5018	CU499300.5018

UNF – PLUG STYLE – 2B/3B Class of Fit

#4-48	2.205	0.141	BU497300.5037	BU499300.5037
#5-44	2.205	0.141	BU497300.5038	BU499300.5038
#6-40	2.205	0.141	BU497300.5039	BU499300.5039
#8-36	2.480	0.168	BU497300.5040	BU499300.5040
#10-32	2.756	0.194	BU497300.5041	BU499300.5041
#12-28	3.150	0.220	BU497300.5042	BU499300.5042
1/4-28	3.150	0.255	BU497300.5043	BU499300.5043
5/16-24	3.543	0.318	BU497300.5044	BU499300.5044
3/8-24	3.937	0.381	BU497300.5045	BU499300.5045
7/16-20	3.937	0.323	CU497300.5046	CU499300.5046
1/2-20	3.937	0.367	CU497300.5047	CU499300.5047
9/16-18	3.937	0.429	CU497300.5048	CU499300.5048
5/8-18	3.937	0.480	CU497300.5049	CU499300.5049
3/4-16	4.331	0.590	CU497300.5050	CU499300.5050
7/8-14	4.921	0.697	CU497300.5051	CU499300.5051
1"-12	5.512	0.800	CU497300.5052	CU499300.5052

METRIC COARSE – PLUG STYLE – 6H Class of Fit

For Cutting Data and Recommended Materials see page 34.

DIN / ANSI					DIN / DIN				
Size	OAL (mm)	Shank Dia. (in)	NT2 Coated EDP No.	TICN Coated EDP No.	Size	OAL (mm)	Shank Dia. (mm)	NT2 Coated EDP No.	TICN Coated EDP No.
M 4 x 0.7	63	0.168	BU497300.0040	BU499300.0040	M 4 x 0.7	63	4.5	B1577300.0040	B1579300.0040
M 5 x 0.8	70	0.194	BU497300.0050	BU499300.0050	M 5 x 0.8	70	6.0	B1577300.0050	B1579300.0050
M 6 x 1.0	80	0.255	BU497300.0060	BU499300.0060	M 6 x 1.0	80	6.0	B1577300.0060	B1579300.0060
M 8 x 1.25	90	0.318	BU497300.0080	BU499300.0080	M 8 x 1.25	90	8.0	B1577300.0080	B1579300.0080
M 10 x 1.5	100	0.381	BU497300.0100	BU499300.0100	M 10 x 1.5	100	10.0	B1577300.0100	B1579300.0100
M 12 x 1.75	110	0.367	CU497300.0112	CU499300.0112	M 12 x 1.75	110	9.0	C1577300.0112	C1579300.0112
M 16 x 2.0	110	0.480	CU497300.0116	CU499300.0116	M 16 x 2.0	110	12.0	C1577300.0116	C1579300.0116
M 18 x 2.5	125	0.542	CU497300.0118	CU499300.0118	M 18 x 2.5	125	14.0	C1577300.0118	C1579300.0118
M 20 x 2.5	140	0.652	CU497300.0120	CU499300.0120	M 20 x 2.5	140	16.0	C1577300.0120	C1579300.0120
M 24 x 3.0	160	0.760	CU497300.0124	CU499300.0124	M 24 x 3.0	160	18.0	C1577300.0124	C1579300.0124

- MultiTAP spiral flute taps are constructed of a premium Cobalt high speed steel (HSS-E) with optional surface treatment Ne2 (steam oxidation) or TICN coating.
- **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 DIN length – ANSI shanks.

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

DIN / ANSI				
Size	OAL (in)	Shank Dia. (in)	Ne2 Coated EDP No.	TICN Coated EDP No.
#4-40	2.205	0.141	BU533200.5003	BU539300.5003
#5-40	2.205	0.141	BU533200.5004	BU539300.5004
#6-32	2.205	0.141	BU533200.5005	BU539300.5005
#8-32	2.480	0.168	BU533200.5006	BU539300.5006
#10-24	2.756	0.194	BU533200.5007	BU539300.5007
#12-24	3.150	0.220	BU533200.5008	BU539300.5008
1/4-20	3.150	0.255	BU533200.5009	BU539300.5009
5/16-18	3.543	0.318	BU533200.5010	BU539300.5010
3/8-16	3.937	0.381	BU533200.5011	BU539300.5011
7/16-14	3.937	0.323	CU533200.5012	CU539300.5012
1/2-13	4.331	0.367	CU533200.5013	CU539300.5013
9/16-12	4.331	0.429	CU533200.5014	CU539300.5014
5/8-11	4.331	0.480	CU533200.5015	CU539300.5015
3/4-10	4.921	0.590	CU533200.5016	CU539300.5016
7/8-9	5.512	0.697	CU533200.5017	CU539300.5017
1"-8	6.299	0.800	CU533200.5018	CU539300.5018

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

#4-48	2.205	0.141	BU533200.5037	BU539300.5037
#5-44	2.205	0.141	BU533200.5038	BU539300.5038
#6-40	2.205	0.141	BU533200.5039	BU539300.5039
#8-36	2.480	0.168	BU533200.5040	BU539300.5040
#10-32	2.756	0.194	BU533200.5041	BU539300.5041
#12-28	3.150	0.220	BU533200.5042	BU539300.5042
1/4-28	3.150	0.255	BU533200.5043	BU539300.5043
5/16-24	3.543	0.318	BU533200.5044	BU539300.5044
3/8-24	3.937	0.381	BU533200.5045	BU539300.5045
7/16-20	3.937	0.323	CU533200.5046	CU539300.5046
1/2-20	3.937	0.367	CU533200.5047	CU539300.5047
9/16-18	3.937	0.429	CU533200.5048	CU539300.5048
5/8-18	3.937	0.480	CU533200.5049	CU539300.5049
3/4-16	4.331	0.590	CU533200.5050	CU539300.5050
7/8-14	4.921	0.697	CU533200.5051	CU539300.5051
1"-12	5.512	0.800	CU533200.5052	CU539300.5052

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

For Cutting Data and Recommended Materials see page 34.

DIN / ANSI					DIN / DIN				
Size	OAL (mm)	Shank Dia. (in)	Ne2 Coated EDP No.	TICN Coated EDP No.	Size	OAL (mm)	Shank Dia. (mm)	Ne2 Coated EDP No.	TICN Coated EDP No.
M 4 x 0.7	63	0.168	BU533200.0040	BU539300.0040	M 4 x 0.7	63	4.5	B4933200.0040	B4939300.0040
M 5 x 0.8	70	0.194	BU533200.0050	BU539300.0050	M 5 x 0.8	70	6.0	B4933200.0050	B4939300.0050
M 6 x 1.0	80	0.255	BU533200.0060	BU539300.0060	M 6 x 1.0	80	6.0	B4933200.0060	B4939300.0060
M 8 x 1.25	90	0.318	BU533200.0080	BU539300.0080	M 8 x 1.25	90	8.0	B4933200.0080	B4939300.0080
M 10 x 1.5	100	0.381	BU533200.0100	BU539300.0100	M 10 x 1.5	100	10.0	B4933200.0100	B4939300.0100
M 12 x 1.75	110	0.367	CU533200.0112	CU539300.0112	M 12 x 1.75	110	9.0	C4933200.0112	C4939300.0112
M 16 x 2.0	110	0.480	CU533200.0116	CU539300.0116	M 16 x 2.0	110	12.0	C4933200.0116	C4939300.0116
M 18 x 2.5	125	0.542	CU533200.0118	CU539300.0118	M 18 x 2.5	125	14.0	C4933200.0118	C4939300.0118
M 20 x 2.5	140	0.652	CU533200.0120	CU539300.0120	M 20 x 2.5	140	16.0	C4933200.0120	C4939300.0120
M 24 x 3.0	160	0.760	CU533200.0124	CU539300.0124	M 24 x 3.0	160	18.0	C4933200.0124	C4939300.0124

EMUGE

TICN Coated

Spiral Point

UNC – PLUG STYLE – 2B/3B Class of Fit

DIN / ANSI				
Size	OAL (in)	Shank Dia. (in)	NT2 Coated EDP No.	TICN Coated EDP No.
#6-32	4.409	0.141	BU797300.5005	BU799300.5005
#8-32	4.921	0.168	BU797300.5006	BU799300.5006
#10-24	5.512	0.194	BU797300.5007	BU799300.5007
1/4-20	6.299	0.255	BU797300.5009	BU799300.5009
5/16-18	7.087	0.318	BU797300.5010	BU799300.5010
3/8-16	7.087	0.381	BU797300.5011	BU799300.5011
7/16-14	7.874	0.323	CU797300.5012	CU799300.5012
1/2-13	8.819	0.367	CU797300.5013	CU799300.5013
5/8-11	8.819	0.480	CU797300.5015	CU799300.5015

UNF – PLUG STYLE – 2B/3B Class of Fit

#6-40	4.409	0.141	BU797300.5039	BU799300.5039
#8-36	4.921	0.168	BU797300.5040	BU799300.5040
#10-32	5.512	0.194	BU797300.5041	BU799300.5041
1/4-28	6.299	0.255	BU797300.5043	BU799300.5043
5/16-24	7.087	0.318	BU797300.5044	BU799300.5044
3/8-24	7.087	0.381	BU797300.5045	BU799300.5045
7/16-20	7.874	0.323	CU797300.5046	CU799300.5046
1/2-20	7.874	0.367	CU797300.5047	CU799300.5047
5/8-18	7.874	0.480	CU797300.5049	CU799300.5049

METRIC COARSE – PLUG STYLE – 6H Class of Fit

DIN / DIN				
Size	OAL (mm)	Shank Dia. (mm)	NT2 Coated EDP No.	TICN Coated EDP No.
M 3 x 0.5	100	3.5	B1667300.0030	B1669300.0030
M 4 x 0.7	125	4.5	B1667300.0040	B1669300.0040
M 5 x 0.8	140	6.0	B1667300.0050	B1669300.0050
M 6 x 1.0	160	6.0	B1667300.0060	B1669300.0060
M 8 x 1.25	180	8.0	B1667300.0080	B1669300.0080
M 10 x 1.5	200	7.0	C1667300.0100	C1669300.0100
M 12 x 1.75	224	9.0	C1667300.0112	C1669300.0112
M 14 x 2.0	224	11.0	C1667300.0114	C1669300.0114
M 16 x 2.0	224	12.0	C1667300.0116	C1669300.0116
M 18 x 2.5	250	14.0	C1667300.0118	C1669300.0118
M 20 x 2.5	280	16.0	C1667300.0120	C1669300.0120

Spiral Flute

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

DIN / ANSI				
Size	OAL (in)	Shank Dia. (in)	Ne2 Coated EDP No.	TICN Coated EDP No.
#6-32	4.409	0.141	BU783200.5005	BU789300.5005
#8-32	4.921	0.168	BU783200.5006	BU789300.5006
#10-24	5.512	0.194	BU783200.5007	BU789300.5007
1/4-20	6.299	0.255	BU783200.5009	BU789300.5009
5/16-18	7.087	0.318	BU783200.5010	BU789300.5010
3/8-16	7.087	0.381	BU783200.5011	BU789300.5011
7/16-14	7.874	0.323	CU783200.5012	CU789300.5012
1/2-13	8.819	0.367	CU783200.5013	CU789300.5013
5/8-11	8.819	0.480	CU783200.5015	CU789300.5015

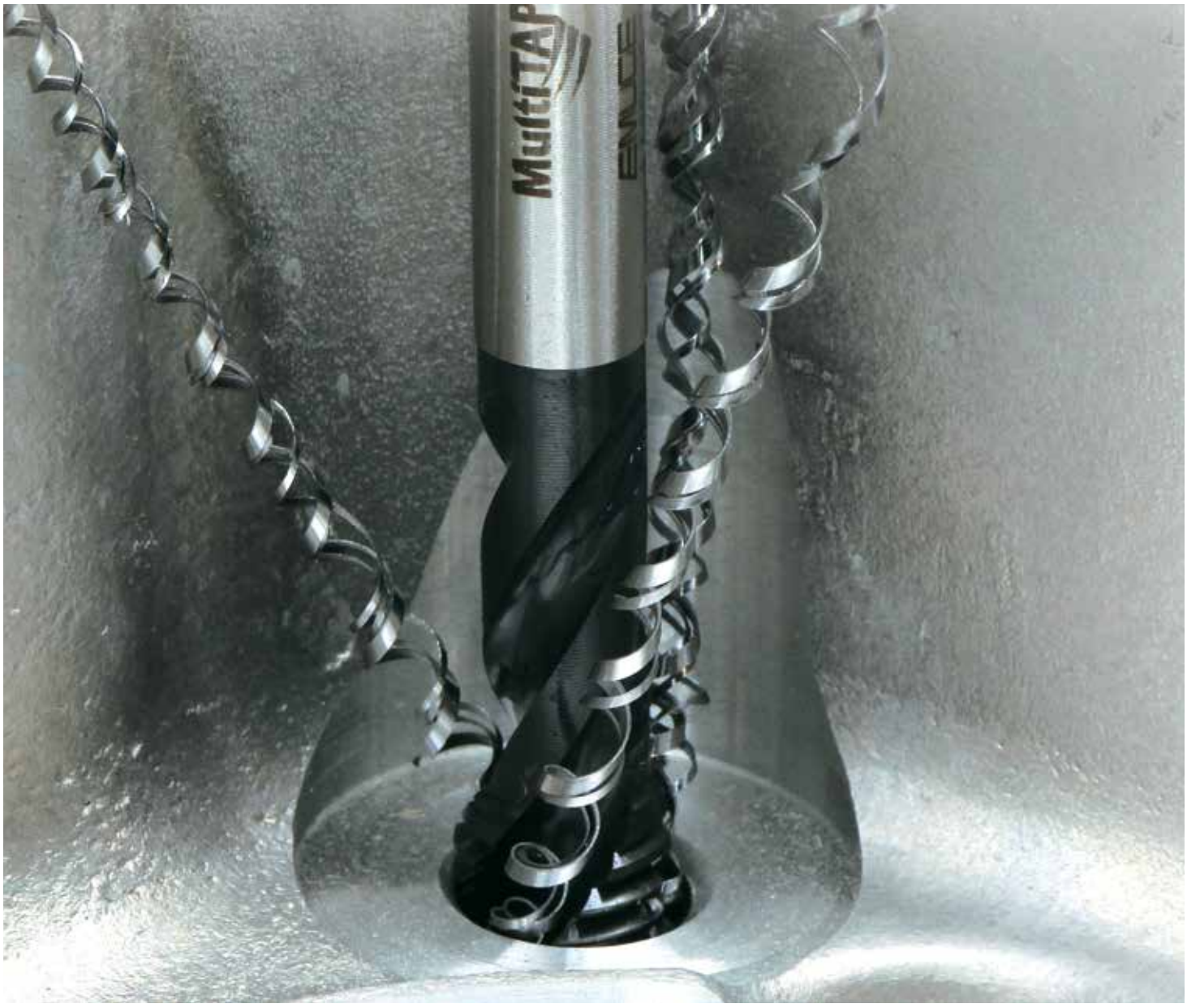
UNF – SEMI-BOTTOMING – 2B/3B Class of Fit

#6-40	4.409	0.141	BU783200.5039	BU789300.5039
#8-36	4.921	0.168	BU783200.5040	BU789300.5040
#10-32	5.512	0.194	BU783200.5041	BU789300.5041
1/4-28	6.299	0.255	BU783200.5043	BU789300.5043
5/16-24	7.087	0.318	BU783200.5044	BU789300.5044
3/8-24	7.087	0.381	BU783200.5045	BU789300.5045
7/16-20	7.874	0.323	CU783200.5046	CU789300.5046
1/2-20	7.874	0.367	CU783200.5047	CU789300.5047
5/8-18	7.874	0.480	CU783200.5049	CU789300.5049

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

DIN / DIN				
Size	OAL (mm)	Shank Dia. (mm)	Ne2 Coated EDP No.	TICN Coated EDP No.
M 3 x 0.5	100	3.5	B5863200.0030	B5869300.0030
M 4 x 0.7	125	4.5	B5863200.0040	B5869300.0040
M 5 x 0.8	140	6.0	B5863200.0050	B5869300.0050
M 6 x 1.0	160	6.0	B5863200.0060	B5869300.0060
M 8 x 1.25	180	8.0	B5863200.0080	B5869300.0080
M 10 x 1.5	200	7.0	C5863200.0100	C5869300.0100
M 12 x 1.75	224	9.0	C5863200.0112	C5869300.0112
M 14 x 2.0	224	11.0	C5863200.0114	C5869300.0114
M 16 x 2.0	224	12.0	C5863200.0116	C5869300.0116
M 18 x 2.5	250	14.0	C5863200.0118	C5869300.0118
M 20 x 2.5	280	16.0	C5863200.0120	C5869300.0120

For Cutting Data and Recommended Materials see page 34.



