

Visual Index - Taps

Application Material Groups (AMG)			Hardness HRC	ISO
1. Steel	1.1 Magnetic soft steel	12L14, 12L15	<120 HB	P 1
	1.2 Structural Steel/ case carburising steel	1005-1025, 1214, 1215, A36	<200 HB	P 1
	1.3 Plain Carbon steel	1030-1060, 1050-1060, 1144-1146	<24	P 2
	1.4 Alloy steel	4140,4340,52100,8620 H11-H41,A2,D2,01,P20,420	<24	P 3
	1.5 Alloy steel/ Hardened and tempered steel	4140,4340,52100,8620 H11-H41,A2,D2,01,P20,420	>24<38	P 4
	1.6 Alloy steel/ Hardened and tempered steel	4140,4340,52100,8620 H11-H41,A2,D2,01,P20,420	>38	H 1
	1.7 Alloy steel Hardened	A2-D2, H10-H41, L1-L6, M1-M42, T1	49-55	H 3
	1.8 Alloy steel Hardened	A2-D2, H10-H41, L1-L6, M1-M42, T1	55-63	H 4
2.Stainless Steel	2.1 Free machining Stainless Steel	200, 303, 416, 420F, 430F, 440	<24	M 1
	2.2 Austenitic	301, 302, 304, 316, 321, 330, CUSTOM 455, AM-350	<24	M 3
	2.3 Ferritic + Austenitic, Martensitic	318-329, 400-446, DUPLEX	<32	M 2
	2.4 Precipitation Hardened	15-5PH, Custom 450 17-4PH	<32	S 2
3.Cast Iron	3.1 Lamellar graphite	Grey, G10, Gg40, J431C, A48 CLASS 20	<150 HB	K 1
	3.2 Lamellar graphite	Grey, GG25-Gg40, J158, A48 CLASS 40-60	>150 HB<32	K 2
	3.3 Nodular graphite/ Malleable Cast Iron	A220, A436, A439, A602, Black, GGG40-GGG70	<200 HB	K 3
	3.4 Nodular graphite/ Malleable Cast Iron	Black Gts/Gtw, J434C	>200 HB<32	K 4
4.Titanium	4.1 Titanium, unalloyed	Commercially Pure	<200 HB	S 1
	4.2 Titanium, alloyed	6Al4V, 6Al4V-2Sn, Monel, Monel K	<28	S 2
	4.3 Titanium, alloyed	6Al4V-4Mo, 7Al4V-4Mo, 4911-4967	>28<38	S 3
5.Nickel	5.1 Nickel, unalloyed	Commercially Pure, 17644, 200, 5553	<150 HB	S 1
	5.2 Nickel, alloyed	Monel 400, Hastelloy C, Inconel 625, Waspaloy	<28	S 2
	5.3 Nickel, alloyed	Inconel 718,Nimonic 75-95,Rene 41,Inconel 825,A286	>28<38	S 3
6.Copper	6.1 Copper	Commercially Pure	<100 HB	N 3
	6.2 β-Brass, Bronze	314-340, 350-370	<200 HB	N 4
	6.3 α-Brass	Alloyed Cu + Al + Fe, Long Chipping	<200 HB	N 3
	6.4 High Strength Bronze	Ampco 18-25	<49	N 4
7.Aluminium Magnesium	7.1 Al, Mg, unalloyed	Commercially Pure	<100 HB	N 1
	7.2 Al alloyed, Si<0.5%	6061 T6, 7075, 314-340	<150 HB	N 1
	7.3 Al alloyed, Si>0.5%<10%	6061 T6, 380-390	<120 HB	N 1
	7.4 Al alloyed, Si>10% Mg alloys	Magnesium Whisker Reinforced	<120 HB	N 2
8.Synthetic Materials	8.1 Thermoplastics	Ultramid, Polystrol	---	O
	8.2 Thermosetting plastics	Bakelit, Pertinax	---	O
	8.3 Reinforced plastic materials	CFK, GFKAFK	---	O
9.Hard Mat.	9.1 Cermets (Metal-ceramics)	Ferrotic	<54	H
10.Graphite	10.1 Standard graphite		---	O

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Thread Form:	UNC	UNC	UNF	UNF	M	M	MF	MF	UNC	UNF	UNC	UNF	UNC	UNF	UNC	
Standard:	DIN ANSI															
Class of Fit:	2Rc	2Rc	2Rc	2Rc	1Hx	1Hx	1Hx	1Hx	2E	2E	2-3E	2-3E	2E	2E	2Rc	
Hole Type:																
Depth of Cut:	2X0	2.5X0	2X0	2.5X0	2X0	2.5X0	2X0	2.5X0								
Tool Material:	HSS-E PM															
Chamfer:	C 2-3	E 1.5-2	C 2-3	E 1.5-2	C 2-3	E 1.5-2	C 2-3	E 1.5-2	B 3 5-9							
Flute Geometry:																
Direct on of Out:																
Finish/Coating:																
Coolant Through:																
Style:	E814	E815	E914	E915	E630	E631	E770	E771	E809	E909	E813	E913	E811	E911	E816	
Range:	1/4-1"	1/4-1"	No.10-7/8	1/4-1"	M5-M24	M6-M24	M8-M14	M10-M14	No.4-1"	No.10-1"	No.4-1"	No.10-1"	No.4-1"	No.10-1"	No.4-3/4	
Page #	259	259	259	259	260	260	260	260	261	261	262	262	264	264	265	
AMG																ISO
1.1									108	108						P1
1.2									95	95	72	72				P1
1.3									75	75	59	59				P2
1.4									69	69	52	52	98	98		P3
1.5									43	42	33	33	66	66	55	P4
1.6													36	36	42	H1
1.7															22	H3
1.8																H4
2.1												46	46			M1
2.2												33	33			M3
2.3												20	20			M2
2.4																S2
3.1	98	98	98	98	98	98	98	98								K1
3.2	82	82	82	82	82	82	82	82								K2
3.3	115	115	115	115	115	115	115	115								K3
3.4	82	82	82	82	82	82	82	82								K4
4.1																S1
4.2													33	33	42	S2
4.3															26	S3
5.1																S1
5.2													33	33	16	S2
5.3															10	S3
6.1									39	39						N3
6.2	98	98	98	98	98	98	98	98	98	98						N3
6.3									66	66						N3
6.4	16	16	16	16	16	16	16	16								N4
7.1																N1
7.2																N1
7.3																N1
7.4	66	66	66	66	66	66	66	66								N2
8.1																O
8.2	49	49	49	49	49	49	49	49								O
8.3																O
9.1																H
10.1																O

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	UNF	M	MF	M	MF	M	MF	M	MF	UNC	UNF	UNC	UNF	UNC	UNF	UNC	UNF	M
DIN	DIN 913	DIN 913	DIN 913	DIN 913	DIN 913	DIN 913	DIN 913	DIN 913	DIN 913	DIN 913	DIN 913	DIN 913	DIN 913	DIN 913	DIN 913	DIN 913	DIN 913	DIN 913
ISO	2E	2E	2E	2E	2E	2E	2E	2E	2E	2E	2E	2E	2E	2E	2E	2E	2E	2E
Image																		
Size	2.5X0	2.5X0	2.5X0	2.5X0	2.5X0	2.5X0	2.5X0	2.5X0	2.5X0	2X0	2X0	2.5X0	2.5X0	2.5X0	2.5X0	1.5X0	1.5X0	2X0
Material	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM
Grade	B 3 5-9	B 3 5-9	B 3 5-9	B 3 5-9	B 3 5-9	B 3 5-9	B 3 5-9	B 3 5-9	B 3 5-9	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3
Flute																		
Angle										40°	40°	40°	40°	45°	45°	15°	15°	40°
Coating	TiAlN	TiAlN	TiAlN	Super D	Super D	TiAlN	TiAlN	TiAlN	TiAlN	TiAlN	TiAlN	Super D	Super D	TiAlN	TiAlN	TiAlN	TiAlN	TiAlN
Image																		
Part No.	E916	E625	E765	E629	E769	E627	E767	E817	E917	E808	E908	E812	E912	E810	E910	E805	E905	E624
Thread	No. 10 - 3/4	M4 - M24	M8 - M18	M4 - M24	M8 - M18	M3 - M24	M8 - M14	M3 - M12	M3 - M12	No. 4 - 1"	No. 10 - 1"	No. 4 - 1"	No. 10 - 1"	No. 4 - 1"	No. 10 - 1"	No. 4 - 3/4	No. 10 - 3/4	M4 - M24
ISO	265	266	266	267	267	268	268	269	269	270	270	271	271	273	273	274	274	275
AMG																		
1.1		108	108							108	108							108
1.2		95	95	72	72					95	95	72	72					95
1.3		75	75	59	59					75	75	59	59					75
1.4		69	69	52	52	98	98			69	69	52	52	98	98			69
1.5	55	43	43	33	33	66	66	55	55	43	43	33	33	66	66	55	55	43
1.6	42					36	36	42	42					36	36	42	42	
1.7	22							22	22							22	22	
1.8																		
2.1				46	46							46	46					M1
2.2				33	33							33	33					M3
2.3				20	20							20	20					M2
2.4																		S2
3.1																		K1
3.2																		K2
3.3																		K3
3.4																		K4
4.1																		S1
4.2	42					33	33	42	42					33	33	42	42	S2
4.3	26							26	26							26	26	S3
5.1																		S1
5.2	16					33	33	16	16					33	33	16	16	S2
5.3	10							10	10							10	10	S3
6.1		39	39							39	39							N3
6.2		98	98							98	98							N3
6.3		66	66							66	66							N3
6.4																		N4
7.1																		N1
7.2																		N1
7.3																		N1
7.4																		N2
8.1																		O
8.2																		O
8.3																		O
9.1																		H
10.1																		O

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	MF	M	MF	M	MF	M	MF	UNC	UNF	UNC	UNF	UNC	UNF	UNC	UNF	UNC	UNF
	31% AKG	31% AKG	31% AKG	31% AKG	31% AKG	AKG	AKG	AKG	AKG	21% E1014	21% E1014						
	IR	2M	2M	2M	2M	3D	3D	3D	3D	2M	2M						
	2XD	2.5XD	2.5XD	2.5XD	2.5XD	1.5XD	1.5XD	3XL	3XL	3XL	3XL	2.5XD	2.5XD	2.5XD	2.5XD	2.5XD	2.5XD
	HSS-E PM	HSS PM	HSS PM	HSS PM	HSS PM	HSS-E	HSS-E	HSS-E	HSS-E	HSS-E	HSS-E						
	C 2-3	P	P	P	P	B 2.5-3	C 2-3										

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	UNC	UNF	UNC	UNF	M	MF	M	M	M	MF	M	M	MF	MF	M	M	MF
	21-81844	21-81844	ISO 939	ISO 939	DIN 9131	DIN 9131	DIN 9131	ANSI	ANSI	ANSI	M. 3174	M. 3174	DIN 374	DIN 374	ISO 939	ISO 939	ISO 939
	XM	XM	XM	XM	IR	IR	IR	IR	IR	IR	IR	IR	IR	IR	IR	IR	IR
	2.5xD	2.5xD	2.5xD	2.5xD	3XL	3XL	3XL	2.5xD									
	HSS-E	HSS-E	HSS-E	HSS-E	HSS-PM	HSS-PM	HSS-PM	HSS-E									
	B 0.5-0	C 2-3	B 0.5-0	B 0.5-0	P	P	P	B 0.5-0									
				</													

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	M	UNC	UNF	M	M	M	UNC	UNF	UNC	UNF	UNC	UNF	UNC	UNF	UNC	UNF	UNC
	ISO 529	DIN 9131	ASME	ASME	DIN 9131	DIN 9131	DIN 9131	DIN 9131	ASME	ASME	ASME	ASME	DIN 9131				
	IR	XR	XR	IR	XR-A	XR-A	XR	XR	XR	XR	XR	XR	XR	XR	XR	XR	XR
	2.5xD	2.5xD	2.5xD	2.5xD	2xD	2xD	2.5xD	2.5xD	3XL	3XL	3XL	3XL	2.5xD	2.5xD	2.5xD	2.5xD	2.5xD
	HSS-E	HSS-PM	HSS-PM	HSS-PM	HSS-E-PM	HSS-E-PM	HSS	HSS	HSS-PM	HSS-PM	HSS-PM	HSS-PM	HSS-E	HSS-E	HSS-E	HSS-E	HSS-E
	B 2-2	P	P	P	C 2-2	C 2-2			2-2	2-2	2-2	2-2	C 2-2	C 2-2	C 2-2	C 2-2	C 2-2

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	UNF	UNC	UNF	UNC	UNF	M	MF	M	M	M	MF	M	M	MF	MF	M	M
	21-81844	21-81844	21-81844	15D-539	15D-539	21X-4K21	15D-539	15D-539									
	2B	2B	2B	2B	2B	1R	1R	1R									
	2.0+0	2.0+0	2.0+0	2.0+0	2.0+0	3XL	3XL	3XL	2.0+0	2.0+0	2.0+0	2.0+0	2.0+0	2.0+0	2.0+0	2.0+0	2.0+0
	HSS-E	HSS-E	HSS-E	HSS-E	HSS-E	HSS-PM	HSS-PM	HSS-PM	HSS-E	HSS-E	HSS-E						
	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3	2-3	2-3	2-3	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3
		</															

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	G	G	G	UNC	UNF	UNS	UNC	UNF	UNC	UNF	UNC	UNF	M	MF	UNC	UNF	UNS
	312 5130	312 5130	313 590	314	314	314	314	314	314	314	314	314	319 533	321 533	314	314	314
	312	312	313	30	30	30	30	30	30	30	30	30	18	18	30	30	30
	2.0+0	2.0+0	2.0+0	1.0XC	1.0XC	1.0XC	1.0XC	1.0XC	1.0XC	1.0XC	1.0XC	1.0XC	1.0XC	1.0XC	1.0XC	1.0XC	1.0XC
	HSS-E	HSS-E	HSS-E	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS
	C 2-2	C 2-2	C 2-2														
	145	145	145	15	15	15	15	15	15	15	15	15	15	15	15	15	15
	EX40	EX41	E043	1500 (UNC)	1500 (UNF)	1500 (UNS)	1528 (UNC)	1528 (UNF)	1500A (UNC)	1500A (UNF)	TN1500 (UNC)	TN1500 (UNF)	E500	E513	1500L (UNC)	1500L (UNF)	1500L (UNS)
	1/8 - 1/1/2	1/8 - 1/1/2	1/8 - 3/4	1/4 - 1/1/2	1/4 - 1/1/2	11/16 - 1"	No.1 - No.12	No.0 - No.12	1/4 - 1"	1/4 - 7/8	1/4 - 7/8	1/4 - 3/4	M1 - M56	M3 - M50	1/4 - 1"	1/4 - 1"	1"
&	312	312	313	314	314	314	314	314	317	317	318	318	319	321	323	323	323
1.1	82	82	82	60	60	60	60	60	60	60	59	59	23	23	60	60	60
1.2	72	72	72	45	45	45	45	45	45	45	46	46	20	20	45	45	45
1.3	59	59	59	30	30	30	30	30	30	30	30	30	16	16	30	30	30
1.4	52	52	52	30	30	30	30	30	30	30	30	30	13	13	30	30	30
1.5	33	33	33	20	20	20	20	20	20	20	20	20	10	10	20	20	20
1.6			16	10	10	10	10	10	10	10	10	10			10	10	10
1.7																	
1.8																	
2.1		23	23	25	25	25	25	25	25	25	26	26			25	25	25
2.2		20	20	15	15	15	15	15	15	15	16	16			15	15	15
2.3		13	13	15	15	15	15	15	15	15	16	16			15	15	15
2.4																	
3.1				50	50	50	50	50	50	50	49	49	39	39	50	50	50
3.2				30	30	30	30	30	30	30	30	30	23	23	30	30	30
3.3				30	30	30	30	30	30	30	30	30	33	33	30	30	30
3.4				15	15	15	15	15	15	15	16	16	16	16	15	15	15
4.1	33			20	20	20	20	20	20	20	20	20			20	20	20
4.2	16			15	15	15	15	15	15	15	16	16			15	15	15
4.3																	
5.1	39			20	20	20	20	20	20	20	20	20			20	20	20
5.2	16			10	10	10	10	10	10	10	10	10			10	10	10
5.3																	
6.1				25	25	25	25	25	25	25	26	26	13	13	25	25	25
6.2				80	80	80	80	80	80	80	79	79	33	33	80	80	80
6.3				60	60	60	60	60	60	60	59	59	23	23	60	60	60
6.4				10	10	10	10	10	10	10	10	10	7	7	10	10	10
7.1	52			50	50	50	50	50	50	50	49	49			50	50	50
7.2	115			100	100	100	100	100	100	100	98	98	39	39	100	100	100
7.3	66			75	75	75	75	75	75	75	75	75	23	23	75	75	75
7.4	49			20	20	20	20	20	20	20	20	20	16	16	20	20	20
8.1	98			25	25	25	25	25	25	25	30	30			25	25	25
8.2				15	15	15	15	15	15	15	16	16	16	16	15	15	15
8.3													10	10			
9.1																	
10.1																	