Ne2 Coated

Semi-Bottoming
Spiral Flute

MultiTAP-Form Taps

The industry's first multi-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 premium Cobalt high speed steel (HSS-E) 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

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

TIN Coated

TICN Coated

For Cutting Data and Recommended Materials see page 34.

UNC – MultiTAP-FORM – 2B/3B Class of Fit

DIN / ANSI				
Size	OAL (in)	Shank Dia. (in)	TIN Coated EDP No.	TICN Coated EDP No.
#4-40	2.205	0.141	BU591410.5003	BU599010.5003
#5-40	2.205	0.141	BU591410.5004	BU599010.5004
#6-32	2.205	0.141	BU591410.5005	BU599010.5005
#8-32	2.480	0.168	BU591410.5006	BU599010.5006
#10-24	2.756	0.194	BU591410.5007	BU599010.5007
#12-24	3.150	0.220	BU591410.5008	BU599010.5008
1/4-20	3.150	0.255	BU591410.5009	BU599010.5009
5/16-18	3.543	0.318	BU591410.5010	BU599010.5010
3/8-16	3.937	0.381	BU591410.5011	BU599010.5011
7/16-14	3.937	0.323	CU031410.5012	CU039010.5012
1/2-13	4.331	0.367	CU031410.5013	CU039010.5013

UNF – MultiTAP-FORM – 2B/3B Class of Fit

DIN / ANSI				
Size	OAL (in)	Shank Dia. (in)	TIN Coated EDP No.	TICN Coated EDP No.
#4-48	2.205	0.141	BU591410.5037	BU599010.5037
#5-44	2.205	0.141	BU591410.5038	BU599010.5038
#6-40	2.205	0.141	BU591410.5039	BU599010.5039
#8-36	2.480	0.168	BU591410.5040	BU599010.5040
#10-32	2.756	0.194	BU591410.5041	BU599010.5041
#12-28	3.150	0.220	BU591410.5042	BU599010.5042
1/4-28	3.150	0.255	BU591410.5043	BU599010.5043
5/16-24	3.543	0.318	BU591410.5044	BU599010.5044
3/8-24	3.937	0.381	BU591410.5045	BU599010.5045
7/16-20	3.937	0.323	CU031410.5046	CU039010.5046
1/2-20	3.937	0.367	CU031410.5047	CU039010.5047

METRIC – MultiTAP-FORM – DIN / DIN – 6H Class of Fit

DIN / DIN				
Size	OAL (mm)	Shank Dia. (mm)	TIN Coated EDP No.	TICN Coated EDP No.
M 2 x 0.4	45	2.8	B5991400.0020	B5999000.0020
M 3 x 0.5	56	3.5	B5991400.0030	B5999000.0030
M 4 x 0.7	63	4.5	B5991400.0040	B5999000.0040
M 5 x 0.8	70	6.0	B5991400.0050	B5999000.0050
M 6 x 1.0	80	6.0	B5991400.0060	B5999000.0060
M 8 x 1.25	90	8.0	B5991400.0080	B5999000.0080
M 10 x 1.5	100	10.0	B5991400.0100	B5999000.0100
M 12 x 1.75	110	9.0	C9141400.0112	C9149000.0112

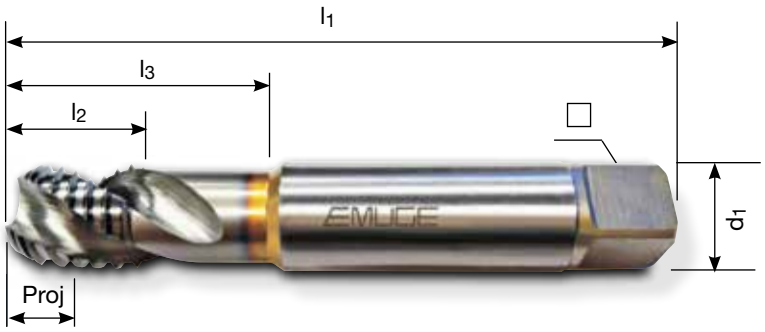
EMUGE

MultiTAP-Pipe Taps

NPT / NPTF Offering

The MultiTAP line of NPT / NPTF pipe taps are designed to provide a universal threading geometry for both job shops and production tapping. The cutting thread length has been reduced to decrease cycle time and increase tool life while meeting all industry standard requirements for pipe threading.

- Interrupted thread profile helps reduce cutting forces
- EMUGE standard thread length is optimized to reduce cycle time and increase tool life
- Premium HSSE base tool substrate
- EMUGE's own TICN-PVD coating for extended tool life
- C-style semi-bottoming chamfer length of 2-3 teeth
- Optimized flute helix angle to meet the needs of NPT and NPTF thread profiles
- Right Hand 35° helix for NPT pipe taps
- Right Hand 15° helix for NPTF pipe taps

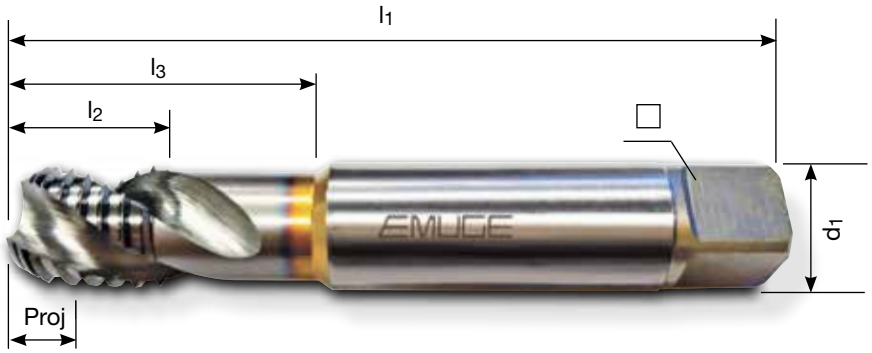


NPT Version shown • Semi-Bottoming Chamfer • TICN Coated

NEW TAPERED PIPE TAPS

For Cutting Data and Recommended Materials see page 34.

Size	# Flutes	Overall length (in)	Thread length (in)	Neck length (in)	Shank dia. (in)	Square width	Projection length (Proj)	Projection length (Proj)	NPT	NPTF
		l_1	l_2	l_3	d_1		NPT	NPTF	EDP No.	EDP No.
1/16-27	3	3.543	0.512	0.984	0.3125	0.234	0.1943	0.2258	**BU879300.5763**	**BU849300.5782**
1/8-27 (small shank)	3	3.543	0.512	–	0.3125	0.234	0.1968	0.2243	**CU879300.5764**	**CU849300.5783**
1/8-27 (large shank)	3	3.543	0.512	1.024	0.4375	0.328	0.1968	0.2243	**BU879300.5764**	**BU849300.5783**
1/4-18	3	3.937	0.770	1.479	0.5625	0.421	0.2919	0.3352	**BU879300.5765**	**BU849300.5784**
3/8-18	3	3.937	0.770	1.479	0.7000	0.531	0.2915	0.3348	**BU879300.5766**	**BU849300.5785**
1/2-14	5	4.921	0.980	–	0.6875	0.515	0.3729	0.4280	**CU879300.5767**	**CU849300.5786**
3/4-14	5	5.511	1.020	–	0.9063	0.679	0.3736	0.4287	**CU879300.5768**	**CU849300.5787**
1" -11-1/2	5	6.299	1.260	–	1.1250	0.843	0.4543	0.5213	**CU879300.5769**	**CU849300.5788**

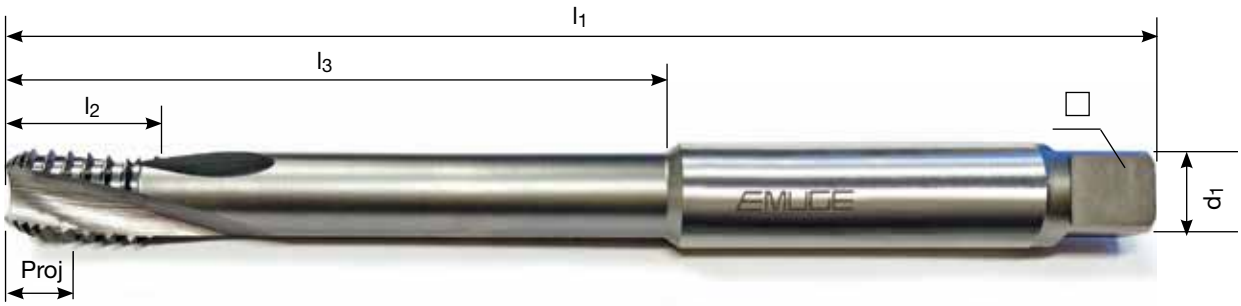


NPT Version shown • Semi-Bottoming Chamfer • TICN Coated

NEW TAPERED PIPE TAPS – Overall Length 4"

For Cutting Data and Recommended Materials see page 34.

Size	# Flutes	Overall length (in)	Thread length (in)	Neck length (in)	Shank dia. (in)	Square width	Projection length (Proj)	Projection length (Proj)	NPT	NPTF
		l_1	l_2	l_3	d_1		NPT	NPTF	EDP No.	EDP No.
1/16-27	3	4	0.512	1.457	0.3125	0.234	0.1943	0.2258	BU889300.5763	BU859300.5782
1/8-27 (small shank)	3	4	0.512	–	0.3125	0.234	0.1968	0.2243	CU889300.5764	CU859300.5783
1/8-27 (large shank)	3	4	0.512	1.142	0.4375	0.328	0.1968	0.2243	BU889300.5764	BU859300.5783
1/4-18	3	4	0.770	1.557	0.5625	0.421	0.2919	0.3352	BU889300.5765	BU859300.5784
3/8-18	3	4	0.770	1.557	0.7000	0.531	0.2915	0.3348	BU889300.5766	BU859300.5785
1/2-14	5	4	0.980	–	0.6875	0.515	0.3729	0.4280	CU889300.5767	CU859300.5786
3/4-14	5	4	1.020	–	0.9063	0.679	0.3736	0.4287	CU889300.5768	CU859300.5787
1" -11-1/2	5	4	1.260	–	1.1250	0.843	0.4543	0.5213	CU889300.5769	CU859300.5788



NPTF Version shown • Semi-Bottoming Chamfer • TICN Coated

NEW TAPERED PIPE TAPS – Overall Length 6"

Size	# Flutes	Overall length (in)	Thread length (in)	Neck length (in)	Shank dia. (in)	Square width	Projection length (Proj)	Projection length (Proj)	NPT	NPTF
		l_1	l_2	l_3	d_1		NPT	NPTF	EDP No.	EDP No.
1/16-27	3	6	0.512	3.465	0.3125	0.234	0.1943	0.2258	BU899300.5763	BU869300.5782
1/8-27 (small shank)	3	6	0.512	–	0.3125	0.234	0.1968	0.2243	CU899300.5764	CU869300.5783
1/8-27 (large shank)	3	6	0.512	3.268	0.4375	0.328	0.1968	0.2243	BU899300.5764	BU869300.5783
1/4-18	3	6	0.770	3.526	0.5625	0.421	0.2919	0.3352	BU899300.5765	BU869300.5784
3/8-18	3	6	0.770	3.329	0.7000	0.531	0.2915	0.3348	BU899300.5766	BU869300.5785
1/2-14	5	6	0.980	–	0.6875	0.515	0.3729	0.4280	CU899300.5767	CU869300.5786
3/4-14	5	6	1.020	–	0.9063	0.679	0.3736	0.4287	CU899300.5768	CU869300.5787
1" -11-1/2	5	6	1.260	–	1.1250	0.843	0.4543	0.5213	CU899300.5769	CU869300.5788

MultiTHREAD™ MILL

EMUGE-FRANKEN MultiTHREAD MILL is a cost effective universal thread milling solution for job shop manufacturers.

Ideal for job shops where part applications and materials frequently change, MultiTHREAD™ provides a versatile solution for many threadmaking requirements, enabling shops to boost their production and save on costs, as fewer types of thread mills need to be stocked in the tool crib.

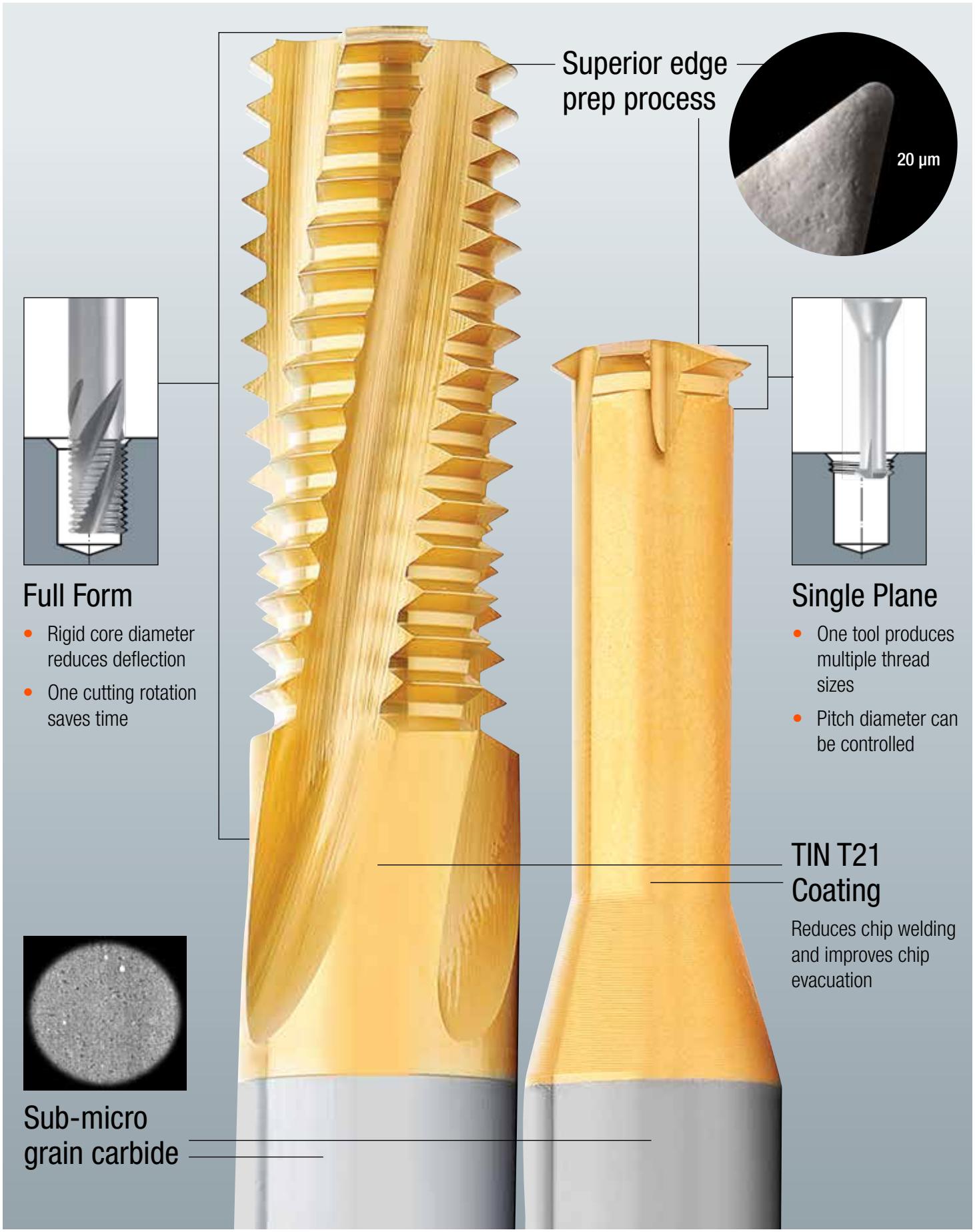
MultiTHREAD features a proprietary TIN T21 coating developed by EMUGE and is offered in a complete size and thread style range in either Full Form or Single Plane types.

MultiTHREAD MILLS are an ideal general-purpose thread milling solution designed to cut a wide range of standard materials very efficiently.

ADVANTAGES OF MultiTHREAD MILLS:

- Save costs – fewer tools required while eliminating broken taps / scrapped parts
- One tool for both thru and blind holes
- One tool for right or left-hand threads
- Versatile: machines a wide range of materials
- Broad line of tool types / sizes in stock
- High process security / control
- Improved thread accuracy, quality and finish
- Affordable and reliable thread making solution

Made in Germany by EMUGE-FRANKEN


Superior edge prep process
20 µm
Full Form
• Rigid core diameter reduces deflection
• One cutting rotation saves time
Single Plane
• One tool produces multiple thread sizes
• Pitch diameter can be controlled
TIN T21 Coating
Reduces chip welding and improves chip evacuation
Sub-micro grain carbide

EMUGE

MultiTHREAD™ Full Form

MultiTHREAD Full Form tools redefine the measure of value in solid carbide thread mills. **This tooling line for applications 1 1/8" and under,** assures quality threads, versatility and ease-of-use in a wide range of standard materials.

This Series is designed and priced to offer a superior level of value for any size machine shop. When combined with the latest CNC technology and smart controllers, outstanding flexibility, process control, tool life and part quality can be realized.

Exceptional balance of performance benefits and price are achieved by combining select design elements:

- **Sub-micro grain carbide** with state-of-the-art grinding techniques
- **Specially engineered multiple-spiral flutes** eliminate chatter
- **Large cutter diameter with high profile correction** ensures true-to-gage threads
- **Extended milling portion** allows for length-of-cut to 2XD
- **Enlarged flute space** for efficient chip evacuation
- **End mill type shank with clamping flat** for secure tool holding
- **TIN T21 coating** reduces chip welding and improves material flow away from cutting edge

2 X D – TIN T21 COATED – 15° HELIX – SOLID

For Cutting Data and Recommended Materials see page 35.

	Tool Size	Thread Size			Cutter Dia.	Cut Length	# Flutes	Overall Length	Shank Dia.	EDP No.
		UNC	UNF	M						
INCH	#10	10-24	–	–	0.136	0.395	3	2 1/2"	1/4"	GFR15105.5007
	1/4	1/4-20	–	–	0.185	0.524	3	2 1/2"	1/4"	GFR15105.5009
	5/16	5/16-18	–	–	0.242	0.637	3	2 1/2"	1/4"	GFR15105.5010
	3/8	3/8-16	–	–	0.301	0.780	3	2 1/2"	5/16"	GFR15105.5011
	7/16	7/16-14	–	–	0.354	0.891	3	3"	3/8"	GFR15105.5012
	1/2	1/2-13	–	–	0.371	1.036	3	3"	3/8"	GFR15105.5013
	5/8	5/8-11	–	–	0.496	1.316	4	3 3/4"	1/2"	GFR15105.5015
	3/4	3/4-10	–	–	0.621	1.548	4	4 1/4"	5/8"	GFR15105.5016
	7/8	7/8-9	–	–	0.621	1.829	4	4 1/4"	5/8"	GFR15105.5017
	1"-8 & 1 1/8-8	1"-8 & 1 1/8-8	–	–	0.746	2.058	4	4 3/4"	3/4"	GFR15105.5018
	#10	–	10-32	–	0.150	0.390	3	2 1/2"	1/4"	GFR15105.5041
	1/4	–	1/4-28	–	0.203	0.517	3	2 1/2"	1/4"	GFR15105.5043
	5/16	–	5/16-24	–	0.246	0.644	3	2 1/2"	1/4"	GFR15105.5044
	3/8	–	3/8-24	–	0.309	0.769	3	2 1/2"	5/16"	GFR15105.5045
	7/16	–	7/16-20	–	0.371	0.874	3	3"	3/8"	GFR15105.5046
	1/2	–	1/2-20	–	0.371	1.023	3	3"	3/8"	GFR15105.5047
	3/4	–	3/4-16	–	0.621	1.530	4	4 1/4"	5/8"	GFR15105.5050
METRIC	M 6	–	–	M6	0.189	0.491	3	2 1/2"	1/4"	GFR15105.0060
	M 8	–	–	M8	0.246	0.663	3	2 1/2"	1/4"	GFR15105.0080
	M 10	–	–	M10	0.309	0.796	3	2 1/2"	5/16"	GFR15105.0100
	M 12	–	–	M12	0.371	0.997	3	3"	3/8"	GFR15105.0112

2 X D – TIN T21 COATED – 15° HELIX – COOLANT FED

For Cutting Data and Recommended Materials see page 35.

	Tool Size	Thread Size			Cutter Dia.	Cut Length	# Flutes	Overall Length	Shank Dia.	EDP No.
		UNC	UNF	M						
INCH	1/4	1/4-20	–	–	0.185	0.524	3	2 1/2"	1/4"	GFR35105.5009
	5/16	5/16-18	–	–	0.242	0.637	3	2 1/2"	1/4"	GFR35105.5010
	3/8	3/8-16	–	–	0.301	0.780	3	2 1/2"	5/16"	GFR35105.5011
	7/16	7/16-14	–	–	0.354	0.891	3	3"	3/8"	GFR35105.5012
	1/2	1/2-13	–	–	0.371	1.036	3	3"	3/8"	GFR35105.5013
	5/8	5/8-11	–	–	0.496	1.316	4	3 3/4"	1/2"	GFR35105.5015
	3/4	3/4-10	–	–	0.621	1.548	4	4 1/4"	5/8"	GFR35105.5016
	7/8	7/8-9	–	–	0.621	1.829	4	4 1/4"	5/8"	GFR35105.5017
	1" & 1 1/8	1"-8 & 1 1/8-8	–	–	0.746	2.058	4	4 3/4"	3/4"	GFR35105.5018
	#10	–	10-32	–	0.150	0.390	3	2 1/2"	1/4"	GFR35105.5041
	1/4	–	1/4-28	–	0.203	0.517	3	2 1/2"	1/4"	GFR35105.5043
	5/16	–	5/16-24	–	0.246	0.644	3	2 1/2"	1/4"	GFR35105.5044
	3/8	–	3/8-24	–	0.309	0.769	3	2 1/2"	5/16"	GFR35105.5045
	7/16	–	7/16-20	–	0.371	0.874	3	3"	3/8"	GFR35105.5046
	1/2	–	1/2-20	–	0.371	1.023	3	3"	3/8"	GFR35105.5047
	9/16 & 5/8	–	9/16-18 & 5/8-18	–	0.496	1.138	4	3 3/4"	1/2"	GFR35105.5048
	3/4	–	3/4-16	–	0.621	1.530	4	4 1/4"	5/8"	GFR35105.5050
	7/8 & 1"	–	7/8-14 & 1"-14	–	0.621	1.817	4	4 1/4"	5/8"	GFR35105.5051
METRIC	M 6	–	–	M6	0.189	0.491	3	2 1/2"	1/4"	GFR35105.0060
	M 8	–	–	M8	0.246	0.663	3	2 1/2"	1/4"	GFR35105.0080
	M 10	–	–	M10	0.309	0.796	3	2 1/2"	5/16"	GFR35105.0100
	M 12	–	–	M12	0.371	0.997	3	3"	3/8"	GFR35105.0112
	M 14	–	–	M14	0.457	1.140	4	3 3/4"	1/2"	GFR35105.0114
	M 16	–	–	M16	0.496	1.280	4	3 3/4"	1/2"	GFR35105.0116
	M 20	–	–	M20	0.621	1.595	4	4 1/4"	5/8"	GFR35105.0120

MultiTHREAD™ Single Plane

A Complete Line of 2 x D Solid Carbide Thread Mills, Plus 3 x D Sizes for Maximum Reach

Miniature size thread mills provide a high-quality, dependable threading solution for a variety of materials.

Standard sizes provide manufacturers a ready tooling solution which allows for quick adaptation to a variety of threading requirements in a wide range of materials.

- TIN T21 coating reduces chip welding and improves material flow away from cutting edge
- Requiring only 8 stock standard tool sizes,
  #10 • 1/4 • 5/16 • 3/8 • 7/16 • 1/2 • 5/8 • 3/4,
  it is now possible to produce 100+ commonly produced screw thread designations
- In addition, MultiTHREAD tools provide total control over pitch diameter limits including 2B • 3B • 3BG • and all oversize variants
- One tool produces **multiple thread sizes**

2 X D – TIN T21 COATED – 0° HELIX

For Cutting Data and Recommended Materials see page 36.

	Tool Size	Thread Size									Cutter Dia.	Cut Length	# Flutes	Overall Length	Shank Dia.	Shank Type	EDP No.
		UNC	UNF	STI UNC	STI UNF	UNEF	UNJC	UNJF	M	MJ							
MINIATURE SIZES	#0	–	0-80	–	–	–	–	0-80	1.6 x .35	1.6 x .35	0.045	0.125	1	1 5/8"	1/8"	HA	GFS13705.5033 •
	#1	1-64	1-72	–	–	–	1-64	1-72	2 x .4	2 x .4	0.056	0.146	3	1 5/8"	1/8"	HA	GFS23705.5000 •
	#2	2-56	2-64	1-64	–	–	2-56	2-64	2.5 x .45	2.5 x .45	0.064	0.172	3	1 5/8"	1/8"	HA	GFS23705.5001 •
	#4	4-40	4-48	2-56	–	–	4-40	4-48	–	–	0.081	0.224	3	1 5/8"	1/8"	HA	GFS23705.5003 •
	STI 4	–	–	4-40	4-48	–	–	–	–	–	0.117	0.295	3	1 5/8"	1/8"	HA	GFS23705.5611 •
	#5	5-40	5-44	–	–	–	5-40	5-44	3 x .5	3 x .5	0.095	0.250	3	1 5/8"	1/8"	HA	GFS23705.5004 •
	#6	6-32	6-40	–	–	–	6-32	6-40	–	–	0.100	0.276	3	1 5/8"	1/8"	HA	GFS23705.5005 •
	STI 6	–	–	6-32	6-40	–	–	–	5 x .8	5 x .8	0.143	0.364	3	2 1/2"	1/4"	HB	GFS23105.5613 •
	#8	8-32	8-36	–	–	–	8-32	8-36	4 x .7	4 x .7	0.124	0.328	3	1 5/8"	1/8"	HA	GFS23705.5006 •
	STI 8	–	–	8-32	8-36	1/4-32	–	–	–	–	0.167	0.415	3	2 1/2"	1/4"	HB	GFS23105.5614 •
STANDARD SIZES	#10	10-24	10-32	10-24	10-32	–	10-24	10-32	–	–	0.136	0.380	3	2 1/2"	1/4"	HB	GFS23105.5007 •
	1/4	1/4-20	1/4-28	1/4-20	1/4-28	5/16-32	1/4-20	1/4-28	6 x 1	6 x 1	0.185	0.500	3	2 1/2"	1/4"	HB	GFS23105.5009 •
	5/16	5/16-18	5/16-24	5/16-18	5/16-24	3/8-32	5/16-18	5/16-24	8 x 1.25	8 x 1.25	0.242	0.625	4	2 1/2"	1/4"	HB	GFS33105.5010 ▲
	3/8	3/8-16	3/8-24	3/8-16	3/8-24	7/16-28	3/8-16	3/8-24	10 x 1.5	10 x 1.5	0.301	0.750	5	2 1/2"	5/16"	HB	GFS33105.5011 ▲
	7/16	7/16-14	7/16-20	7/16-14	7/16-20	1/2-28	7/16-14	7/16-20	12 x 1.75	12 x 1.75	0.354	0.875	5	3"	3/8"	HB	GFS33105.5012 ▲
	1/2	1/2-13	1/2-20	1/2-13	1/2-20	5/8-24	1/2-13	1/2-20	14 x 2	14 x 2	0.407	1.000	5	3 3/4"	1/2"	HB	GFS33105.5013 ▲
	5/8	5/8-11	5/8-18	5/8-11	5/8-18	3/4-20	5/8-11	5/8-18	16 x 2	16 x 2	0.512	1.250	5	3 3/4"	1/2"	HB	GFS33105.5015 ▲
	3/4	3/4-10	3/4-16	3/4-10	3/4-16	7/8-20	3/4-10	3/4-16	20 x 2.5	20 x 2.5	0.630	1.500	6	4 1/4"	5/8"	HB	GFS33105.5016 ▲

• With external flood coolant only ▲ With external flood coolant or axial internal coolant hole (MINIATURE SIZES EXTERNAL COOLANT ONLY)

Shank Types: HA-Straight shank without clamping flat, HB-Straight shank with Weldon clamping flat

BOTH 2XD AND 3XD MultiTHREAD™ SINGLE PLANE TOOLS PROVIDE:

- Easy machining of many materials
- One tool for thru and blind holes
- Pitch diameter that can be easily controlled
- Full bottom threading to within 1 pitch
- STI threads that can be easily produced
- Excellent thread finish and gaging

3 X D – TIN T21 COATED – 0° HELIX

For Cutting Data and Recommended Materials see page 36.

	Tool Size	Thread Size					Cutter Dia.	Cut Length	# Flutes	Overall Length	Shank Dia.	Shank Type	EDP No.
		UNC	UNF	STI UNC	STI UNF	M							
MINIATURE SIZES	#2	2-56	2-64	2-56	2-64	M 2.2	0.067	0.258	3	1.625	1/8"	HA	GFS83705.5001 •
	#4	4-40	4-48	4-40	4-48	M 3	0.085	0.336	3	1.625	1/8"	HA	GFS83705.5003 •
	#6	6-32	6-40	6-32	6-40	M 3.5	0.106	0.414	3	1.625	1/8"	HA	GFS83705.5005 •
	#8	8-32	8-36	8-32	8-36	–	0.132	0.492	3	1.750	3/16"	HA	GFS83705.5006 •
STANDARD SIZES	#10	10-24	–	10-24	–	M 5	0.146	0.570	3	1.875	3/16"	HA	GFS83705.5007 •
		–	10-32	–	10-32	–	0.154	0.570	4	1.875	3/16"	HA	GFS83705.5041 •
	1/4	1/4-20	–	1/4-20	–	M 6	0.195	0.750	4	2.375	1/4"	HB	GFS83105.5009 •
		–	1/4-28	–	1/4-28	–	0.207	0.750	4	2.375	1/4"	HB	GFS83105.5043 •
	5/16	5/16-18	–	5/16-18	–	M 8	0.248	0.937	4	2.563	5/16"	HB	GFS83105.5010 ▲
		–	5/16-24	–	5/16-24	–	0.260	0.937	5	2.563	5/16"	HB	GFS83105.5044 ▲
	3/8	3/8-16	–	3/8-16	–	M 10	0.303	1.125	5	2.750	5/16"	HB	GFS83105.5011 ▲
		–	3/8-24	–	3/8-24	–	0.354	1.125	5	2.875	3/8"	HB	GFS83105.5045 ▲
	7/16	7/16-14	–	7/16-14	–	M 12	0.354	1.312	5	3.125	3/8"	HB	GFS83105.5012 ▲
		–	7/16-20	–	7/16-20	–	0.376	1.312	5	3.060	3/8"	HB	GFS83105.5046 ▲
	1/2	1/2-13	1/2-20	1/2-13	1/2-20	–	0.409	1.500	5	3.625	1/2"	HB	GFS83105.5013 ▲
	5/8	5/8-11	5/8-18	5/8-11	5/8-18	M 16	0.514	1.875	5	4.125	5/8"	HB	GFS83105.5015 ▲
	3/4	3/4-10	3/4-16	3/4-10	3/4-16	–	0.630	2.250	6	4.500	5/8"	HB	GFS83105.5016 ▲

• With external flood coolant only ▲ With external flood coolant or axial internal coolant hole (MINIATURE SIZES EXTERNAL COOLANT ONLY)

Shank Types: HA-Straight shank without clamping flat, HB-Straight shank with Weldon clamping flat

EMUGE

MultiTHREAD™ Full Profile NPT / NPTF

MultiTHREAD MILL full form style for creating NPT / NPTF American Standard Pipe threads will cut a wide range of materials including carbon steel, steel alloys, stainless steel, aluminum and copper. This all purpose design is well suited to the job shop, short run threading environment.

By combining select design elements, an exceptional balance of performance benefits and cost are achieved:

- **NPT / NPTF** American Taper Pipe Threads
- **15° left-hand spiral flute geometry** for blind and through hole applications in most materials
- For the production of internal threads
- **Tool for different thread sizes** with standard thread profile (but for one pitch only)
- HA - Straight shank design
- h6 Tolerance ground shank
- **TICN coated** for wear resistance and longer tool life

For Cutting Data and Recommended Materials see page 35.