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	UNC	UNF	UNC	UNF	UNC	UNF	UNC	UNF	UNC	UNF	UNC	UNF	M	M	UNC	UNF	UNS
	2091	2091	2091	2091	2091	2091	2091	2091	2091	2091	2091	2091	2091	2091	2091	2091	2091
	23 12	23 12	28	28	30	30	23 12	23 12	23 12	30	30	30	18	18	23 12	23 12	30
	2.0x0	2.0x0	2.0x0	2.0x0	2.0x0	2.0x0	2.0x0	2.0x0	2.0x0	2.0x0	2.0x0	2.0x0	1.18x0	2.0x0	2.0x0	2.0x0	2.0x0
	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS-E	HSS-E	HSS	HSS	HSS	HSS	HSS
											P	P					
	1534 (UNC) No.5 - No.12	1534 (UNF) No.5 - No.12	TN1534 (UNC) No.4 - No.12	TN1534 (UNF) No.10	1585 (UNC) 1/4 - 3/4	1585 (UNF) 1/4 - 3/4	1585A (UNC) 1/4 - 3/4	1585A (UNF) 1/4 - 3/4	TN1585 (UNC) 1/4 - 1/2	TN1585 (UNF) 1/4 - 1/2	1634 (UNC) No.4 - No.8	1634 (UNF) No.10	1785M M2 - M18	TN1785 M4 - M12	1534NR (UNC) No.1 - No.12	1534NR (UNF) No.0 - No.12	1534NR (UNS) No.4
	333	333	333	333	334	334	334	334	334	334	336	336	337	337	338	338	338
1.1	66	66	79	79	66	66	66	66	79	79	66	66	66	79	66	66	66
1.2	66	66	75	75	66	66	66	66	75	75	66	66	66	75	66	66	66
1.3	39	39	49	49	39	39	39	39	49	49	39	39	39	49	39	39	39
1.4	39	39	49	49	39	39	39	39	49	49	39	39	39	49	39	39	39
1.5	26	26	30	30	26	26	26	26	30	30	26	26	26	30	26	26	26
1.6	16	16	20	20	16	16	16	16	20	20	16	16	16	20	16	16	16
1.7																	
1.8																	
2.1	30	30	39	39	30	30	30	30	39	39	30	30	30	39	30	30	30
2.2	20	20	26	26	20	20	20	20	26	26	20	20	20	26	20	20	20
2.3	20	20	26	26	20	20	20	20	26	26	20	20	20	26	20	20	20
2.4																	
3.1	46	46	49	49	46	46	46	46	49	49	46	46	46	49	46	46	46
3.2	26	26	30	30	26	26	26	26	30	30	26	26	26	30	26	26	26
3.3	26	26	30	30	26	26	26	26	30	30	26	26	26	30	26	26	26
3.4	16	16	20	20	16	16	16	16	20	20	16	16	16	20	16	16	16
4.1	20	20			20	20	20	20			20	20	20		20	20	20
4.2	16	16			16	16	16	16			16	16	16		16	16	16
4.3	7	7			7	7	7	7			7	7	7		7	7	7
5.1	26	26	30	30	26	26	26	26	30	30	26	26	26	30	26	26	26
5.2	10	10	13	13	10	10	10	10	13	13	10	10	10	13	10	10	10
5.3																	
6.1	30	30	39	39	30	30	30	30	39	39	30	30	30	39	30	30	30
6.2	89	89	115	115	89	89	89	89	115	115	89	89	89	115	89	89	89
6.3	69	69	89	89	69	69	69	69	89	89	69	69	69	89	69	69	69
6.4	10	10	13	13	10	10	10	10	13	13	10	10	10	13	10	10	10
7.1	49	49	66	66	49	49	49	49	66	66	49	49	49	66	49	49	49
7.2	98	98	125	125	98	98	98	98	125	125	98	98	98	125	98	98	98
7.3	66	66	79	79	66	66	66	66	79	79	66	66	66	79	66	66	66
7.4	20	20	26	26	20	20	20	20	26	26	20	20	20	26	20	20	20
8.1	98	98	121	121	98	98	98	98	121	121	98	98	98	121	98	98	98
8.2	26	26	30	30	26	26	26	26	30	30	26	26	26	30	26	26	26
8.3																	
9.1																	
10.1																	

Visual Index - Taps

	UNC	UNF	M	UNC	UNF	UNC	UNF	UNC	UNC	UNF	UNC	UNF	UNC	UNF	UNC	UNF	UNC
	20/41	20/41	20/41	20/41	20/41	20/41	20/41	20/41	20/41	20/41	20/41	20/41	20/41	20/41	20/41	20/41	20/41
	20 12	20 12	18	30	20 12	20 12	20 12	20	30	30	30	30	30	30	20 12	20 12	30
	2.0±0	2.0±0	2.0±0	2.0±0	2.0±0	2.0±0	2.0±0	2XD	2.0±0	2.0±0	2.0±0	2.0±0	2.0±0	2.0±0	2.0±0	2.0±0	2.0±0
	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS
				P	P												
		<															

Visual Index - Taps

	UNC	UNF	EGM	EGM	UNC	UNC	UNC	UNF	UNC	UNF	M	NPT
	20°/41	20°/41	20°/41 150°	20°/41 150°	20°/41	20°/41	20°/41	20°/41	20°/41 15°	20°/41 15°	20°/41 150°	20°/41
	20	20	18	18	20	20	20	20	20	20	18	18/17.5
	1.0X2	1.0X2	1.0X2	2.0X2	3.0X2	1.0X2	1.0X2	1.0X2	1.0X2	1.0X2	1.0X2	1.0X2
	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS
			C 2-3	C 2-3	T	P			C 2-3	C 2-3	C 2-3	

List Number Index - Taps



Pgs. 243 - 378

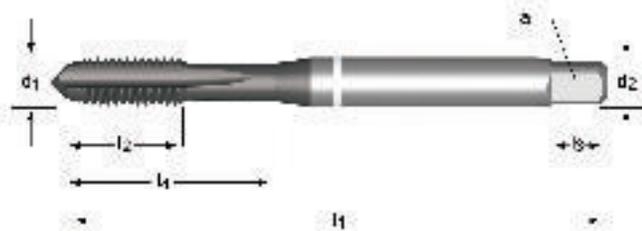
1215.....	376	1660AP.....	304	E036.....	280	E814.....	259
1500.....	314	1671.....	306	E037.....	295	E815.....	259
1500A.....	317	1672AP.....	279	E038.....	295	E816.....	265
1500L.....	323	1673AP.....	284	E041.....	311	E817.....	269
1500OV.....	328	1674.....	279	E043.....	313	E905.....	274
1505.....	329	1675.....	284	E061.....	324	E906.....	278
1508.....	325	1676AP.....	294	E071.....	324	E908.....	270
1519.....	371	1677AP.....	298	E201.....	292	E909.....	261
1528.....	314	1678.....	294	E500.....	319	E910.....	273
1534.....	333	1679.....	298	E501.....	327	E911.....	264
1534NE.....	342	1681AP.....	307	E504.....	332	E912.....	271
1534NR.....	338	1985.....	293	E513.....	321	E913.....	262
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1542.....	365	1691AP.....	308	E550.....	366	E915.....	259
1543.....	361	1994.....	372	E620.....	369	E916.....	265
1544.....	356	1697AP.....	309	E621.....	369	E917.....	269
1545.....	357	1700M.....	326	E624.....	275	EP006H.....	286
1545A.....	357	1785M.....	337	E625.....	266	EP016H.....	286
1548.....	358	1785NR.....	341	E626.....	277	EP10.....	287
1549.....	362	1788M.....	347	E627.....	268	EP11.....	287
1567.....	363	229CSET.....	378	E628.....	276	EP20.....	282
1568.....	359	3300.....	350	E629.....	267	EP21.....	282
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1580M.....	349	6541.....	355	E651.....	373	EP41.....	310
1582.....	344	E000.....	288	E653.....	375	EX006H.....	300
1585.....	334	E000TIN.....	288	E654.....	373	EX016H.....	300
1585A.....	334	E001.....	288	E710.....	354	EX10.....	301
1585NR.....	340	E002.....	302	E711.....	360	EX11.....	301
1585OV.....	343	E003.....	302	E712.....	364	EX20.....	296
1586.....	344	E005.....	285	E721.....	354	EX21.....	296
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1592.....	365	E013.....	302	E768.....	276	TN1500.....	318
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1595.....	325	E018.....	299	E770.....	260	TN1541.....	353
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1599M.....	331	E023.....	297	E805.....	274	TN1585.....	334
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1641.....	305	E033.....	297	E812.....	271		
1659AP.....	291	E035.....	280	E813.....	262		