NPT – TICN COATED – 15° LEFT-HAND SPIRAL FLUTE

Tool Size	Pitch	# Flutes	Cutter Dia.	Overall Length	Shank Dia.	Flute Length	Thread Length	EDP No.
1/16 - 1/8”	27	4	.232	2 1/4"	5/16"	.536”	.536”	**GFT9B806.9676**
1/4 - 3/8”	18	4	.400	3 1/4"	1/2"	.803”	.803”	**GFT9B816.9677**
1/2 - 3/4”	14	4	.561	3 1/2"	5/8"	1.034”	1.034”	**GFT9B836.9678**
1 - 2”	11.5	5	.772	3 3/4”	3/4”	1.260”	1.260”	**GFT9B856.9679**

NPTF – TICN COATED – 15° LEFT-HAND SPIRAL FLUTE

Tool Size	Pitch	# Flutes	Cutter Dia.	Overall Length	Shank Dia.	Flute Length	Thread Length	EDP No.
1/16 - 1/8”	27	4	.232	2 1/4"	5/16"	.536”	.536”	**GFT9B806.9681**
1/4 - 3/8”	18	4	.400	3 1/4"	1/2"	.803”	.803”	**GFT9B816.9682**
1/2 - 3/4”	14	4	.561	3 1/2"	5/8"	1.034”	1.034”	**GFT9B836.9683**
1 - 2”	11.5	5	.772	3 3/4”	3/4”	1.260”	1.260”	**GFT9B856.9684**

MultiDRILL™

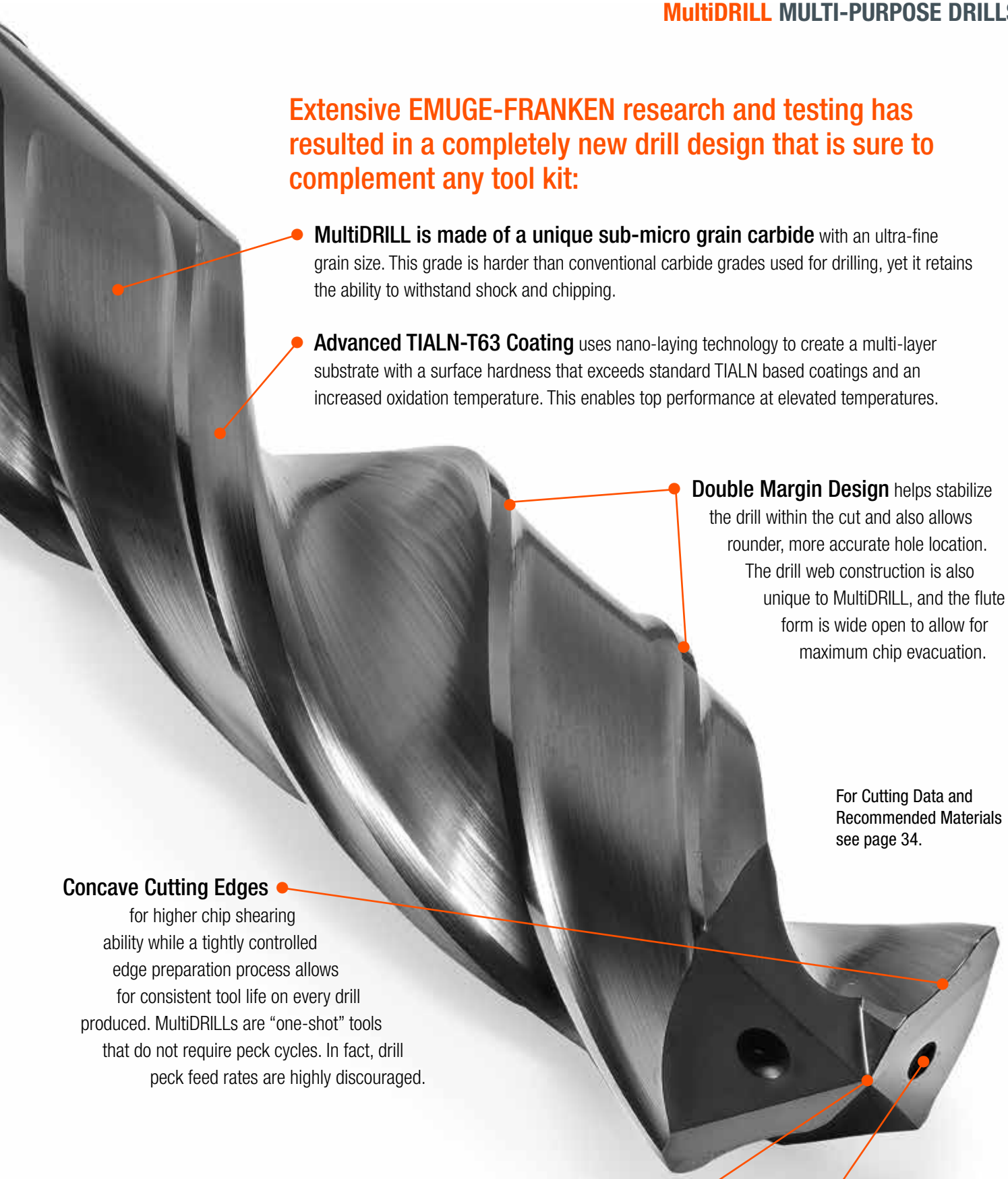
The MultiDRILL program offers affordable high quality solid carbide drills for manufacturers that have limited quantity production runs or operate in a job shop environment with many materials. MultiDRILL can be used successfully in a wide range of materials, providing longer tool life and productivity — a truly "multi-purpose" high-penetration rate drill for everyday use.

- MultiDRILL is made of a unique sub-micro grain carbide
- Advanced TIALN-T63 Coating
- Concave cutting edges
- Double Margin Design
- MultiDRILLs are self-centering
- 3 X D, 5 X D, 8 X D and 6 X D Micro lengths

Extensive EMUGE-FRANKEN research and testing has resulted in a completely new drill design that is sure to complement any tool kit:

MultiDRILL is made of a unique sub-micro grain carbide with an ultra-fine grain size. This grade is harder than conventional carbide grades used for drilling, yet it retains the ability to withstand shock and chipping.

Advanced TIALN-T63 Coating uses nano-laying technology to create a multi-layer substrate with a surface hardness that exceeds standard TIALN based coatings and an increased oxidation temperature. This enables top performance at elevated temperatures.



Double Margin Design helps stabilize the drill within the cut and also allows rounder, more accurate hole location. The drill web construction is also unique to MultiDRILL, and the flute form is wide open to allow for maximum chip evacuation.

For Cutting Data and Recommended Materials see page 34.

Concave Cutting Edges for higher chip shearing ability while a tightly controlled edge preparation process allows for consistent tool life on every drill produced. MultiDRILLs are “one-shot” tools that do not require peck cycles. In fact, drill peck feed rates are highly discouraged.

MultiDRILLs are self-centering and do not require pre-spot drilling applications.

Coolant-thru capability

- Double margin design for rounder and straighter holes
- Advanced flute profile designed to enhance chip evacuation of varying materials.
- Radius cutting edge for high shearing action
- Unique TIALN-T63 tool coating for heat and wear resistance
- m7 Tolerance on cutting diameter, h6 Tolerance on shank diameter
- 140° drill point angle

3 X D – COOLANT FED – TIALN-T63 COATING

For Cutting Data and Recommended Materials see page 37.

Size				OAL (mm)	Flute Length (mm)	Shank Dia. (mm)	EDP No. HA Shank
Inch	Fraction	Wire letter	mm				
0.1181			3.000	62	20	6	TA209744.0300
0.1220			3.100	62	20	6	TA209744.0310
0.1240			3.150	62	20	6	TA209744.0315
0.1250	1/8"		3.175	62	20	6	TA209744.0318
0.1260			3.200	62	20	6	TA209744.0320
0.1268			3.220	62	20	6	TA209744.0322
0.1280			3.250	62	20	6	TA209744.0325
0.1299			3.300	62	20	6	TA209744.0330
0.1319			3.350	62	20	6	TA209744.0335
0.1331			3.380	62	20	6	TA209744.0338
0.1339			3.400	62	20	6	TA209744.0340
0.1378			3.500	62	20	6	TA209744.0350
0.1406	9/64"	#28	3.571	62	20	6	TA209744.0357
0.1417			3.600	62	20	6	TA209744.0360
0.1437			3.650	62	20	6	TA209744.0365
0.1457			3.700	62	20	6	TA209744.0370
0.1496		#25	3.800	66	24	6	TA209744.0380
0.1516			3.850	66	24	6	TA209744.0385
0.1528			3.880	66	24	6	TA209744.0388
0.1535			3.900	66	24	6	TA209744.0390
0.1563	5/32"		3.970	66	24	6	TA209744.0397
0.1575			4.000	66	24	6	TA209744.0400
0.1590		#21	4.038	66	24	6	TA209744.0404
0.1614			4.100	66	24	6	TA209744.0410
0.1634			4.150	66	24	6	TA209744.0415
0.1654			4.200	66	24	6	TA209744.0420
0.1693		#18	4.300	66	24	6	TA209744.0430
0.1713			4.350	66	24	6	TA209744.0435
0.1719	11/64"		4.366	66	24	6	TA209744.0437
0.1732			4.400	66	24	6	TA209744.0440
0.1752			4.450	66	24	6	TA209744.0445
0.1772			4.500	66	24	6	TA209744.0450
0.1811			4.600	66	24	6	TA209744.0460
0.1831			4.650	66	24	6	TA209744.0465
0.1850		#13	4.700	66	24	6	TA209744.0470
0.1875	3/16"		4.763	66	28	6	TA209744.0476
0.1890		#12	4.800	66	28	6	TA209744.0480
0.1929			4.900	66	28	6	TA209744.0490
0.1969			5.000	66	28	6	TA209744.0500
0.2008			5.100	66	28	6	TA209744.0510
0.2010		#7	5.106	66	28	6	TA209744.0511
0.2031	13/64"		5.159	66	28	6	TA209744.0516
0.2047			5.200	66	28	6	TA209744.0520
0.2087			5.300	66	28	6	TA209744.0530
0.2126			5.400	66	28	6	TA209744.0540
0.2130		#3	5.410	66	28	6	TA209744.0541
0.2165			5.500	66	28	6	TA209744.0550
0.2187	7/32"		5.556	66	28	6	TA209744.0556
0.2205			5.600	66	28	6	TA209744.0560
0.2244			5.700	66	28	6	TA209744.0570
0.2264			5.750	66	28	6	TA209744.0575
0.2283			5.800	66	28	6	TA209744.0580
0.2323			5.900	66	28	6	TA209744.0590
0.2344	15/64"		5.954	66	28	6	TA209744.0595
0.2362			6.000	66	28	6	TA209744.0600
0.2402			6.100	79	34	8	TA209744.0610
0.2441			6.200	79	34	8	TA209744.0620
0.2480			6.300	79	34	8	TA209744.0630
0.2500	1/4"	E	6.350	79	34	8	TA209744.0635
0.2520			6.400	79	34	8	TA209744.0640
0.2559			6.500	79	34	8	TA209744.0650
0.2570		F	6.528	79	34	8	TA209744.0653

3 X D – COOLANT FED – TIALN-T63 COATING

For Cutting Data and Recommended Materials see page 37.

Size				OAL (mm)	Flute Length (mm)	Shank Dia. (mm)	EDP No. HA Shank
Inch	Fraction	Wire letter	mm				
0.2598			6.600	79	34	8	TA209744.0660
0.2638			6.700	79	34	8	TA209744.0670
0.2656	17/64"		6.746	79	34	8	TA209744.0675
0.2677			6.800	79	34	8	TA209744.0680
0.2717			6.900	79	34	8	TA209744.0690
0.2756			7.000	79	34	8	TA209744.0700
0.2795			7.100	79	41	8	TA209744.0710
0.2813	9/32"	K	7.145	79	41	8	TA209744.0715
0.2835			7.200	79	41	8	TA209744.0720
0.2854			7.250	79	41	8	TA209744.0725
0.2874			7.300	79	41	8	TA209744.0730
0.2913			7.400	79	41	8	TA209744.0740
0.2933			7.450	79	41	8	TA209744.0745
0.2953			7.500	79	41	8	TA209744.0750
0.2969	19/64"		7.541	79	41	8	TA209744.0754
0.2992			7.600	79	41	8	TA209744.0760
0.3031			7.700	79	41	8	TA209744.0770
0.3071			7.800	79	41	8	TA209744.0780
0.3110			7.900	79	41	8	TA209744.0790
0.3125	5/16"		7.938	79	41	8	TA209744.0794
0.3150			8.000	79	41	8	TA209744.0800
0.3189			8.100	89	47	10	TA209744.0810
0.3228			8.200	89	47	10	TA209744.0820
0.3268			8.300	89	47	10	TA209744.0830
0.3281	21/64"		8.334	89	47	10	TA209744.0833
0.3307			8.400	89	47	10	TA209744.0840
0.3327			8.450	89	47	10	TA209744.0845
0.3346			8.500	89	47	10	TA209744.0850
0.3386			8.600	89	47	10	TA209744.0860
0.3425			8.700	89	47	10	TA209744.0870
0.3438	11/32"		8.733	89	47	10	TA209744.0873
0.3465			8.800	89	47	10	TA209744.0880
0.3504			8.900	89	47	10	TA209744.0890
0.3543			9.000	89	47	10	TA209744.0900
0.3563			9.050	89	47	10	TA209744.0905
0.3583			9.100	89	47	10	TA209744.0910
0.3594	23/64"		9.129	89	47	10	TA209744.0913
0.3622			9.200	89	47	10	TA209744.0920
0.3661			9.300	89	47	10	TA209744.0930
0.3681			9.350	89	47	10	TA209744.0935
0.3701			9.400	89	47	10	TA209744.0940
0.3720			9.450	89	47	10	TA209744.0945
0.3740			9.500	89	47	10	TA209744.0950
0.3750	3/8"		9.525	89	47	10	TA209744.0953
0.3780			9.600	89	47	10	TA209744.0960
0.3819			9.700	89	47	10	TA209744.0970
0.3858			9.800	89	47	10	TA209744.0980
0.3898			9.900	89	47	10	TA209744.0990
0.3906	25/64"		9.921	89	47	10	TA209744.0992
0.3937			10.000	89	47	10	TA209744.1000
0.3976			10.100	102	55	12	TA209744.1010
0.4016			10.200	102	55	12	TA209744.1020
0.4035			10.250	102	55	12	TA209744.1025
0.4055			10.300	102	55	12	TA209744.1030
0.4063	13/32"		10.320	102	55	12	TA209744.1032
0.4075			10.350	102	55	12	TA209744.1035
0.4094			10.400	102	55	12	TA209744.1040
0.4134			10.500	102	55	12	TA209744.1050
0.4154			10.550	102	55	12	TA209744.1055
0.4173			10.600	102	55	12	TA209744.1060
0.4213			10.700	102	55	12	TA209744.1070
0.4219	27/64"		10.716	102	55	12	TA209744.1072

- Double margin design for rounder and straighter holes
- Advanced flute profile designed to enhance chip evacuation of varying materials.
- Radius cutting edge for high shearing action
- Unique TIALN-T63 tool coating for heat and wear resistance
- m7 Tolerance on cutting diameter, h6 Tolerance on shank diameter
- 140° drill point angle

3 X D – COOLANT FED – TIALN-T63 COATING

For Cutting Data and Recommended Materials see page 37.

Size				OAL (mm)	Flute Length (mm)	Shank Dia. (mm)	EDP No. HA Shank
Inch	Fraction	Wire letter	mm				
0.4252			10.800	102	55	12	TA209744.1080
0.4291			10.900	102	55	12	TA209744.1090
0.4331			11.000	102	55	12	TA209744.1100
0.4370			11.100	102	55	12	TA209744.1110
0.4375	7/16"		11.113	102	55	12	TA209744.1111
0.4409			11.200	102	55	12	TA209744.1120
0.4429			11.250	102	55	12	TA209744.1125
0.4449			11.300	102	55	12	TA209744.1130
0.4469			11.350	102	55	12	TA209744.1135
0.4488			11.400	102	55	12	TA209744.1140
0.4508			11.450	102	55	12	TA209744.1145
0.4528			11.500	102	55	12	TA209744.1150
0.4531	29/64"		11.509	102	55	12	TA209744.1151
0.4567			11.600	102	55	12	TA209744.1160
0.4606			11.700	102	55	12	TA209744.1170
0.4646			11.800	102	55	12	TA209744.1180
0.4685			11.900	102	55	12	TA209744.1190
0.4688	15/32"		11.908	102	55	12	TA209744.1191
0.4724			12.000	102	55	12	TA209744.1200
0.4783			12.150	107	60	14	TA209744.1215
0.4803			12.200	107	60	14	TA209744.1220
0.4844	31/64"		12.304	107	60	14	TA209744.1230
0.4921			12.500	107	60	14	TA209744.1250
0.4941			12.550	107	60	14	TA209744.1255
0.4961			12.600	107	60	14	TA209744.1260
0.5000	1/2"		12.700	107	60	14	TA209744.1270
0.5039			12.800	107	60	14	TA209744.1280
0.5118			13.000	107	60	14	TA209744.1300
0.5157			13.100	107	60	14	TA209744.1310
0.5236			13.300	107	60	14	TA209744.1330
0.5256			13.350	107	60	14	TA209744.1335
0.5295			13.450	107	60	14	TA209744.1345
0.5313	17/32"		13.495	107	60	14	TA209744.1349
0.5315			13.500	107	60	14	TA209744.1350
0.5354			13.600	107	60	14	TA209744.1360
0.5374			13.650	107	60	14	TA209744.1365
0.5394			13.700	107	60	14	TA209744.1370
0.5433			13.800	107	60	14	TA209744.1380
0.5469	35/64"		13.891	107	60	14	TA209744.1389
0.5512			14.000	107	60	14	TA209744.1400
0.5551			14.100	115	65	16	TA209744.1410
0.5625	9/16"		14.290	115	65	16	TA209744.1429
0.5709			14.500	115	65	16	TA209744.1450
0.5748			14.600	115	65	16	TA209744.1460
0.5781	37/64"		14.684	115	65	16	TA209744.1468
0.5827			14.800	115	65	16	TA209744.1480
0.5906			15.000	115	65	16	TA209744.1500
0.5938	19/32"		15.083	115	65	16	TA209744.1508
0.5945			15.100	115	65	16	TA209744.1510
0.6043			15.350	115	65	16	TA209744.1535
0.6102			15.500	115	65	16	TA209744.1550
0.6142			15.600	115	65	16	TA209744.1560
0.6250	5/8"		15.875	115	65	16	TA209744.1588
0.6299			16.000	115	65	16	TA209744.1600
0.6406	41/64"		16.272	123	73	18	TA209744.1627
0.6496			16.500	123	73	18	TA209744.1650
0.6563	21/32"		16.669	123	73	18	TA209744.1667
0.6693			17.000	123	73	18	TA209744.1700
0.6875	11/16"		17.463	123	73	18	TA209744.1746
0.6890			17.500	123	73	18	TA209744.1750
0.7087			18.000	123	73	18	TA209744.1800
0.7500	3/4"		19.050	131	79	20	TA209744.1905

5 X D – COOLANT FED – TIALN-T63 COATING

For Cutting Data and Recommended Materials see page 37.