DIN ANSI Machine Tap, White Shark for Cast Iron

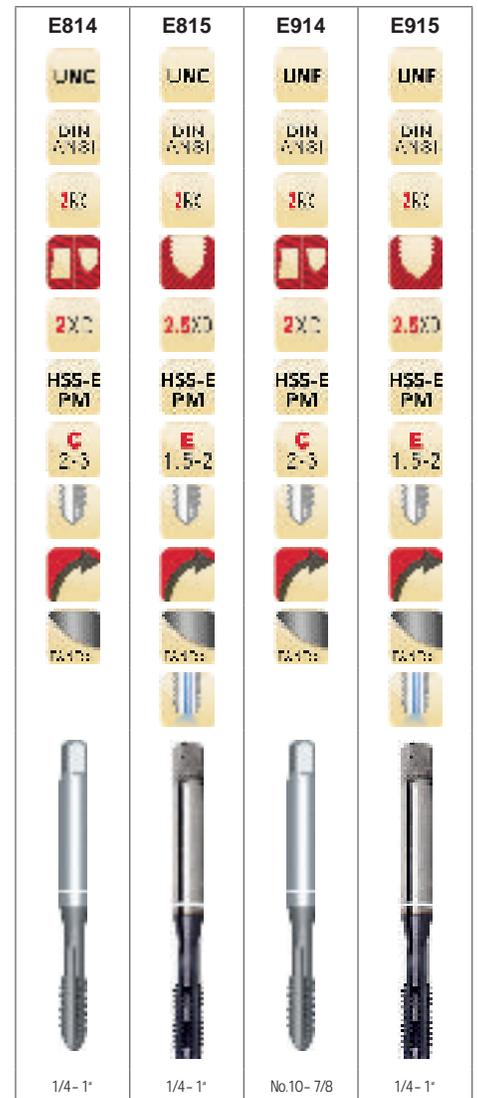
E814 Designed for semi-bottoming or through hole tapping in Cast Iron applications. Premium HSCo Powder Metal substrate with TiAlN-Top Coating combine to offer superior abrasion resistance, higher operating speeds, improved thread quality, reduced cycle times and longer tool life.

E815 Coolant through design allows for higher tapping speeds and better tool life. This design eliminates the problems associated with inadequate coolant supply in some applications. Full Bottoming.

3.1	3.2	3.3	8.2
3.4	6.2	6.4	7.4



Pack Qty = 1 pc



UNC	UNF	TPI	l ₁ Inch	l ₂ Inch	l ₄ Inch	d ₂ Ø Inch	a Inch	l ₃ Inch	No. of flutes	↔	↔	Limits	E814	E815	E914	E915
	10	32	2.756	0.551	1.102	0.194	0.150	0.250	4	4.10	N21	H4	—	—	7350222	—
1/4	20	20	3.150	0.591	0.984	0.255	0.189	0.310	4	5.10	N7	H5	7350203	7350231	—	—
	1/4	28	3.150	0.591	0.984	0.255	0.189	0.310	4	5.50	N3	H5	—	—	7350223	—
	1/4	28	3.150	0.591	0.984	0.255	0.189	0.310	4	5.50	N3	H4	—	—	—	7350240
5/16		18	3.543	0.709	1.339	0.318	0.236	0.380	4	6.60	F	H5	7350204	—	—	—
5/16		18	3.543	0.787	1.339	0.318	0.236	0.380	4	6.60	F	H5	—	7350232	—	—
	5/16	24	3.543	0.709	1.339	0.318	0.236	0.380	4	6.90	I	H5	—	—	7350224	—
	5/16	24	3.543	0.787	1.339	0.318	0.236	0.380	4	6.90	I	H5	—	—	—	7350241
3/8		16	3.937	0.787	1.535	0.381	0.284	0.440	4	8.00	5/16	H5	7350205	7350233	—	—
	3/8	24	3.543	0.787	1.476	0.381	0.284	0.440	4	8.50	Q	H5	—	—	7350225	7350242
7/16		14	3.937	0.787	—	0.323	0.240	0.410	4	9.40	U	H5	7350206	7350234	—	—
	7/16	20	3.937	0.787	—	0.323	0.240	0.410	4	9.90	25/64	H5	—	—	7350226	7350243
1/2		13	4.331	0.906	—	0.367	0.273	0.440	4	10.80	27/64	H5	7350207	7350235	—	—
	1/2	20	3.937	0.827	—	0.367	0.273	0.440	4	11.50	29/64	H5	—	—	7350227	7350244
5/8		11	4.331	0.906	—	0.480	0.358	0.560	4	13.50	17/32	H5	7350208	7350236	—	—
	5/8	18	3.937	0.827	—	0.480	0.358	0.560	4	14.50	37/64	H5	—	—	7350228	7350245
3/4		10	4.921	1.181	—	0.590	0.439	0.690	4	16.50	21/32	H5	7350209	7350237	—	—
	3/4	16	4.331	0.906	—	0.590	0.439	0.690	4	17.50	11/16	H6	—	—	7350229	—
	3/4	16	4.331	0.906	—	0.590	0.439	0.690	4	17.50	11/16	H5	—	—	—	7350246
7/8		9	5.512	1.339	—	0.697	0.520	0.750	4	19.50	49/64	H6	7350220	7350238	—	—
	7/8	14	4.921	0.906	—	0.697	0.520	0.750	4	20.40	13/16	H6	—	—	7350230	7350247
1"		8	6.299	1.417	—	0.800	0.597	0.810	4	22.25	7/8	H6	7350221	7350239	—	—
	1"	12	5.512	1.063	—	0.800	0.597	0.810	4	23.25	59/64	H6	—	—	—	7350248

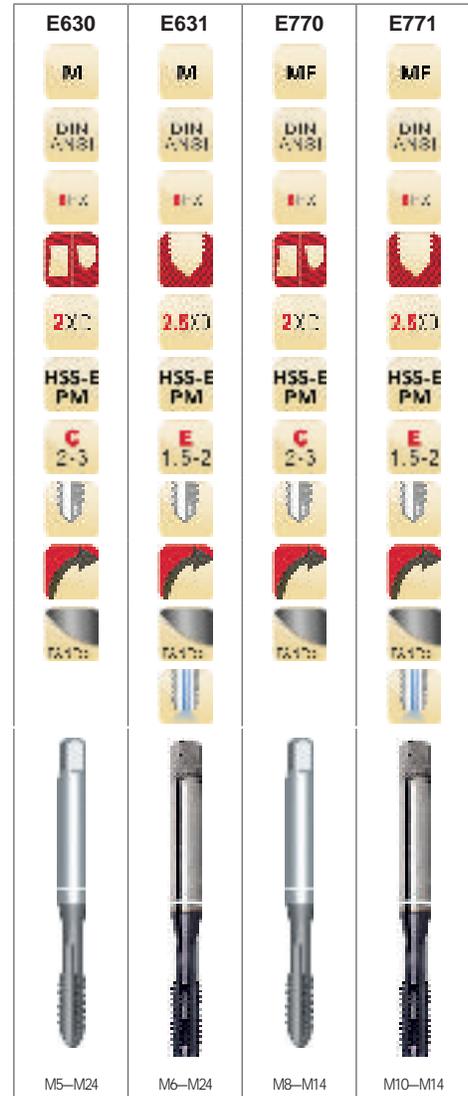
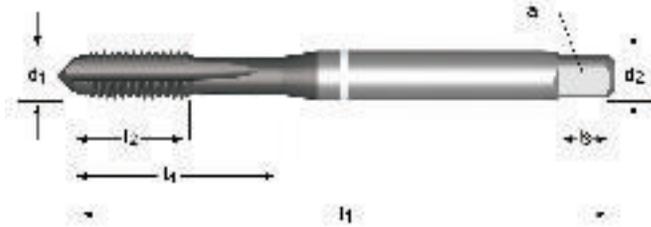
Note: Sizes up to 3/8" have male centers on both ends • Sizes over 3/8" have female centers on both ends

DIN ANSI Machine Tap, White Shark for Cast Iron

E630 **E770** Designed for semi-bottoming or through hole tapping in Cast Iron applications. Premium HSCo Powder Metal substrate with TiAlN-Top Coating combine to offer superior abrasion resistance, higher operating speeds, improved thread quality, reduced cycle times and longer tool life.

E631 **E771** Coolant through design allows for higher tapping speeds and better tool life. This design eliminates the problems associated with inadequate coolant supply in some applications. Full Bottoming.

3.1	3.2	3.3	8.2
3.4	6.2	6.4	7.4



Pack Qty = 1 pc

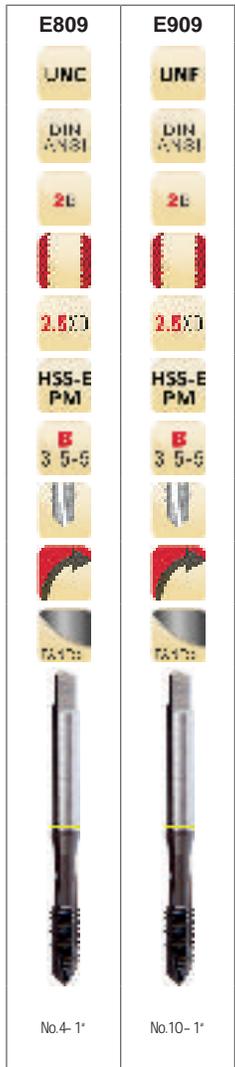
M	MF	P mm	l_1 mm	l_2 mm	l_4 mm	d_2 Inch	\square a Inch	l_3 mm	No. of f utes	\leftarrow	\rightarrow	Limits	E630	E631	E770	E771
5		0.80	70	13	25	0.194	0.150	6	4	4.20	N19	D4	7350249	—	—	—
6		1.00	80	15	25	0.255	0.189	8	4	5.00	N9	D5	—	7350265	—	—
6		1.00	80	15	30	0.255	0.189	8	4	5.00	N9	D5	7350250	—	—	—
	8	1.00	90	18	35	0.318	0.236	10	4	7.00	J	D5	—	—	7350259	—
8		1.25	90	18	35	0.318	0.236	10	4	6.80	H	D5	7350251	—	—	—
8		1.25	90	20	34	0.318	0.236	10	4	6.80	H	D5	—	7350266	—	—
	10	1.00	90	20	35	0.381	0.284	11	4	9.00	T	D6	—	—	7350260	—
	10	1.25	100	20	39	0.381	0.284	11	4	8.80	11/32	D6	—	—	7350261	7350274
10		1.50	100	20	39	0.381	0.284	11	4	8.50	Q	D6	7350252	7350267	—	—
	12	1.25	100	21	—	0.367	0.273	11	4	10.80	27/64	D6	—	—	7350262	7350275
	12	1.50	100	21	—	0.367	0.273	11	4	10.50	Z	D6	—	—	7350263	7350276
12		1.75	110	23	—	0.367	0.273	11	4	10.30	Y	D6	7350253	7350268	—	—
	14	1.50	100	21	—	0.429	0.320	13	4	12.50	31/64	D7	—	—	7350264	7350277
14		2.00	110	23	—	0.429	0.320	13	4	12.00	15/32	D7	7350254	7350269	—	—
16		2.00	110	23	—	0.480	0.358	14	4	14.00	35/64	D7	7350255	7350270	—	—
18		2.50	125	30	—	0.542	0.404	16	4	15.50	39/64	D7	7350256	7350271	—	—
20		2.50	140	30	—	0.652	0.487	18	4	17.50	11/16	D7	7350257	7350272	—	—
24		3.00	160	38	—	0.760	0.567	19	4	21.00	53/64	D8	7350258	7350273	—	—

Note: Sizes up to M10 have male centers on both ends • Sizes over M10 have female centers on both ends.

DIN ANSI Machine Tap, Yellow Shark for Low Alloy Steels

E809 Designed for through hole tapping in low Alloy Steel applications.
E909 Premium HSCo Powder Metal substrate with TiAlN-Top Coating combine to offer superior abrasion resistance, higher operating speeds, improved thread quality, reduced cycle times and longer tool life.

1.1 1.2 1.3 6.1 6.3
1.4 1.5 6.2



Pack Qty = 1 pc

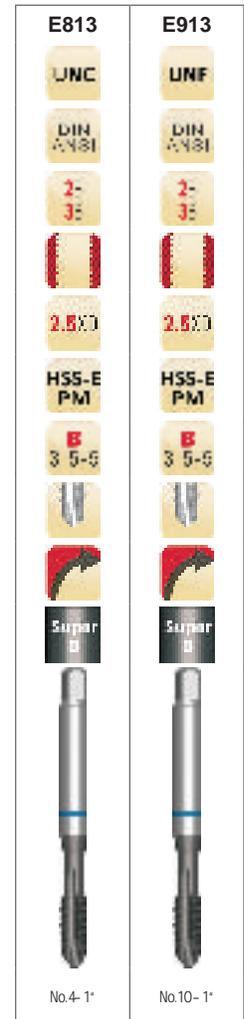
UNC	UNF	TPI	l ₁ Inch	l ₂ Inch	l ₄ Inch	d ₂ Inch	a Inch	l ₃ Inch	No. of flutes			Limits	E809	E909
4		40	2.205	0.354	0.709	0.141	0.108	0.190	3	2.35	N43	H2	7350469	—
6		32	2.205	0.433	0.787	0.141	0.108	0.190	3	2.85	N36	H2	7350470	—
8		32	2.480	0.512	0.827	0.168	0.129	0.250	3	3.50	N29	H3	7350471	—
10		24	2.756	0.551	1.102	0.194	0.150	0.250	3	3.90	N25	H3	7350472	—
	10	32	2.756	0.551	1.102	0.194	0.150	0.250	3	4.10	N21	H3	—	7350482
1/4		20	3.150	0.591	0.984	0.255	0.189	0.310	3	5.10	N7	H5	7350473	—
	1/4	28	3.150	0.591	0.984	0.255	0.189	0.310	3	5.50	N3	H4	—	7350483
5/16		18	3.543	0.709	1.339	0.318	0.236	0.380	3	6.60	F	H5	7350474	—
	5/16	24	3.543	0.709	1.339	0.318	0.236	0.380	3	6.90	I	H4	—	7350484
3/8		16	3.937	0.787	1.535	0.381	0.284	0.440	3	8.00	5/16	H4	7350475	—
	3/8	24	3.543	0.787	1.476	0.381	0.284	0.440	3	8.50	Q	H4	—	7350485
7/16		14	3.937	0.787	—	0.323	0.240	0.410	3	9.40	U	H5	7350476	—
	7/16	20	3.937	0.787	—	0.323	0.240	0.410	3	9.90	25/64	H5	—	7350486
1/2		13	4.331	0.906	—	0.367	0.273	0.440	3	10.80	27/64	H5	7350477	—
	1/2	20	3.937	0.827	—	0.367	0.273	0.440	3	11.50	29/64	H5	—	7350487
5/8		11	4.331	0.906	—	0.480	0.358	0.560	3	13.50	17/32	H5	7350478	—
	5/8	18	3.937	0.827	—	0.480	0.358	0.560	3	14.50	37/64	H5	—	7350488
3/4		10	4.921	1.181	—	0.590	0.439	0.690	3	16.50	21/32	H5	7350479	—
	3/4	16	4.331	0.906	—	0.590	0.439	0.690	3	17.50	11/16	H5	—	7350489
7/8		9	5.512	1.339	—	0.697	0.520	0.750	4	19.50	49/64	H6	7350480	—
	7/8	14	4.921	0.906	—	0.697	0.520	0.750	4	20.40	13/16	H6	—	7350490
1"		8	6.299	1.417	—	0.800	0.597	0.810	4	22.25	7/8	H6	7350481	—
	1"	12	5.512	1.063	—	0.800	0.597	0.810	4	23.25	59/64	H6	—	7350491

Note: Sizes up to 3/8" have male centers on both ends • Sizes over 3/8" have female centers on both ends.

DIN ANSI Machine Tap, Blue Shark for Stainless Steel

E813 Designed for superior performance through hole tapping in a wide range of Stainless Steel types. Premium HSCo Powder Metal substrate with Super-B (TiAlN+WC/C) Coating combined with an additional edge treatment to offer improved thread quality and longer tool life. Available in both 2B and 3B Class of Fit to cover a wide range of applications.