Size				OAL (mm)	Flute Length (mm)	Shank Dia. (mm)	EDP No. HA Shank
Inch	Fraction	Wire letter	mm				
0.1181			3.000	66	28	6	TA219744.0300
0.1220			3.100	66	28	6	TA219744.0310
0.1240			3.150	66	28	6	TA219744.0315
0.1250	1/8"		3.175	66	28	6	TA219744.0318
0.1260			3.200	66	28	6	TA219744.0320
0.1268			3.220	66	28	6	TA219744.0322
0.1280			3.250	66	28	6	TA219744.0325
0.1299			3.300	66	28	6	TA219744.0330
0.1319			3.350	66	28	6	TA219744.0335
0.1331			3.380	66	28	6	TA219744.0338
0.1339			3.400	66	28	6	TA219744.0340
0.1378			3.500	66	28	6	TA219744.0350
0.1406	9/64"	#28	3.571	66	28	6	TA219744.0357
0.1417			3.600	66	28	6	TA219744.0360
0.1437			3.650	66	28	6	TA219744.0365
0.1457			3.700	66	28	6	TA219744.0370
0.1496		#25	3.800	74	36	6	TA219744.0380
0.1516			3.850	74	36	6	TA219744.0385
0.1528			3.880	74	36	6	TA219744.0388
0.1535			3.900	74	36	6	TA219744.0390
0.1563	5/32"		3.970	74	36	6	TA219744.0397
0.1575			4.000	74	36	6	TA219744.0400
0.1590		#21	4.038	74	36	6	TA219744.0404
0.1614			4.100	74	36	6	TA219744.0410
0.1634			4.150	74	36	6	TA219744.0415
0.1654			4.200	74	36	6	TA219744.0420
0.1693		#18	4.300	74	36	6	TA219744.0430
0.1713			4.350	74	36	6	TA219744.0435
0.1719	11/64"		4.366	74	36	6	TA219744.0437
0.1732			4.400	74	36	6	TA219744.0440
0.1752			4.450	74	36	6	TA219744.0445
0.1772			4.500	74	36	6	TA219744.0450
0.1811			4.600	74	36	6	TA219744.0460
0.1831			4.650	74	36	6	TA219744.0465
0.1850		#13	4.700	74	36	6	TA219744.0470
0.1875	3/16"		4.763	82	44	6	TA219744.0476
0.1890		#12	4.800	82	44	6	TA219744.0480
0.1929			4.900	82	44	6	TA219744.0490
0.1969			5.000	82	44	6	TA219744.0500
0.2008			5.100	82	44	6	TA219744.0510
0.2010		#7	5.106	82	44	6	TA219744.0511
0.2031	13/64"		5.159	82	44	6	TA219744.0516
0.2047			5.200	82	44	6	TA219744.0520
0.2087			5.300	82	44	6	TA219744.0530
0.2126			5.400	82	44	6	TA219744.0540
0.2130		#3	5.410	82	44	6	TA219744.0541
0.2165			5.500	82	44	6	TA219744.0550
0.2187	7/32"		5.556	82	44	6	TA219744.0556
0.2205			5.600	82	44	6	TA219744.0560
0.2244			5.700	82	44	6	TA219744.0570
0.2264			5.750	82	44	6	TA219744.0575
0.2283			5.800	82	44	6	TA219744.0580
0.2323			5.900	82	44	6	TA219744.0590
0.2344	15/64"		5.954	82	44	6	TA219744.0595
0.2362			6.000	82	44	6	TA219744.0600
0.2402			6.100	91	53	8	TA219744.0610
0.2441			6.200	91	53	8	TA219744.0620
0.2480			6.300	91	53	8	TA219744.0630
0.2500	1/4"	E	6.350	91	53	8	TA219744.0635
0.2520			6.400	91	53	8	TA219744.0640
0.2559			6.500	91	53	8	TA219744.0650
0.2570		F	6.528	91	53	8	TA219744.0653

- Double margin design for rounder and straighter holes
- Advanced flute profile designed to enhance chip evacuation of varying materials.
- Radius cutting edge for high shearing action
- Unique TIALN-T63 tool coating for heat and wear resistance
- m7 Tolerance on cutting diameter, h6 Tolerance on shank diameter
- 140° drill point angle

5 X D – COOLANT FED – TIALN-T63 COATING

For Cutting Data and Recommended Materials see page 37.

Size				OAL (mm)	Flute Length (mm)	Shank Dia. (mm)	EDP No. HA Shank
Inch	Fraction	Wire letter	mm				
0.2598			6.600	91	53	8	TA219744.0660
0.2638			6.700	91	53	8	TA219744.0670
0.2656	17/64"		6.746	91	53	8	TA219744.0675
0.2677			6.800	91	53	8	TA219744.0680
0.2717			6.900	91	53	8	TA219744.0690
0.2756			7.000	91	53	8	TA219744.0700
0.2795			7.100	91	53	8	TA219744.0710
0.2813	9/32"	K	7.145	91	53	8	TA219744.0715
0.2835			7.200	91	53	8	TA219744.0720
0.2854			7.250	91	53	8	TA219744.0725
0.2874			7.300	91	53	8	TA219744.0730
0.2913			7.400	91	53	8	TA219744.0740
0.2933			7.450	91	53	8	TA219744.0745
0.2953			7.500	91	53	8	TA219744.0750
0.2969	19/64"		7.541	91	53	8	TA219744.0754
0.2992			7.600	91	53	8	TA219744.0760
0.3031			7.700	91	53	8	TA219744.0770
0.3071			7.800	91	53	8	TA219744.0780
0.3110			7.900	91	53	8	TA219744.0790
0.3125	5/16"		7.938	91	53	8	TA219744.0794
0.3150			8.000	91	53	8	TA219744.0800
0.3189			8.100	103	61	10	TA219744.0810
0.3228			8.200	103	61	10	TA219744.0820
0.3268			8.300	103	61	10	TA219744.0830
0.3281	21/64"		8.334	103	61	10	TA219744.0833
0.3307			8.400	103	61	10	TA219744.0840
0.3327			8.450	103	61	10	TA219744.0845
0.3346			8.500	103	61	10	TA219744.0850
0.3386			8.600	103	61	10	TA219744.0860
0.3425			8.700	103	61	10	TA219744.0870
0.3438	11/32"		8.733	103	61	10	TA219744.0873
0.3465			8.800	103	61	10	TA219744.0880
0.3504			8.900	103	61	10	TA219744.0890
0.3543			9.000	103	61	10	TA219744.0900
0.3563			9.050	103	61	10	TA219744.0905
0.3583			9.100	103	61	10	TA219744.0910
0.3594	23/64"		9.129	103	61	10	TA219744.0913
0.3622			9.200	103	61	10	TA219744.0920
0.3661			9.300	103	61	10	TA219744.0930
0.3681			9.350	103	61	10	TA219744.0935
0.3701			9.400	103	61	10	TA219744.0940
0.3720			9.450	103	61	10	TA219744.0945
0.3740			9.500	103	61	10	TA219744.0950
0.3750	3/8"		9.525	103	61	10	TA219744.0953
0.3780			9.600	103	61	10	TA219744.0960
0.3819			9.700	103	61	10	TA219744.0970
0.3858			9.800	103	61	10	TA219744.0980
0.3898			9.900	103	61	10	TA219744.0990
0.3906	25/64"		9.921	103	61	10	TA219744.0992
0.3937			10.000	103	61	10	TA219744.1000
0.3976			10.100	118	71	12	TA219744.1010
0.4016			10.200	118	71	12	TA219744.1020
0.4035			10.250	118	71	12	TA219744.1025
0.4055			10.300	118	71	12	TA219744.1030
0.4063	13/32"		10.320	118	71	12	TA219744.1032
0.4075			10.350	118	71	12	TA219744.1035
0.4094			10.400	118	71	12	TA219744.1040
0.4134			10.500	118	71	12	TA219744.1050
0.4154			10.550	118	71	12	TA219744.1055
0.4173			10.600	118	71	12	TA219744.1060
0.4213			10.700	118	71	12	TA219744.1070
0.4219	27/64"		10.716	118	71	12	TA219744.1072

5 X D – COOLANT FED – TIALN-T63 COATING

For Cutting Data and Recommended Materials see page 37.

Size				OAL (mm)	Flute Length (mm)	Shank Dia. (mm)	EDP No. HA Shank
Inch	Fraction	Wire letter	mm				
0.4252			10.800	118	71	12	TA219744.1080
0.4291			10.900	118	71	12	TA219744.1090
0.4331			11.000	118	71	12	TA219744.1100
0.4370			11.100	118	71	12	TA219744.1110
0.4375	7/16"		11.113	118	71	12	TA219744.1111
0.4409			11.200	118	71	12	TA219744.1120
0.4429			11.250	118	71	12	TA219744.1125
0.4449			11.300	118	71	12	TA219744.1130
0.4469			11.350	118	71	12	TA219744.1135
0.4488			11.400	118	71	12	TA219744.1140
0.4508			11.450	118	71	12	TA219744.1145
0.4528			11.500	118	71	12	TA219744.1150
0.4531	29/64"		11.509	118	71	12	TA219744.1151
0.4567			11.600	118	71	12	TA219744.1160
0.4606			11.700	118	71	12	TA219744.1170
0.4646			11.800	118	71	12	TA219744.1180
0.4685			11.900	118	71	12	TA219744.1190
0.4688	15/32“		11.908	118	71	12	TA219744.1191
0.4724			12.000	118	71	12	TA219744.1200
0.4783			12.150	124	77	14	TA219744.1215
0.4803			12.200	124	77	14	TA219744.1220
0.4844	31/64“		12.304	124	77	14	TA219744.1230
0.4921			12.500	124	77	14	TA219744.1250
0.4941			12.550	124	77	14	TA219744.1255
0.4961			12.600	124	77	14	TA219744.1260
0.5000	1/2"		12.700	124	77	14	TA219744.1270
0.5039			12.800	124	77	14	TA219744.1280
0.5118			13.000	124	77	14	TA219744.1300
0.5157			13.100	124	77	14	TA219744.1310
0.5236			13.300	124	77	14	TA219744.1330
0.5256			13.350	124	77	14	TA219744.1335
0.5295			13.450	124	77	14	TA219744.1345
0.5313	17/32"		13.495	124	77	14	TA219744.1349
0.5315			13.500	124	77	14	TA219744.1350
0.5354			13.600	124	77	14	TA219744.1360
0.5374			13.650	124	77	14	TA219744.1365
0.5394			13.700	124	77	14	TA219744.1370
0.5433			13.800	124	77	14	TA219744.1380
0.5469	35/64"		13.891	124	77	14	TA219744.1389
0.5512			14.000	124	77	14	TA219744.1400
0.5551			14.100	133	83	16	TA219744.1410
0.5625	9/16"		14.290	133	83	16	TA219744.1429
0.5709			14.500	133	83	16	TA219744.1450
0.5748			14.600	133	83	16	TA219744.1460
0.5781	37/64"		14.684	133	83	16	TA219744.1468
0.5827			14.800	133	83	16	TA219744.1480
0.5906			15.000	133	83	16	TA219744.1500
0.5938	19/32"		15.083	133	83	16	TA219744.1508
0.5945			15.100	133	83	16	TA219744.1510
0.6043			15.350	133	83	16	TA219744.1535
0.6102			15.500	133	83	16	TA219744.1550
0.6142			15.600	133	83	16	TA219744.1560
0.6250	5/8"		15.875	133	83	16	TA219744.1588
0.6299			16.000	133	83	16	TA219744.1600
0.6406	41/64“		16.272	143	93	18	TA219744.1627
0.6496			16.500	143	93	18	TA219744.1650
0.6563	21/32"		16.669	143	93	18	TA219744.1667
0.6693			17.000	143	93	18	TA219744.1700
0.6875	11/16"		17.463	143	93	18	TA219744.1746
0.6890			17.500	143	93	18	TA219744.1750
0.7087			18.000	143	93	18	TA219744.1800
0.7500	3/4"		19.050	153	101	20	TA219744.1905

- Double margin design for rounder and straighter holes
- Radius cutting edge for high shearing action
- Unique TIALN-T63 tool coating for heat and wear resistance
- m7 Tolerance on cutting diameter, h6 Tolerance on shank diameter
- 135° drill point angle
- Preparatory center drilling recommended with 142° NC Spot drill
- Eliminate the need for peck cycle drilling and reduce cycle time

8 X D – COOLANT FED – TIALN-T63 COATING

For Cutting Data and Recommended Materials see page 37.

Size				OAL (mm)	Flute Length (mm)	Shank Dia. (mm)	EDP No. HA Shank
Inch	Fraction	Wire letter	mm				
0.1181			3.000	78	38	6	TA229744.0300
0.1220			3.100	78	38	6	TA229744.0310
0.1240			3.150	78	38	6	TA229744.0315
0.1250	1/8"		3.175	78	38	6	TA229744.0318
0.1260			3.200	78	38	6	TA229744.0320
0.1268			3.220	78	38	6	TA229744.0322
0.1280			3.250	78	38	6	TA229744.0325
0.1299			3.300	78	38	6	TA229744.0330
0.1319			3.350	78	38	6	TA229744.0335
0.1331			3.380	78	38	6	TA229744.0338
0.1339			3.400	78	38	6	TA229744.0340
0.1378			3.500	78	38	6	TA229744.0350
0.1406	9/64"	#28	3.571	78	38	6	TA229744.0357
0.1417			3.600	78	38	6	TA229744.0360
0.1437			3.650	78	38	6	TA229744.0365
0.1457			3.700	78	38	6	TA229744.0370
0.1496		#25	3.800	88	48	6	TA229744.0380
0.1516			3.850	88	48	6	TA229744.0385
0.1528			3.880	88	48	6	TA229744.0388
0.1535			3.900	88	48	6	TA229744.0390
0.1563	5/32"		3.970	88	48	6	TA229744.0397
0.1575			4.000	88	48	6	TA229744.0400
0.1590		#21	4.038	88	48	6	TA229744.0404
0.1614			4.100	88	48	6	TA229744.0410
0.1634			4.150	88	48	6	TA229744.0415
0.1654			4.200	88	48	6	TA229744.0420
0.1693		#18	4.300	88	48	6	TA229744.0430
0.1713			4.350	88	48	6	TA229744.0435
0.1719	11/64"		4.366	88	48	6	TA229744.0437
0.1732			4.400	88	48	6	TA229744.0440
0.1752			4.450	88	48	6	TA229744.0445
0.1772			4.500	88	48	6	TA229744.0450
0.1811			4.600	88	48	6	TA229744.0460
0.1831			4.650	88	48	6	TA229744.0465
0.1850		#13	4.700	88	48	6	TA229744.0470
0.1875	3/16"		4.763	97	60	6	TA229744.0476
0.1890		#12	4.800	97	60	6	TA229744.0480
0.1929			4.900	97	60	6	TA229744.0490
0.1969			5.000	97	60	6	TA229744.0500
0.2008			5.100	97	60	6	TA229744.0510
0.2010		#7	5.106	97	60	6	TA229744.0511
0.2031	13/64"		5.159	97	60	6	TA229744.0516
0.2047			5.200	97	60	6	TA229744.0520
0.2087			5.300	97	60	6	TA229744.0530
0.2126			5.400	97	60	6	TA229744.0540
0.2130		#3	5.410	97	60	6	TA229744.0541
0.2165			5.500	97	60	6	TA229744.0550
0.2187	7/32"		5.556	97	60	6	TA229744.0556
0.2205			5.600	97	60	6	TA229744.0560
0.2244			5.700	97	60	6	TA229744.0570
0.2264			5.750	97	60	6	TA229744.0575
0.2283			5.800	97	60	6	TA229744.0580
0.2323			5.900	97	60	6	TA229744.0590
0.2344	15/64"		5.954	97	60	6	TA229744.0595
0.2362			6.000	97	60	6	TA229744.0600
0.2402			6.100	107	70	8	TA229744.0610
0.2441			6.200	107	70	8	TA229744.0620
0.2480			6.300	107	70	8	TA229744.0630
0.2500	1/4"	E	6.350	107	70	8	TA229744.0635
0.2520			6.400	107	70	8	TA229744.0640
0.2559			6.500	107	70	8	TA229744.0650
0.2570		F	6.528	107	70	8	TA229744.0650

8 X D – COOLANT FED – TIALN-T63 COATING

For Cutting Data and Recommended Materials see page 37.