- 2.1
- 2.2
- 2.3
- 1.2
- 1.3
- 1.4
- 1.5



Pack Qty = 1 pc

UNC	UNF	TPI	l ₁ Inch	l ₂ Inch	l ₄ Inch	d ₂ Ø Inch	∠ a Inch	l ₃ Inch	No. of flutes	↔	↔	Limits	E813	E913
4		40	2.205	0.354	0.709	0.141	0.108	0.190	3	2.35	N43	H2	7350278	—
6		32	2.205	0.433	0.787	0.141	0.108	0.190	3	2.85	N36	H3	7350279	—
8		32	2.480	0.512	0.827	0.168	0.129	0.250	3	3.50	N29	H3	7350280	—
10		24	2.756	0.551	1.102	0.194	0.150	0.250	3	3.90	N25	H3	7350281	—
	10	32	2.756	0.551	1.102	0.194	0.150	0.250	3	4.10	N21	H3	—	7350299
1/4		20	3.150	0.591	0.984	0.255	0.189	0.310	3	5.10	N7	H5	7350282	—
1/4		20	3.150	0.591	0.984	0.255	0.189	0.310	3	5.10	N7	H3	7350283	—
	1/4	28	3.150	0.591	0.984	0.255	0.189	0.310	3	5.50	N3	H5	—	7350300
	1/4	28	3.150	0.591	0.984	0.255	0.189	0.310	3	5.50	N3	H3	—	7350301
5/16		18	3.543	0.709	1.339	0.318	0.236	0.380	3	6.60	F	H5	7350284	—
5/16		18	3.543	0.709	1.339	0.318	0.236	0.380	3	6.60	F	H3	7350285	—
	5/16	24	3.543	0.709	1.339	0.318	0.236	0.380	3	6.90	I	H4	—	7350302
	5/16	24	3.543	0.709	1.339	0.318	0.236	0.380	3	6.90	I	H3	—	7350303
3/8		16	3.937	0.787	1.535	0.381	0.284	0.440	3	8.00	5/16	H3	7350287	—
3/8		16	3.937	0.787	1.535	0.381	0.284	0.440	3	8.00	5/16	H5	7350286	—
	3/8	24	3.543	0.787	1.476	0.381	0.284	0.440	3	8.50	Q	H4	—	7350304
	3/8	24	3.543	0.787	1.476	0.381	0.284	0.440	3	8.50	Q	H3	—	7350305
5/8		11	4.331	0.906	—	0.480	0.358	0.560	4	13.50	17/32	H5	7350291	—
5/8		11	4.331	0.906	—	0.480	0.358	0.560	4	13.50	17/32	H3	7350292	—
7/16		14	3.937	0.787	—	0.323	0.240	0.410	4	9.40	U	H5	7350288	—
	7/16	20	3.937	0.787	—	0.323	0.240	0.410	4	9.90	25/64	H5	—	7350306
1/2		13	4.331	0.906	—	0.367	0.273	0.440	4	10.80	27/64	H5	7350289	—
1/2		13	4.331	0.906	—	0.367	0.273	0.440	4	10.80	27/64	H3	7350290	—
	1/2	20	3.937	0.827	—	0.367	0.273	0.440	4	11.50	29/64	H5	—	7350307
	1/2	20	3.937	0.827	—	0.367	0.273	0.440	4	11.50	29/64	H3	—	7350308

Note: Sizes up to 3/8" have male centers on both ends • Sizes over 3/8" have female centers on both ends.

UNC	UNF	TPI	l ₁ Inch	l ₂ Inch	l ₄ Inch	d ₂ ∅ Inch	∇ a Inch	l ₃ Inch	No. of f utes			Limits	E813	E913
	5/8	18	3.937	0.827	—	0.480	0.358	0.560	4	14.50	37/64	H5	—	7350309
	5/8	18	3.937	0.827	—	0.480	0.358	0.560	4	14.50	37/64	H3	—	7350310
	3/4	10	4.921	1.181	—	0.590	0.439	0.690	4	16.50	21/32	H5	7350293	—
	3/4	10	4.921	1.181	—	0.590	0.439	0.690	4	16.50	21/32	H3	7350294	—
	3/4	16	4.331	0.906	—	0.590	0.439	0.690	4	17.50	11/16	H5	—	7350311
	3/4	16	4.331	0.906	—	0.590	0.439	0.690	4	17.50	11/16	H3	—	7350312
	7/8	9	5.512	1.339	—	0.697	0.520	0.750	4	19.50	49/64	H6	7350295	—
	7/8	9	5.512	1.339	—	0.697	0.520	0.750	4	19.50	49/64	H4	7350296	—
	7/8	14	4.921	0.906	—	0.697	0.520	0.750	4	20.40	13/16	H6	—	7350313
	7/8	14	4.921	0.906	—	0.697	0.520	0.750	4	20.40	13/16	H4	—	7350314
	1"	8	6.299	1.417	—	0.800	0.597	0.810	4	22.25	7/8	H6	7350297	—
	1"	8	6.299	1.417	—	0.800	0.597	0.810	4	22.25	7/8	H4	7350298	—
	1"	12	5.512	1.063	—	0.800	0.597	0.810	4	23.25	59/64	H6	—	7350315
	1"	12	5.512	1.063	—	0.800	0.597	0.810	4	23.25	59/64	H4	—	7350316

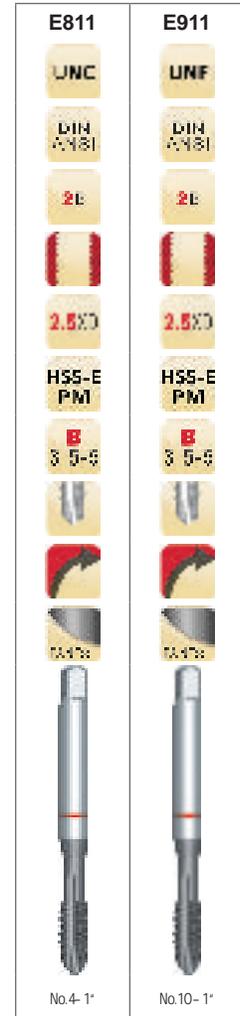
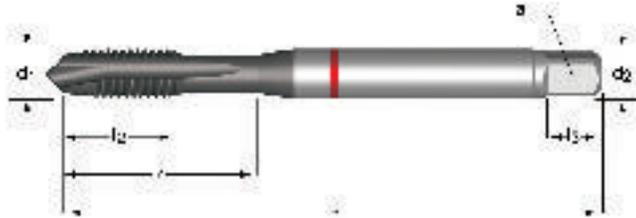
Note: Sizes up to 3/8" have male centers on both ends • Sizes over 3/8" have female centers on both ends.

DIN ANSI Machine Tap, Red Shark for Alloy Steels

E811 Designed for high performance through hole tapping in most medium Alloy Steels. The TiAlN-Top Coating combined with an additional edge treatment provides excellent performance and consistency in high production applications.

E911

1.4 1.5
1.6 4.2 5.2



Pack Qty = 1 pc

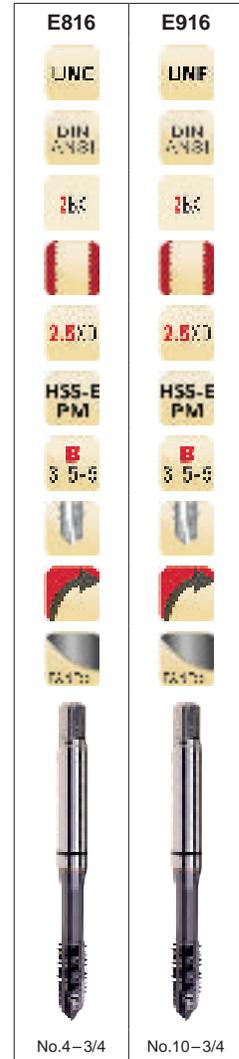
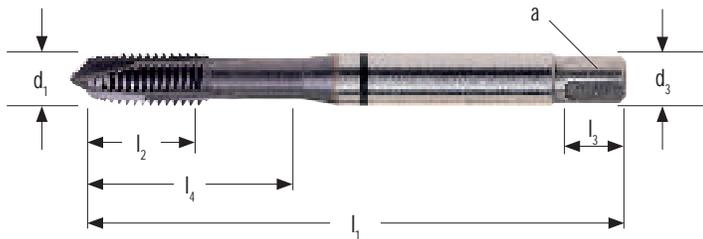
UNC	UNF	TPI	l ₁ Inch	l ₂ Inch	l ₄ Inch	d ₂ Ø Inch	a Inch	l ₃ Inch	No. of f utes	↔	↔	Limits	E811	E911
4		40	2.205	0.354	0.709	0.141	0.108	0.190	3	2.35	N43	H2	7350391	—
6		32	2.205	0.433	0.787	0.141	0.108	0.190	3	2.85	N36	H2	7350392	—
8		32	2.480	0.512	0.827	0.168	0.129	0.250	3	3.50	N29	H3	7350393	—
	10	32	2.756	0.551	1.102	0.194	0.150	0.250	3	4.10	N21	H3	—	7350404
10		24	2.756	0.551	1.102	0.194	0.150	0.250	3	3.90	N25	H3	7350394	—
	1/4	28	3.150	0.591	0.984	0.255	0.189	0.310	3	5.50	N3	H4	—	7350405
1/4		20	3.150	0.591	0.984	0.255	0.189	0.310	3	5.10	N7	H5	7350395	—
	5/16	24	3.543	0.709	1.339	0.318	0.236	0.380	3	6.90	I	H4	—	7350406
5/16		18	3.543	0.709	1.339	0.318	0.236	0.380	3	6.60	F	H5	7350396	—
	3/8	24	3.543	0.787	1.476	0.318	0.284	0.440	3	8.50	Q	H4	—	7350407
3/8		16	3.543	0.787	1.535	0.381	0.284	0.440	3	8.00	5/16	H4	7350397	—
	7/16	20	3.937	0.787	—	0.323	0.240	0.410	3	9.90	25/64	H5	—	7350408
7/16		14	3.937	0.787	—	0.323	0.240	0.410	3	9.40	U	H5	7350398	—
	1/2	20	3.937	0.827	—	0.367	0.273	0.440	3	11.50	29/64	H5	—	7350409
1/2		13	4.331	0.906	—	0.367	0.273	0.440	3	10.80	27/64	H5	7350399	—
	5/8	18	3.937	0.827	—	0.480	0.358	0.560	3	14.50	37/64	H5	—	7350410
5/8		11	4.331	0.906	—	0.480	0.358	0.560	3	13.50	17/32	H5	7350400	—
	3/4	16	4.331	0.906	—	0.590	0.439	0.690	4	17.50	11/16	H5	—	7350411
3/4		10	4.921	1.181	—	0.590	0.439	0.690	4	16.50	21/32	H5	7350401	—
	7/8	14	4.921	0.906	—	0.697	0.520	0.750	4	20.40	13/16	H6	—	7350412
7/8		9	5.512	1.339	—	0.697	0.520	0.750	4	19.50	49/64	H6	7350402	—
	1"	12	5.512	1.063	—	0.800	0.597	0.810	4	23.25	59/64	H6	—	7350413
1"		8	6.299	1.417	—	0.800	0.597	0.810	4	22.25	7/8	H6	7350403	—

Note: Sizes up to 3/8" have male centers on both ends • Sizes over 3/8" have female centers on both ends.

DIN-ANSI Machine Tap Black Shark for Hard Alloys, Plug Style

E816 Designed for high performance through hole tapping in high strength and heat resistant work-materials with hardness up to 45HRC. The TiAlN-Top coating combined with geometry that significantly increases cutting edge strength, provides excellent performance and consistency in hard and difficult machine materials.

1.6 4.3 5.3
1.5 1.7 4.2 5.2



Pack Qty = 1 pc

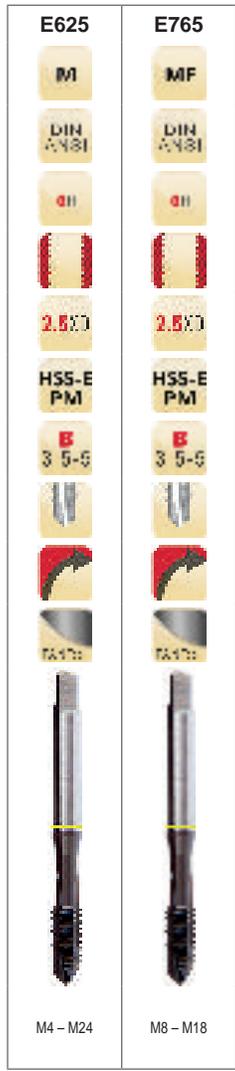
UNC	UNF	TPI	l_1 Inch	l_2 Inch	l_4 Inch	d_2 Ø Inch	a Inch	l_3 Inch	No. of flutes	\pm	\pm	Limits	E816	E916
4		40	2.205	0.472	0.827	0.141	0.108	0.190	3	2.35	N43	H2	7812046	—
6		32	2.480	0.551	0.866	0.168	0.129	0.250	3	2.85	N36	H3	7812047	—
8		32	2.756	0.610	1.102	0.194	0.150	0.250	3	3.50	N29	H3	7812048	—
10		24	3.150	0.669	1.024	0.255	0.189	0.310	3	3.90	N25	H3	7812049	—
	10	32	3.150	0.669	1.024	0.255	0.189	0.310	3	4.10	N21	H3	—	7812107
1/4		20	3.543	0.807	1.378	0.318	0.236	0.380	3	5.10	N7	H5	7812100	—
	1/4	28	3.543	0.807	1.339	0.318	0.236	0.380	3	5.50	N3	H4	—	7812108
5/16		18	3.937	0.906	1.535	0.381	0.236	0.440	3	6.60	F	H5	7812101	—
	5/16	24	3.937	0.906	1.535	0.381	0.284	0.440	3	6.90	I	H4	—	7812109
3/8		16	3.937	0.787	1.535	0.381	0.236	0.440	3	8.00	5/16	H5	7812102	—
	3/8	24	3.937	0.787	1.535	0.381	0.284	0.440	3	8.50	Q	H4	—	7812110
7/16		14	3.937	0.787	—	0.323	0.240	0.410	4	9.40	U	H5	7812103	—
	7/16	20	3.937	0.787	—	0.323	0.240	0.440	4	9.90	25/64	H5	—	7812111
1/2		13	4.331	0.906	—	0.367	0.273	0.440	4	10.80	27/64	H5	7812104	—
	1/2	20	4.331	0.906	—	0.367	0.273	0.440	4	11.50	29/64	H5	—	7812112
5/8		11	4.331	0.906	—	0.480	0.358	0.560	4	13.50	17/32	H5	7812105	—
	5/8	18	4.331	0.906	—	0.480	0.358	0.560	4	14.50	37/64	H5	—	7812113
3/4		10	4.921	1.181	—	0.590	0.440	0.690	4	16.50	21/32	H5	7812106	—
	3/4	16	4.921	1.181	—	0.590	0.440	0.690	4	17.50	11/16	H5	—	7812114

Note: Sizes up to 3/8" have male centers on both ends • Sizes over 3/8" have female centers on both ends.

DIN ANSI Machine Tap, Yellow Shark for Low Alloy Steels

E625 Designed for through hole tapping in low Alloy Steel applications.
E765 Premium HSCo Powder Metal substrate with TiAlN-Top Coating combine to offer superior abrasion resistance, higher operating speeds, improved thread quality, reduced cycle times and longer tool life.

- 1.1
- 1.2
- 1.3
- 6.1
- 6.3
- 1.4
- 1.5
- 6.2



Pack Qty = 1 pc

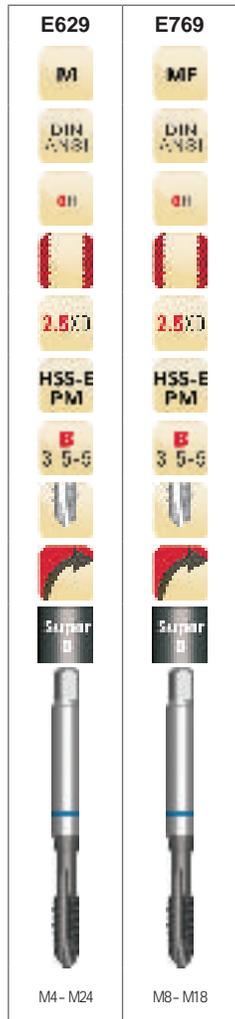
M	MF	P mm	l ₁ mm	l ₂ mm	l ₄ mm	d ₂ Ø Inch	□ a Inch	l ₃ mm	No. of flutes	↔	↔	Limits	E625	E765
4		0.70	63	12	21	0.168	0.129	6	3	3.30	N30	D4	7350492	—
5		0.80	70	13	25	0.194	0.150	6	3	4.20	N19	D4	7350493	—
6		1.00	80	15	30	0.255	0.189	8	3	5.00	N9	D5	7350494	—
	8	1.00	90	18	35	0.318	0.236	10	3	7.00	J	D5	—	7350503
8		1.25	90	18	35	0.318	0.236	10	3	6.80	H	D5	7350495	—
	10	1.25	100	20	39	0.381	0.284	11	3	8.80	11/32	D6	—	7350504
10		1.50	100	20	39	0.381	0.284	11	3	8.50	Q	D6	7350496	—
	12	1.25	100	21	—	0.367	0.273	11	3	10.80	27/64	D6	—	7350505
	12	1.50	100	21	—	0.367	0.273	11	3	10.50	Z	D6	—	7350506
12		1.75	110	23	—	0.367	0.273	11	3	10.30	Y	D6	7350497	—
	14	1.50	100	21	—	0.429	0.320	13	3	12.50	31/64	D7	—	7350507
14		2.00	110	23	—	0.429	0.320	13	3	12.00	15/32	D7	7350498	—
	16	1.50	100	21	—	0.480	0.358	14	3	14.50	9/16	D7	—	7350508
16		2.00	110	23	—	0.480	0.358	14	3	14.00	35/64	D7	7350499	—
	18	1.50	110	24	—	0.542	0.404	16	3	16.50	41/64	D7	—	7350509
18		2.50	125	30	—	0.542	0.404	16	3	15.50	39/64	D7	7350500	—
20		2.50	140	30	—	0.652	0.487	18	3	17.50	11/16	D7	7350501	—
24		3.00	160	38	—	0.760	0.567	19	4	21.00	53/64	D8	7350502	—

Note: Sizes up to M10 have male centers on both ends • Sizes over M10 have female centers on both ends.