Size				OAL (mm)	Flute Length (mm)	Shank Dia. (mm)	EDP No. HA Shank
Inch	Fraction	Wire letter	mm				
0.2598			6.600	107	70	8	TA229744.0660
0.2638			6.700	107	70	8	TA229744.0670
0.2656	17/64"		6.746	107	70	8	TA229744.0675
0.2677			6.800	107	70	8	TA229744.0680
0.2717			6.900	107	70	8	TA229744.0690
0.2756			7.000	107	70	8	TA229744.0700
0.2795			7.100	117	80	8	TA229744.0710
0.2813	9/32"	K	7.145	117	80	8	TA229744.0715
0.2835			7.200	117	80	8	TA229744.0720
0.2854			7.250	117	80	8	TA229744.0725
0.2874			7.300	117	80	8	TA229744.0730
0.2913			7.400	117	80	8	TA229744.0740
0.2933			7.450	117	80	8	TA229744.0745
0.2953			7.500	117	80	8	TA229744.0750
0.2969	19/64"		7.541	117	80	8	TA229744.0754
0.2992			7.600	117	80	8	TA229744.0760
0.3031			7.700	117	80	8	TA229744.0770
0.3071			7.800	117	80	8	TA229744.0780
0.3110			7.900	117	80	8	TA229744.0790
0.3125	5/16"		7.938	117	80	8	TA229744.0794
0.3150			8.000	117	80	8	TA229744.0800
0.3189			8.100	141	100	10	TA229744.0810
0.3228			8.200	141	100	10	TA229744.0820
0.3268			8.300	141	100	10	TA229744.0830
0.3281	21/64"		8.334	141	100	10	TA229744.0833
0.3307			8.400	141	100	10	TA229744.0840
0.3327			8.450	141	100	10	TA229744.0845
0.3346			8.500	141	100	10	TA229744.0850
0.3386			8.600	141	100	10	TA229744.0860
0.3425			8.700	141	100	10	TA229744.0870
0.3438	11/32"		8.733	141	100	10	TA229744.0873
0.3465			8.800	141	100	10	TA229744.0880
0.3504			8.900	141	100	10	TA229744.0890
0.3543			9.000	141	100	10	TA229744.0900
0.3563			9.050	141	100	10	TA229744.0905
0.3583			9.100	141	100	10	TA229744.0910
0.3594	23/64"		9.129	141	100	10	TA229744.0913
0.3622			9.200	141	100	10	TA229744.0920
0.3661			9.300	141	100	10	TA229744.0930
0.3681			9.350	141	100	10	TA229744.0935
0.3701			9.400	141	100	10	TA229744.0940
0.3720			9.450	141	100	10	TA229744.0945
0.3740			9.500	141	100	10	TA229744.0950
0.3750	3/8"		9.525	141	100	10	TA229744.0953
0.3780			9.600	141	100	10	TA229744.0960
0.3819			9.700	141	100	10	TA229744.0970
0.3858			9.800	141	100	10	TA229744.0980
0.3898			9.900	141	100	10	TA229744.0990
0.3906	25/64"		9.921	141	100	10	TA229744.0992
0.3937			10.000	141	100	10	TA229744.1000
0.3976			10.100	166	120	12	TA229744.1010
0.4016			10.200	166	120	12	TA229744.1020
0.4035			10.250	166	120	12	TA229744.1025
0.4055			10.300	166	120	12	TA229744.1030
0.4063	13/32"		10.320	166	120	12	TA229744.1032
0.4075			10.350	166	120	12	TA229744.1035
0.4094			10.400	166	120	12	TA229744.1040
0.4134			10.500	166	120	12	TA229744.1050
0.4154			10.550	166	120	12	TA229744.1055
0.4173			10.600	166	120	12	TA229744.1060
0.4213			10.700	166	120	12	TA229744.1070
0.4219	27/64"		10.716	166	120	12	TA229744.1072

- Double margin design for rounder and straighter holes
- Radius cutting edge for high shearing action
- Unique TIALN-T63 tool coating for heat and wear resistance
- m7 Tolerance on cutting diameter, h6 Tolerance on shank diameter
- 135° drill point angle
- Preparatory center drilling recommended with 142° NC Spot drill
- Eliminate the need for peck cycle drilling and reduce cycle time

8 X D – COOLANT FED – TIALN-T63 COATING

For Cutting Data and Recommended Materials see page 37.

Size				OAL (mm)	Flute Length (mm)	Shank Dia. (mm)	EDP No. HA Shank
Inch	Fraction	Wire letter	mm				
0.4252			10.800	166	120	12	TA229744.1080
0.4291			10.900	166	120	12	TA229744.1090
0.4331			11.000	166	120	12	TA229744.1100
0.4370			11.100	166	120	12	TA229744.1110
0.4375	7/16"		11.113	166	120	12	TA229744.1111
0.4409			11.200	166	120	12	TA229744.1120
0.4429			11.250	166	120	12	TA229744.1125
0.4449			11.300	166	120	12	TA229744.1130
0.4469			11.350	166	120	12	TA229744.1135
0.4488			11.400	166	120	12	TA229744.1140
0.4508			11.450	166	120	12	TA229744.1145
0.4528			11.500	166	120	12	TA229744.1150
0.4531	29/64"		11.509	166	120	12	TA229744.1151
0.4567			11.600	166	120	12	TA229744.1160
0.4606			11.700	166	120	12	TA229744.1170
0.4646			11.800	166	120	12	TA229744.1180
0.4685			11.900	166	120	12	TA229744.1190
0.4688	15/32"		11.908	166	120	12	TA229744.1191
0.4724			12.000	166	120	12	TA229744.1200
0.4783			12.150	186	140	14	TA229744.1215
0.4803			12.200	186	140	14	TA229744.1220
0.4844	31/64"		12.304	186	140	14	TA229744.1230
0.4921			12.500	186	140	14	TA229744.1250
0.4941			12.550	186	140	14	TA229744.1255
0.4961			12.600	186	140	14	TA229744.1260
0.5000	1/2"		12.700	186	140	14	TA229744.1270
0.5039			12.800	186	140	14	TA229744.1280
0.5118			13.000	186	140	14	TA229744.1300
0.5157			13.100	186	140	14	TA229744.1310
0.5236			13.300	186	140	14	TA229744.1330
0.5256			13.350	186	140	14	TA229744.1335
0.5295			13.450	186	140	14	TA229744.1345
0.5313	17/32"		13.495	186	140	14	TA229744.1349
0.5315			13.500	186	140	14	TA229744.1350
0.5354			13.600	186	140	14	TA229744.1360
0.5374			13.650	186	140	14	TA229744.1365
0.5394			13.700	186	140	14	TA229744.1370
0.5433			13.800	186	140	14	TA229744.1380
0.5469	35/64"		13.891	186	140	14	TA229744.1389
0.5512			14.000	186	140	14	TA229744.1400
0.5551			14.100	209	160	16	TA229744.1410
0.5625	9/16"		14.290	209	160	16	TA229744.1429
0.5709			14.500	209	160	16	TA229744.1450
0.5748			14.600	209	160	16	TA229744.1460
0.5781	37/64"		14.684	209	160	16	TA229744.1468
0.5827			14.800	209	160	16	TA229744.1480
0.5906			15.000	209	160	16	TA229744.1500
0.5938	19/32"		15.083	209	160	16	TA229744.1508
0.5945			15.100	209	160	16	TA229744.1510
0.6043			15.350	209	160	16	TA229744.1535
0.6102			15.500	209	160	16	TA229744.1550
0.6142			15.600	209	160	16	TA229744.1560
0.6250	5/8"		15.875	209	160	16	TA229744.1588
0.6299			16.000	209	160	16	TA229744.1600

- Advanced flute profile designed to enhance chip evacuation of varying materials
- Radius cutting edge for high shearing action
- Specialized point geometry generates short chips and guarantees optimum performance
- ALCR-99 coating for heat and wear resistance
- 130° DRILL POINT ANGLE

6 X D MICRO – COOLANT FED – TIALN-T63 COATING

For Cutting Data and Recommended Materials see page 38.

Size		OAL (mm)	Flute Length (mm)	Shank Dia. (mm)	EDP No. HA Shank
Inch	mm				
0.0394	1.00	50	9.30	3	**TE219744.0100**
0.0413	1.05	50	9.80	3	**TE219744.0105**
0.0433	1.10	50	10.25	3	**TE219744.0110**
0.0453	1.15	50	10.70	3	**TE219744.0115**
0.0472	1.20	50	11.20	3	**TE219744.0120**
0.0492	1.25	50	11.65	3	**TE219744.0125**
0.0512	1.30	52	12.10	3	**TE219744.0130**
0.0531	1.35	52	12.60	3	**TE219744.0135**
0.0551	1.40	52	13.05	3	**TE219744.0140**
0.0571	1.45	52	13.50	3	**TE219744.0145**
0.0579	1.47	52	13.65	3	**TE219744.0147**
0.0591	1.50	52	13.95	3	**TE219744.0150**
0.0610	1.55	55	14.45	3	**TE219744.0155**
0.0630	1.60	55	14.90	3	**TE219744.0160**
0.0650	1.65	55	15.35	3	**TE219744.0165**
0.0669	1.70	55	15.85	3	**TE219744.0170**
0.0689	1.75	55	16.30	3	**TE219744.0175**
0.0709	1.80	57	16.75	3	**TE219744.0180**
0.0728	1.85	57	17.25	3	**TE219744.0185**
0.0748	1.90	57	17.70	3	**TE219744.0190**
0.0768	1.95	57	18.15	3	**TE219744.0195**
0.0787	2.00	57	18.60	4	**TE219744.0200**
0.0799	2.03	57	18.87	4	**TE219744.0203**
0.0807	2.05	60	19.10	4	**TE219744.0205**
0.0827	2.10	60	19.55	4	**TE219744.0210**
0.0846	2.15	60	20.00	4	**TE219744.0215**
0.0866	2.20	60	20.50	4	**TE219744.0220**
0.0886	2.25	60	20.95	4	**TE219744.0225**
0.0906	2.30	62	21.40	4	**TE219744.0230**
0.0917	2.33	62	21.65	4	**TE219744.0233**
0.0925	2.35	62	21.90	4	**TE219744.0235**
0.0945	2.40	62	22.35	4	**TE219744.0240**
0.0965	2.45	62	22.80	4	**TE219744.0245**
0.0984	2.50	62	23.25	4	**TE219744.0250**
0.1003	2.55	65	23.75	4	**TE219744.0255**
0.1024	2.60	65	24.20	4	**TE219744.0260**
0.1043	2.65	65	24.65	4	**TE219744.0265**
0.1063	2.70	65	25.15	4	**TE219744.0270**
0.1083	2.75	65	25.60	4	**TE219744.0275**
0.1102	2.80	67	26.05	4	**TE219744.0280**
0.1122	2.85	67	26.55	4	**TE219744.0285**
0.1142	2.90	67	27.00	4	**TE219744.0290**
0.1160	2.95	67	27.45	4	**TE219744.0295**

MultiTAP SFM SPECIFICATIONS

		Material Group	Hardness Range			Material Example	SFM		
			HRC	BHN	N/mm2		MULTITAP	MULTITAP-Form	MULTITAP-NPT/NPTF
P		**Steel materials**							
	1.1	Cold-extrusion steels, Magnetic soft iron	–	≤ 120	≤ 400	1008 / 1010 / 1018	25 - 60	35 - 85	5 - 35
	2.1	Free cutting steels, General construction steels	–	≤ 180	≤ 600	1008 / 1010 / 12L14 / A36 11L17 / 1149 / 12L15	25 - 60	35 - 85	5 - 35
	3.1	Free cutting steels, Construction steels, Alloyed steels, Steel castings	≤ 25	≤ 250	≤ 850	1060 / 4130 / 4140 / 41L30 41L45 / 86L20 / 86L40 / 1045	15 - 40	35 - 75	5 - 35
	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	5 - 20
M		**Stainless Steel materials**							
	1.1	Corrosion/ acid-proof steels, Heat-resistant steels	≤ 25	≤ 250	≤ 850	410 / 440 / 440C / 17-4 PH	10 - 30	15 - 45	5 - 20
	2.1	Corrosion/ acid-proof steels, Heat-resistant steels	≤ 35	≤ 320	≤ 1100	303 / 304 / 316 / 316L / 321	10 - 25	15 - 45	5 - 20
K		**Cast materials**							
	1.1	Cast iron	–	≤ 280	–	ASTM A48 / SAE /J431c / 1800	35 - 65	–	5 - 20
	2.1	Cast iron with nodular graphite	–	–	≤ 1000	ASTM A48 class 20, 30, 35 , 40	15 - 50	–	–
	3.1	Cast iron with vermicular graphite	–	≤ 280	–	–	15 - 50	–	–
	4.1	Malleable cast iron	–	–	≤ 700	ASTM A47 grade 32510, 35018	35 - 65	–	–
N		**Non-ferrous materials**							
		Aluminum Alloys							
	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	5 - 35
	1.3	Aluminum cast alloys 5% < Si ≤ 12%	–	–	–	319 / 333 / 343 / 356 / 369 / 380	35 - 65	35 - 100	5 - 35
	1.4	Aluminum cast alloys 12% < Si ≤ 1	–	–	–	390 / 393 / 413	20 - 50	35 - 85	5 - 35
		Copper, Copper Alloys, Bronze, Brass							
	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	–
S		**Special materials**							
		Titanium alloys							
	1.1	Pure titanium		≤ 135	≤ 450	CP1 / CP2	–	–	–
	1.2	Titanium alloys	≤ 27	≤ 265	≤ 900	6AL4V	–	–	5 - 10
	1.3		≤ 39	≤ 370	≤ 1250		–	–	–
		Nickel alloys, cobalt alloys and iron alloys							
	2.1	Pure nickel		≤ 180	≤ 600		–	–	–
	2.2	Nickel-based alloys	≤ 31	≤ 295	≤ 1000	Monel 500, 718 Inconel annealed	–	–	–
	2.3		≤ 49	≤ 475	≤ 1600	718 Inconel	–	–	–
	2.4	Cobalt-based alloys	≤ 31	≤ 295	≤ 1000		–	–	–
	2.5		≤ 49	≤ 475	≤ 1600	Haynes 25	–	–	–
	2.6	Iron-base alloys	≤ 46	≤ 445	≤ 1500	Incoloy 925	–	–	–
H		**Hard materials**							
	1.1	High strength steels, hardened steels, hard castings	44 - 50				–	–	5 - 20
	1.2		50 - 55				–	–	–
	1.3		55 - 60				–	–	–
	1.4		60 - 63				–	–	–
	1.5		63 - 66				–	–	–

MultiTHREAD FULL FORM CUTTING DATA

		Material Group	Hardness Range			Material Example	Full Form Cutters			
			HRC	BHN	N/mm2		SFM	FEEDS per Cutter Diameters (chip per tooth load)		
								≤0.125	≤0.375	≥0.375
		Steel materials								
P	1.1	Low carbon steel, Free machining carbon steels. Medium to high carbon steels, Low alloyed steels, Steel castings and forgings, Heat-treatable alloy steels, Alloyed tool steels, Mold steels.	≤ 15	≤ 180	≤ 600	1010/ 1018/ 1020/ 12L14/ 12L15/ A36/ T1	**262 - 820**	.0002 - .0015	.0015 - .0027	.0020 - .0050
	2.1		≤ 22	≤ 236	≤ 800	A36/ T1/ 1030-1095/ 4130-4340/ 8620-8660/ 5046-5160/ 50100-52100/ M1-M42/ P20, H13, D2, A2, S7/ H1150/ 300M/ T1-T15	**195 - 495**	.0002 - .0015	.0015 - .0027	.0020 - .0050
	3.1		≤ 31	≤ 295	≤ 1000		**130 - 395**	.0002 - .0011	.0012 - .0020	.0015 - .0047
	4.1		≤ 38	≤ 355	≤ 1200		**130 - 395**	.0001 - .0008	.0007 - .0020	.0015 - .0047
	5.1		≥ 44	≥415	≤ 1400		**130 - 395**	.0001 - .0008	.0007 - .0020	.0015 - .0047
		Stainless Steel materials								
M	1.1	Free machining stainless steels, Heat and corrosion-resistant stainless steels, Valve stainless steels, Stainless steel castings, Precipitation hardening stainless steel.	≤ 29	≤ 280	≤ 950	410- 440/ 440C/ 17-4PH, 15-5PH, 13-8PH/ 303, 304, 316L, 321	**130 - 395**	.0001 - .0012	.0012 - .0020	.0012 - .0020
	2.1		≤ 35	≤ 280	≤ 950		**130 - 395**	.0001 - .0012	.0012 - .0020	.0012 - .0020
	3.1		≤ 40	≤ 325	≤ 1100		**95 - 260**	.0001 - .0008	.0008 - .0020	.0008 - .0020
	4.1		≥ 45	≥ 370	≤ 1400		**95 - 195**	.0001 - .0008	.0007 - .0015	.0008 - .0015
		Cast materials								
K	1.1	Gray cast iron, Cast Iron w/ lamellar graphite (GJL)	-	30 - 75	100 - 250	Grey cast iron G10-GG40	**328 - 656**	–	.0015 - .0027	.0020 - .0060
	1.2		-	75 - 135	250 - 450					
	2.1	Nodular cast iron	-	105 - 150	350 - 400	Nodular GGG40-GGG70	**328 - 656**	–	.0015 - .0027	.0020 - .0060
	2.2		-	150 - 265	500 - 900					
	3.1	Chilled cast iron, Cast iron with vernicular graphite	-	90 - 120	300 - 400	Compacted graphite iron (CGI)	**195 - 656**	–	.0015 - .0027	.0020 - .0060
	3.2		-	120 - 150	400 - 500					
	4.1	Malleable cast iron, Ductile iron	-	70 - 145	250 - 500	White iron	**195 - 656**	–	.0015 - .0027	.0020 - .0060
	4.2		-	150 - 235	500 - 800					
		Non-ferrous materials								
		Aluminum Alloys								
N	1.1	Aluminum wrought, Pure Aluminum, Alloys	–	–	–	7075/ 6061-T6/2024-T4	**495 - 1312**	.0004 - .0020	.0020 - .0031	.0027 - .0070
	1.2									
	1.3									
	1.4	Cast Aluminum Alloys	–	–	–	356T6/ 380/ 390/ 319/ 308	**328 - 656**	.0004 - .0020	.0020 - .0031	.0027 - .0070
	1.5									
		Copper, Copper Alloys, Bronze, Brass								
	2.1	Copper, Brass, Bronze, Copper Zinc Alloys, Copper Aluminum Alloys, Free Machining Brass, Alloyed Brass	–	≤ 120	≤ 400	–	**495 - 1314**	.0003 - .0020	.0015 - .0027	.0020 - .0060
	2.2		–	≤ 165	≤ 550	–				
	2.4		–	≤ 235	≤ 800	–	**328 - 820**	.0001 - .0008	.0015 - .0027	.0020 - .0060
	2.5		–	≤ 205	≤ 700	–				
	2.6		–	–	–	–				
		Special Materials								
	5.1	AMPCO Bronze, Beryllium Copper, Tungsten, Tungsten-Copper Alloys, CPM10V	> 45	≥ 420	≤1400	–	**98 - 195**	.0001 - .0008	.0007 - .0020	.0015 - .0060
	5.2									
	5.3									
		Special materials								
		Titanium alloys								
S	1.1	Pure Titanium, Titanium Alloys		≤ 120	≤ 400	CP1 / CP2	**98 - 260**	.0008 - .0015	.0008 - .0015	.0020 - .0025
	1.2		≤ 28	≤ 265	≤ 900	6AL4V	**98 - 260**	.0006 - .0012	.0006 - .0012	.0018 - .0022
	1.3		≤ 39	≤ 370	≤ 1250					

MultiTHREAD SINGLE PLANE CUTTING DATA

Material Group			Hardness Range			Material Example	Single Plane Cutters			
			HRC	BHN	N/mm2		SFM	FEEDS per Cutter Diameters (chip per tooth load)		
								≤0.125	≤0.375	≥0.375
P		**Steel materials**								
	1.1	Low carbon steel, Free machining carbon steels. Medium to high carbon steels, Low alloyed steels, Steel castings and forgings, Heat-treatable alloy steels, Alloyed tool steels, Mold steels.	≤ 15	≤ 180	≤ 600	1010/ 1018/ 1020/ 12L14/ 12L15/ A36/ T1	**260 - 820**	.0002 - .0015	.0015 - .0027	.0025 - .0040
	2.1		≤ 22	≤ 236	≤ 800	A36/ T1/ 1030-1095/ 4130-4340/ 8620-8660/ 5046-5160/ 50100-52100/ M1-M42/ P20, H13, D2, A2, S7/ H1150/ 300M/ T1-T15	**195 - 495**	.0002 - .0015	.0015 - .0027	.0025 - .0035
	3.1		≤ 31	≤ 295	≤ 1000		**130 - 395**	.0002 - .0011	.0012 - .0020	.0025 - .0030
	4.1		≤ 38	≤ 355	≤ 1200		**130 - 395**	.0001 - .0007	.0001 - .0007	.0020 - .0025
	5.1		≥ 44	≥415	≤ 1400		**130 - 395**	.0001 - .0007	.0001 - .0007	.0012 - .0020
M		**Stainless Steel materials**								
	1.1	Free machining stainless steels, Heat and corrosion-resistant stainless steels, Valve stainless steels, Stainless steel castings, Precipitation hardening stainless steel.	≤ 29	≤ 280	≤ 950	410- 440/ 440C/ 17-4PH, 15-5PH, 13-8PH/ 303, 304, 316L, 321	**130 - 395**	.0005 - .0015	.0015 - .0025	.0025 - .0035
	2.1		≤ 35	≤ 280	≤ 950		**130 - 395**	.0005 - .0012	.0012 - .0020	.0020 - .0030
	3.1		≤ 40	≤ 325	≤ 1100		**95 - 260**	.0004 - .0010	.0010 - .0015	.0015 - .0020
	4.1		≥ 45	≥ 370	≤ 1400		**95 - 195**	.0004 - .0008	.0008 - .0015	.0015 - .0018
K		**Cast materials**								
	1.1	Gray cast iron, Cast Iron w/ lamellar graphite (GJL)	-	30 - 75	100 - 250	Grey cast iron G10-GG40	**328 - 656**	–	.0015 - .0027	.0020 - .0060
	1.2		-	75 - 135	250 - 450					
	2.1	Nodular cast iron	-	105 - 150	350 - 400	Nodular GGG40-GGG70	**328 - 656**	–	.0015 - .0027	.0020 - .0060
	2.2		-	150 - 265	500 - 900					
	3.1	Chilled cast iron, Cast iron with vernicular graphite	-	90 - 120	300 - 400	Compacted graphite iron (CGI)	**195 - 656**	–	.0015 - .0027	.0020 - .0060
	3.2		-	120 - 150	400 - 500					
	4.1	Malleable cast iron, Ductile iron	-	70 - 145	250 - 500	White iron	**195 - 656**	–	.0015 - .0027	.0002 - .0060
	4.2		-	150 - 235	500 - 800					
N		**Non-ferrous materials**								
		Aluminum Alloys								
	1.1	Aluminum wrought, Pure Aluminum, Alloys	–	–	–	7075/ 6061-T6/2024-T4	**495 - 1312**	.0003 - .0020	.0025 - .0035	.0035 - .0045
	1.2									
	1.3									
	1.4	Cast Aluminum Alloys	–	–	–	356T6/ 380/ 390/ 319/ 308	**328 - 656**	.0003 - .0020	.0015 - .0025	.0025 - .0035
	1.5									
		Copper, Copper Alloys, Bronze, Brass								
	2.1	Copper, Brass, Bronze, Copper Zinc Alloys, Copper Aluminum Alloys, Free Machining Brass, Alloyed Brass	–	≤ 120	≤ 400	–	**495 - 1314**	.0003 - .0015	.0020 - .0030	.0030 - .0040
	2.2		–	≤ 165	≤ 550	–				
	2.4		–	≤ 235	≤ 800	–	**328 - 820**	.0001 - .0007	.0015 - .0020	.0020 - .0030
	2.5		–	≤ 205	≤ 700	–				
	2.6		–	–	–	–				
		Special Materials								
	5.1	AMPCO Bronze, Beryllium Copper, Tungsten, Tungsten-Copper Alloys, CPM10V	> 45	≥ 420	≤1400	–	**98 - 195**	.0001 - .0007	.0015 - .0023	.0023 - .0030
	5.2									
	5.3									
S		**Special materials**								
		Titanium alloys								
	1.1	Pure Titanium. Tianium Alloys		≤ 120	≤ 400	CP1 / CP2	**98 - 260**	.0008 - .0015	.0015 - .0020	.0020 - .0025
	1.2		≤ 28	≤ 265	≤ 900	6AL4V	**98 - 260**	.0006 - .0012	.0015 - .0018	.0018 - .0025
	1.3		≤ 39	≤ 370	≤ 1250					

MultiDRILL CUTTING DATA

Please note that these data are standard values only.

- We recommend the standard values in bold print (**rec.**) for stable work conditions and for high-performance machine tools with sufficient speed capability.
- Correspondingly, the lower cutting speeds (**min.**) in connection with higher feed values (up to **max.**) should be used for machine tools with lower spindle speeds.
- For optimum workpiece conditions, and for machine tools with extremely high performance and high spindle speeds, the high cutting speeds (**max.**) in connection with possibly reduced feed values can be applied.

Formulas:

RPM = (SFM/Dia. In.) x 3.82
IPM = IPR x RPM
m/min = SFM ÷ 3.28
mm/rev = IPR x 25.4

		MultiDRILL																							
		3 x D, 5 x D and 8 x D			D = 3 mm D = 0.118 inch			D = 5 mm D = 0.197 inch			D = 8 mm D = 0.315 inch			D = 10 mm D = 0.394 inch			D = 12 mm D = 0.472 inch			D = 16 mm D = 0.630 inch			D = 18 mm D = 0.708 inch		
		Cutting speed v_c [SFM]			Feed per revolution f [inch/rev.]																				
		min.	**rec.**	max.	min.	**rec.**	max.	min.	**rec.**	max.	min.	**rec.**	max.	min.	**rec.**	max.	min.	**rec.**	max.	min.	**rec.**	max.	min.	**rec.**	max.
P		Steel materials																							
	1.1	328	**459**	591	.0043	**.0063**	.0098	.0063	**.0079**	.0110	.0079	**.0098**	.0138	.0091	**.0110**	.0157	.0098	**.0122**	.0169	.0106	**.0134**	.0185	.0114	**.0138**	.0209
	2.1	262	**394**	525	.0043	**.0063**	.0098	.0063	**.0079**	.0110	.0079	**.0098**	.0138	.0091	**.0110**	.0157	.0098	**.0122**	.0169	.0106	**.0134**	.0185	.0114	**.0138**	.0209
	3.1	262	**328**	394	.0043	**.0059**	.0094	.0063	**.0071**	.0094	.0079	**.0094**	.0118	.0091	**.0102**	.0134	.0098	**.0114**	.0146	.0106	**.0126**	.0161	.0114	**.0130**	.0177
	4.1	164	**230**	328	.0043	**.0059**	.0094	.0063	**.0071**	.0094	.0079	**.0094**	.0118	.0091	**.0102**	.0134	.0098	**.0114**	.0146	.0106	**.0126**	.0161	.0114	**.0130**	.0177
	5.1	164	**213**	295	.0039	**.0051**	.0083	.0051	**.0067**	.0094	.0067	**.0083**	.0118	.0075	**.0094**	.0134	.0083	**.0102**	.0146	.0106	**.0110**	.0154	.0091	**.0114**	.0173
M		Stainless Steel materials																							
	1.1	131	**197**	262	.0016	**.0024**	.0035	.0035	**.0047**	.0075	.0043	**.0067**	.0102	.0055	**.0075**	.0118	.0059	**.0083**	.0130	.0063	**.0091**	.0142	.0067	**.0094**	.0146
	2.1	131	**180**	246	.0016	**.0020**	.0035	.0031	**.0043**	.0063	.0039	**.0059**	.0079	.0055	**.0071**	.0106	.0059	**.0079**	.0118	.0063	**.0087**	.0126	.0067	**.0091**	.0134
	3.1	131	**164**	230	.0016	**.0020**	.0031	.0031	**.0043**	.0063	.0039	**.0059**	.0079	.0055	**.0071**	.0106	.0059	**.0079**	.0118	.0063	**.0087**	.0126	.0067	**.0091**	.0134
	4.1																								
K		Cast materials																							
	1.1	394	**459**	525	.0043	**.0063**	.0098	.0063	**.0079**	.0110	.0079	**.0098**	.0138	.0091	**.0110**	.0157	.0098	**.0122**	.0169	.0106	**.0134**	.0185	.0114	**.0138**	.0197
	1.2	361	**427**	492	.0043	**.0063**	.0098	.0063	**.0079**	.0110	.0079	**.0098**	.0138	.0091	**.0110**	.0157	.0098	**.0122**	.0169	.0106	**.0134**	.0185	.0114	**.0138**	.0197
	2.1	459	**525**	591	.0043	**.0063**	.0098	.0063	**.0079**	.0110	.0079	**.0098**	.0138	.0091	**.0110**	.0157	.0098	**.0122**	.0169	.0106	**.0134**	.0185	.0114	**.0138**	.0213
	2.2	328	**394**	459	.0043	**.0059**	.0094	.0063	**.0071**	.0094	.0079	**.0094**	.0118	.0091	**.0102**	.0134	.0098	**.0114**	.0146	.0106	**.0126**	.0161	.0114	**.0130**	.0169
	3.1	262	**328**	394	.0043	**.0063**	.0098	.0063	**.0079**	.0110	.0079	**.0098**	.0138	.0091	**.0110**	.0157	.0098	**.0122**	.0169	.0106	**.0134**	.0185	.0114	**.0138**	.0197
	3.2	197	**262**	328	.0039	**.0055**	.0087	.0055	**.0071**	.0098	.0071	**.0091**	.0126	.0079	**.0098**	.0142	.0087	**.0110**	.0154	.0094	**.0118**	.0169	.0102	**.0126**	.0177
	4.1																								
	4.2																								
N		Non-ferrous materials																							
		Aluminum alloys																							
	1.1	525	**591**	787	.0055	**.0075**	.0122	.0075	**.0110**	.0150	.0094	**.0130**	.0165	.0106	**.0146**	.0185	.0118	**.0161**	.0205	.0126	**.0177**	.0224	.0130	**.0181**	.0228
	1.2	525	**591**	787	.0055	**.0075**	.0122	.0075	**.0110**	.0150	.0094	**.0130**	.0165	.0106	**.0146**	.0185	.0118	**.0161**	.0205	.0126	**.0177**	.0224	.0130	**.0181**	.0228
	1.3	525	**591**	787	.0055	**.0075**	.0122	.0075	**.0110**	.0150	.0094	**.0130**	.0165	.0106	**.0146**	.0185	.0118	**.0161**	.0205	.0126	**.0177**	.0224	.0130	**.0181**	.0228
	1.4	525	**591**	787	.0055	**.0075**	.0122	.0075	**.0110**	.0150	.0094	**.0130**	.0165	.0106	**.0146**	.0185	.0118	**.0161**	.0205	.0126	**.0177**	.0224	.0130	**.0181**	.0228
	1.5	525	**591**	787	.0055	**.0075**	.0122	.0075	**.0110**	.0150	.0094	**.0130**	.0165	.0106	**.0146**	.0185	.0118	**.0161**	.0205	.0126	**.0177**	.0224	.0130	**.0181**	.0228
	1.6	525	**591**	787	.0055	**.0075**	.0122	.0075	**.0110**	.0150	.0094	**.0130**	.0165	.0106	**.0146**	.0185	.0118	**.0161**	.0205	.0126	**.0177**	.0224	.0130	**.0181**	.0228
		Copper alloys																							
	2.1	394	**459**	591	.0012	**.0020**	.0028	.0016	**.0024**	.0031	.0020	**.0039**	.0051	.0024	**.0047**	.0055	.0024	**.0055**	.0063	.0028	**.0059**	.0067	.0028	**.0063**	.0067
	2.2	394	**459**	591	.0012	**.0020**	.0028	.0016	**.0024**	.0031	.0020	**.0039**	.0051	.0024	**.0047**	.0055	.0024	**.0055**	.0063	.0028	**.0059**	.0067	.0028	**.0063**	.0067
	2.3	394	**459**	591	.0043	**.0055**	.0075	.0067	**.0087**	.0118	.0087	**.0110**	.0154	.0098	**.0122**	.0165	.0106	**.0130**	.0173	.0118	**.0142**	.0189	.0122	**.0146**	.0197
	2.4																								
	2.5																								
	2.6																								
	2.7																								
	2.8																								
		Magnesium alloys																							
	3.1																								
	3.2																								
		Synthetics																							
	4.1																								
	4.2																								
	4.3																								
	4.4																								
		Special materials																							
	5.1																								
	5.2																								
	5.3																								
S		Special materials																							
		Titanium alloys																							
	1.1																								
	1.2	131	**164**	197	.0016	**.0020**	.0024	.0024	**.0031**	.0039	.0039	**.0047**	.0059	.0043	**.0051**	.0067	.0047	**.0055**	.0075	.0055	**.0063**	.0079	.0059	**.0067**	.0083
	1.3	98	**131**	164	.0016	**.0020**	.0024	.0024	**.0031**	.0039	.0039	**.0047**	.0059	.0043	**.0051**	.0067	.0047	**.0055**	.0075	.0055	**.0063**	.0079	.0059	**.0067**	.0083
		Nickel alloys, cobalt alloys and iron alloys																							
	2.1																								
	2.2	66	**131**	197	.0016	**.0020**	.0024	.0016	**.0031**	.0043	.0039	**.0051**	.0079	.0043	**.0059**	.0091	.0047	**.0067**	.0098	.0055	**.0071**	.0106	.0059	**.0075**	.0110
	2.3	33	**82**	131	.0016	**.0020**	.0024	.0016	**.0031**	.0039	.0039	**.0047**	.0059	.0043	**.0051**	.0067	.0047	**.0055**	.0075	.0055	**.0063**	.0079	.0059	**.0067**	.0083
	2.4																								
	2.5																								
	2.6																								
H		Hard materials																							
	1.1	66	**131**	164	.0020	**.0024**	.0043	.0031	**.0043**	.0063	.0039	**.0063**	.0098	.0043	**.0071**	.0110	.0047	**.0075**	.0122	.0055	**.0079**	.0134	.0059	**.0083**	.0138
	1.2	66	**98**	164	.0020	**.0024**	.0043	.0031	**.0043**	.0063	.0039	**.0063**	.0098	.0043	**.0071**	.0110	.0047	**.0075**	.0122	.0055	**.0079**	.0134	.0059	**.0083**	.0138
	1.3	66	**98**	164	.0020	**.0024**	.0043	.0031	**.0043**	.0063	.0039	**.0063**	.0098	.0043	**.0071**	.0110	.0047	**.0075**	.0122	.0055	**.0079**	.0134	.0059	**.0083**	.0138
	1.4																								
	1.5																								

MultiDRILL MICRO CUTTING DATA

Please note that these data are standard values only.

- We recommend the standard values in bold print (**rec.**) for stable work conditions and for high-performance machine tools with sufficient speed capability.
- Correspondingly, the lower cutting speeds (**min.**) in connection with higher feed values (up to **max.**) should be used for machine tools with lower spindle speeds.
- For optimum workpiece conditions, and for machine tools with extremely high performance and high spindle speeds, the high cutting speeds (**max.**) in connection with possibly reduced feed values can be applied.

		MultiDrill Micro 6 x D Cutting speed v_c [SFM]			D = 1 mm - 1.49 mm D = 0.039 - 0.058 inch Feed per revolution f [inch/rev.]			D = 1.5 mm -1.99 mm D = 0.059 - 0.078 inch			D = 2.0 - 2.49 mm D = 0.079 - 0.097 inch			D = 2.5 - 2.99 mm D = 0.098 - 0.117 inch		
		min.	**rec.**	max.	min.	**rec.**	max.	min.	**rec.**	max.	min.	**rec.**	max.	min.	**rec.**	max.
P	Steel materials															
	1.1	164	**214**	263	.0020	**.0028**	.0035	.0028	**.0035**	.0043	.0035	**.0043**	.0051	.0043	**.0051**	.0059
	2.1	148	**181**	214	.0020	**.0028**	.0035	.0028	**.0035**	.0043	.0035	**.0043**	.0051	.0043	**.0051**	.0059
	3.1	132	**164**	197	.0016	**.0024**	.0031	.0024	**.0031**	.0039	.0031	**.0039**	.0047	.0039	**.0047**	.0055
	4.1	99	**132**	164	.0016	**.0024**	.0031	.0024	**.0031**	.0039	.0031	**.0039**	.0047	.0039	**.0047**	.0055
	5.1	99	**115**	132	.0012	**.0020**	.0024	.0020	**.0028**	.0035	.0028	**.0035**	.0043	.0035	**.0043**	.0051
M	Stainless Steel materials															
	1.1	99	**132**	164	.0010	**.0012**	.0016	.0012	**.0020**	.0028	.0020	**.0028**	.0035	.0028	**.0035**	.0043
	2.1	82	**115**	148	.0010	**.0012**	.0016	.0012	**.0020**	.0028	.0020	**.0028**	.0035	.0028	**.0035**	.0043
	3.1	82	**115**	148	.0010	**.0012**	.0016	.0012	**.0020**	.0028	.0020	**.0028**	.0035	.0028	**.0035**	.0043
	4.1	66	**99**	132	.0010	**.0012**	.0016	.0012	**.0020**	.0028	.0020	**.0028**	.0035	.0028	**.0035**	.0043
K	Cast materials															
	1.1	263	**296**	329	.0024	**.0031**	.0039	.0031	**.0039**	.0047	.0039	**.0047**	.0055	.0047	**.0055**	.0063
	1.2	263	**296**	329	.0024	**.0031**	.0039	.0031	**.0039**	.0047	.0039	**.0047**	.0055	.0047	**.0055**	.0063
	2.1	263	**296**	329	.0024	**.0031**	.0039	.0031	**.0039**	.0047	.0039	**.0047**	.0055	.0047	**.0055**	.0063
	2.2	230	**263**	296	.0024	**.0031**	.0039	.0031	**.0039**	.0047	.0039	**.0047**	.0055	.0047	**.0055**	.0063
	3.1	263	**296**	329	.0024	**.0031**	.0039	.0031	**.0039**	.0047	.0039	**.0047**	.0055	.0047	**.0055**	.0063
	3.2	197	**230**	296	.0024	**.0031**	.0039	.0031	**.0039**	.0047	.0039	**.0047**	.0055	.0047	**.0055**	.0063
	4.1															
	4.2															
N	Non-ferrous materials															
	Aluminum alloys															
	1.1	329	**427**	526	.0016	**.0024**	.0031	.0024	**.0031**	.0039	.0031	**.0039**	.0047	.0039	**.0047**	.0055
	1.2	329	**427**	526	.0016	**.0024**	.0031	.0024	**.0031**	.0039	.0031	**.0039**	.0047	.0039	**.0047**	.0055
	1.3	329	**427**	526	.0016	**.0024**	.0031	.0024	**.0031**	.0039	.0031	**.0039**	.0047	.0039	**.0047**	.0055
	1.4	329	**427**	526	.0016	**.0024**	.0031	.0024	**.0031**	.0039	.0031	**.0039**	.0047	.0039	**.0047**	.0055
	1.5	329	**427**	526	.0016	**.0024**	.0031	.0024	**.0031**	.0039	.0031	**.0039**	.0047	.0039	**.0047**	.0055
	1.6	329	**427**	526	.0016	**.0024**	.0031	.0024	**.0031**	.0039	.0031	**.0039**	.0047	.0039	**.0047**	.0055
	Copper alloys															
	2.1	263	**362**	460	.0118	**.0016**	.0024	.0016	**.0024**	.0031	.0024	**.0031**	.0039	.0031	**.0039**	.0047
	2.2	263	**362**	460	.0118	**.0016**	.0024	.0016	**.0024**	.0031	.0024	**.0031**	.0039	.0031	**.0039**	.0047
	2.3	263	**362**	460	.0016	**.0024**	.0031	.0024	**.0031**	.0039	.0031	**.0039**	.0047	.0039	**.0047**	.0055
	2.4															
	2.5															
	2.6															
	2.7															
	2.8															
	Magnesium alloys															
	3.1															
	3.2															
	Synthetics															
	4.1															
	4.2															
	4.3															
	4.4															
	Special materials															
	5.1															
	5.2															
	5.3															
S	Special materials															
	Titanium alloys															
	1.1															
	1.2	99	**132**	164	.0008	**.0012**	.0016	.0118	**.0016**	.0024	.0016	**.0024**	.0031	.0024	**.0031**	.0039
	1.3	66	**99**	132	.0008	**.0012**	.0016	.0118	**.0016**	.0024	.0016	**.0024**	.0031	.0024	**.0031**	.0039
	Nickel alloys, cobalt alloys and iron alloys															
	2.1															
	2.2	99	**132**	164	.0008	**.0012**	.0016	.0118	**.0016**	.0024	.0016	**.0024**	.0031	.0024	**.0031**	.0039
	2.3	66	**82**	132	.0008	**.0012**	.0016	.0118	**.0016**	.0024	.0016	**.0024**	.0031	.0024	**.0031**	.0039
	2.4															
	2.5															
	2.6															
H	Hard materials															
	1.1	66	**82**	99	.0002	**.0004**	.0006	.0004	**.0006**	.0008	.0006	**.0008**	.0010	.0008	**.0010**	.0012
	1.2	66	**82**	99	.0002	**.0004**	.0006	.0003	**.0004**	.0005	.0005	**.0006**	.0006	.0008	**.0010**	.0012
	1.3															
	1.4															
	1.5															

Thread Size		Tap Drill Size		Thread Size		Tap Drill Size	
Cut Thread	Form Thread	Inch	Metric	Cut Thread	Form Thread	Inch	Metric
#0-80		0.0472	1.20	M10 x 0.75		0.3622	9.20
	#0-80	0.0551	1.40		M10	0.3681	9.35
#1-64, #1-72		0.0595	1.51	7/16-14		0.3701	9.40
M2		0.0630	1.60		M10 x 1	0.3780	9.60
	#1-72	0.0669	1.70		M10 x 0.75	0.3819	9.70
	#1-64	0.0669	1.70	7/17-20		0.3898	9.90
#2-56		0.0700	1.78		7/16-14	0.4035	10.25
	M2	0.0728	1.85	M12 x 1.5		0.4134	10.50
#2-64		0.0728	1.85		7/16-20	0.4154	10.55
	#2-56	0.0787	2.00	1/2-13		0.4219	10.72
	#2-64	0.0787	2.00	M12 x 1.25		0.4252	10.80
M2.5		0.0807	2.05	M12 x 1		0.4331	11.00
#3-48		0.0820	2.08	M12 x 0.75	M12	0.4429	11.25
#3-56		0.0827	2.10		M12 x 1.5	0.4469	11.35
#4-40		0.0890	2.26		M12 x 1.25	0.4508	11.45
	#3-48	0.0906	2.30	1/2-20		0.4528	11.50
	#3-56	0.0906	2.30		M12 x 1	0.4567	11.60
	M2.5	0.0917	2.33		1/2-13	0.4646	11.80
#4-48		0.0945	2.40	M14		0.4724	12.00
M3		0.0984	2.50		1/2-20	0.4783	12.15
	#4-40	0.1004	2.55	9/16-12		0.4844	12.30
#5-40		0.1015	2.58	M14 x 1.5		0.4921	12.50
	#4-48	0.1024	2.60	M14 x 1.25		0.5039	12.80
#5-44		0.1063	2.70		M14	0.5157	13.10
#6-32	M3	0.1102	2.80		9/16-12	0.5236	13.30
M3.5	#5-40	0.1142	2.90		M14 x 1.5	0.5256	13.35
	#5-44	0.1160	2.95		M14 x 1.25	0.5295	13.45
#6-40		0.1181	3.00	5/8-11		0.5313	13.49
M3.5 x 0.35	#6-32	0.1240	3.15		9/16-18	0.5374	13.65
	#6-40	0.1260	3.20	M16, M15 x 1		0.5512	14.00
	M3.5	0.1280	3.25	5/8-18		0.5709	14.50
M4		0.1299	3.30		M15 x 1	0.5748	14.60
	M3.5 x 0.35	0.1338	3.40		5/8-11	0.5827	14.80
#8-32		0.1378	3.50	M16 x 1		0.5906	15.00
M4.5	M4	0.1457	3.70		M16	0.5945	15.10
	#8-32	0.1496	3.80		5/8-18	0.6004	15.25
	#8-36	0.1516	3.85		M16 x 1.5	0.6043	15.35
#10-24		0.1535	3.90	M18		0.6102	15.50
M4.5 x 0.0.5		0.1575	4.00		M16 x 1	0.6142	15.60
#10-32		0.1614	4.10	M18 x 2		0.6299	16.00
M5	M4.5	0.1654	4.20	3/4-10		0.6563	16.67
	#10-24	0.1713	4.35		M18 x 2.5	0.6634	16.85
M5 x 0.75		0.1732	4.40	M18 x 1		0.6693	17.00
	#10-32	0.1752	4.45		M18 x 1.5	0.6831	17.35
#12-24		0.1772	4.50	M20, 3/4-16		0.6890	17.50
#12-28		0.1811	4.60		3/4-10	0.7028	17.85
	M5	0.1831	4.65	M20 x 2		0.7087	18.00
	M5 x 0.5	0.1890	4.80		3/4-16	0.7224	18.35
M6	#12-24	0.1969	5.00		M20 x 2.5	0.7421	18.85
	#12-28	0.2008	5.10	M20 x 1		0.7480	19.00
1/4-20		0.2047	5.20		M20 x 1.5	0.7618	19.35
1/4-28		0.2165	5.50	7/8-9		0.7656	19.45
	M6	0.2205	5.60	M22 x 2.5		0.7677	19.50
	1/4-20	0.2264	5.75	M22 x 2		0.7874	20.00
	M6 x 0.5	0.2283	5.80	7/8-14		0.8071	20.50
	1/4-28	0.2344	5.95		M22 x 2.5	0.8209	20.85
M7		0.2362	6.00		7/8-9	0.8228	20.90
M7 x 0.75		0.2441	6.20	M24 x 3		0.8268	21.00
M7 x 0.5		0.2480	6.30		M22 x 1.5	0.8406	21.35
5/16-18	M7	0.2598	6.60		7/8-14	0.8425	21.40
	M7 x 0.75	0.2638	6.70	1-8		0.8750	22.23
M8		0.2677	6.80		M24 x 3	0.8917	22.65
5/16-24		0.2717	6.90		M24 x 1.5	0.9193	23.35
	5/16-18	0.2854	7.25	1-12		0.9219	23.42
	M8, 5/16-24	0.2933	7.45		1-8	0.9409	23.90
M8 x 0.5		0.2953	7.50	M27 x 3		0.9449	24.00
	M8 x 1	0.2992	7.60		1-12	0.9626	24.45
	M8 x 0.75	0.3031	7.70	1-1/8 7		0.9843	25.00
M9		0.3071	7.80	1-1/8 12, M30 x 3.5		1.0433	26.50
3/8-16		0.3150	8.00	1-1/4 7		1.1094	28.18
M9 x 0.75		0.3228	8.20	M33 x 3.5		1.1614	29.50
M10, 3/8-24		0.3346	8.50	1-1/4 12		1.1719	29.77
	M9 x 1	0.3386	8.60	1-3/8 6		1.2205	31.00
	M9 x 0.75	0.3425	8.70	M36 x 4		1.2598	32.00
M10 x 1.25	3/8-16	0.3465	8.80	1-3/8 12		1.2992	33.00
M10 x 1.25		0.3543	9.00	1-1/2 6		1.3386	34.00
	3/8-24	0.3563	9.05				

EMUGE FRANKEN

Ask About Our
NEW Solid Carbide Drill Catalog

EMUGE-FRANKEN recognizes that one style of tool does not fit all industries, operations and applications, so we have developed new drill designs with more choices, grouped into three performance classes to ideally fit your needs.

Learn more at:
emuge.com

EMUGE-FRANKEN USA
1800 Century Drive, West Boylston, MA 01583
800-323-3013 • www.emuge.com

EMUGE-FRANKEN has been the product technology and performance leader in their field for over 100 years. EMUGE-FRANKEN manufactures an extensive line of taps, drills, thread mills, end mills, toolholders, clamping devices and other rotary cutting tools, over 40,000 items sold through distributors worldwide.

Literature EDP No.: **EFUZP00090**