DIN ANSI Machine Tap, Blue Shark for Stainless Steel

E629 Designed for superior performance through hole tapping in a wide range of Stainless Steel types. Premium HSCo Powder Metal substrate with Super-B (TiAlN+WC/C) Coating combined with an additional edge treatment to offer improved thread quality and longer tool life. Available in both 2B and 3B Class of Fit to cover a wide range of applications.

2.1 2.2 2.3
1.2 1.3 1.4 1.5



Pack Qty = 1 pc

M	MF	P mm	l ₁ mm	l ₂ mm	l ₄ mm	d ₂ Ø Inch	□ a Inch	l ₃ mm	No. of f utes			Limits	E629	E769
4		0.70	63	12	21	0.168	0.129	6	3	3.30	N30	D4	7350317	—
5		0.80	70	13	25	0.194	0.150	6	3	4.20	N19	D4	7350318	—
6		1.00	80	15	30	0.255	0.189	8	3	5.00	N9	D5	7350319	—
	8	1.00	90	18	35	0.318	0.236	10	3	7.00	J	D5	—	7350328
8		1.25	90	18	35	0.318	0.236	10	3	6.80	H	D5	7350320	—
	10	1.25	100	20	39	0.381	0.284	11	3	8.80	11/32	D6	—	7350329
10		1.50	100	20	39	0.381	0.284	11	3	8.50	Q	D6	7350321	—
	12	1.25	100	21	—	0.367	0.273	11	4	10.80	27/64	D6	—	7350330
	12	1.50	100	21	—	0.367	0.273	11	4	10.50	Z	D6	—	7350331
12		1.75	110	23	—	0.367	0.273	11	4	10.30	Y	D6	7350322	—
	14	1.50	100	21	—	0.429	0.320	13	4	12.50	31/64	D7	—	7350332
14		2.00	110	23	—	0.429	0.320	13	4	12.00	15/32	D7	7350323	—
	16	1.50	100	21	—	0.480	0.358	14	4	14.50	9/16	D7	—	7350333
16		2.00	110	23	—	0.480	0.358	14	4	14.00	35/64	D7	7350324	—
	18	1.50	110	24	—	0.542	0.404	16	4	16.50	41/64	D7	—	7350334
18		2.50	125	30	—	0.542	0.404	16	4	15.50	39/64	D7	7350325	—
20		2.50	140	30	—	0.652	0.487	18	4	17.50	11/16	D7	7350326	—
24		3.00	160	38	—	0.760	0.567	19	4	21.00	53/64	D8	7350327	—

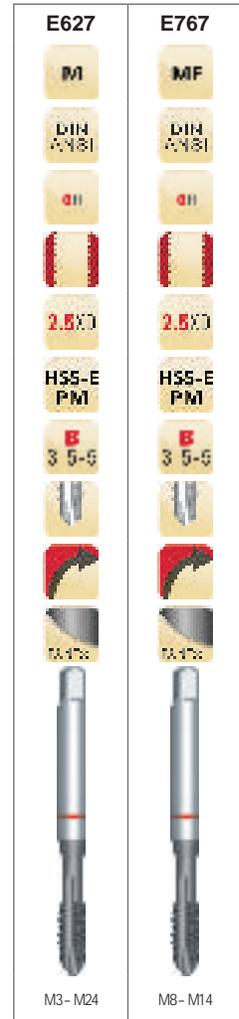
Note: Sizes up to M10 have male centers on both ends • Sizes over M10 have female centers on both ends.

DIN ANSI Machine Tap, Red Shark for Alloy Steels

E627 Designed for high performance through hole tapping in most medium Alloy Steels. The TiAlN-Top Coating combined with an additional edge treatment provides excellent performance and consistency in high production applications.

E767

1.4 1.5
1.6 4.2 5.2



Pack Qty = 1 pc

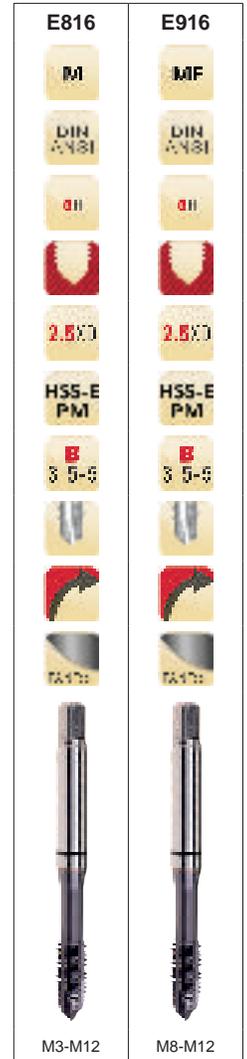
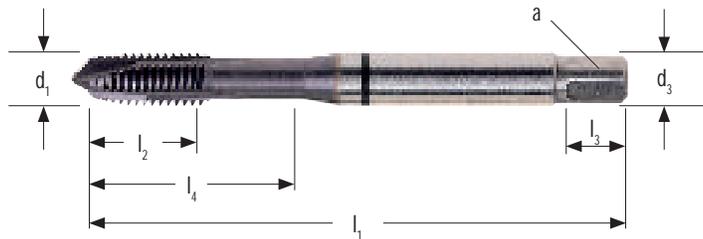
M	MF	P mm	l ₁ mm	l ₂ mm	l ₄ mm	d ₂ Ø Inch	a Inch	l ₃ mm	No. of futes	↔	↔	Limits	E627	E767
3		0.50	56	9	18	0.141	0.108	5	3	2.50	N40	D3	7350414	—
4		0.70	63	12	21	0.168	0.129	6	3	3.30	N30	D4	7350415	—
5		0.80	70	13	25	0.194	0.150	6	3	4.20	N19	D4	7350416	—
6		1.00	80	15	30	0.255	0.189	8	3	5.00	N9	D5	7350417	—
	8	1.00	90	18	35	0.318	0.236	10	3	7.00	J	D5	—	7350426
8		1.25	90	18	35	0.318	0.236	10	3	6.80	H	D5	7350418	—
	10	1.25	100	20	39	0.381	0.284	11	3	8.80	11/32	D6	—	7350427
10		1.50	100	20	39	0.381	0.284	11	3	8.50	Q	D6	7350419	—
	12	1.50	100	21	—	0.367	0.273	11	3	10.50	Z	D6	—	7350428
12		1.75	110	23	—	0.367	0.273	11	3	10.30	Y	D6	7350420	—
	14	1.50	100	21	—	0.429	0.320	13	3	12.50	31/64	D7	—	7350429
14		2.00	110	23	—	0.429	0.320	13	3	12.00	15/32	D7	7350421	—
16		2.00	110	23	—	0.480	0.358	14	3	14.00	35/64	D7	7350422	—
18		2.50	125	30	—	0.542	0.404	16	4	15.50	39/64	D7	7350423	—
20		2.50	140	30	—	0.652	0.487	18	4	17.50	11/16	D7	7350424	—
24		3.00	160	38	—	0.760	0.567	19	4	21.00	53/64	D8	7350425	—

Note: Sizes up to M10 have male centers on both ends • Sizes over M10 have female centers on both ends.

DIN-ANSI Machine Tap Black Shark for Hard Alloys, Plug Style

E817 **E917** Designed for high performance through hole tapping in high strength and heat resistant work-materials with hardness up to 45HRC. The TiAlN-Top coating combined with geometry that significantly increases cutting edge strength, provides excellent performance and consistency in hard and difficult to machine materials.

1.6 4.3 5.3
1.5 1.7 4.2 5.2



Pack Qty = 1 pc

M	MF	P mm	l ₁ mm	l ₂ mm	l ₄ mm	d ₂ ∅ Inch	∠ a Inch	l ₃ mm	No. of flutes	↔	↔	Limits	E817	E917
3		0.50	63	15	22	0.168	0.129	6	3	2.50	N40	D3	7812115	—
4		0.70	70	16	28	0.194	0.150	6	3	3.30	N30	D4	7812116	—
5		0.80	80	17	26	0.255	0.189	8	3	4.20	N19	D4	7812117	—
6		1.00	90	21	35	0.318	0.236	10	3	5.00	N9	D5	7812118	—
8		1.25	100	23	39	0.381	0.284	11	3	6.80	H	D5	7812119	—
	8	1.00	100	23	39	0.381	0.284	11	3	7.00	J	D5	—	7812122
10		1.50	100	20	38	0.381	0.284	11	3	8.50	Q	D6	7812120	—
	10	1.25	100	20	38	0.381	0.284	11	3	8.80	11/32	D5	—	7812123
12		1.75	110	23	-	0.367	0.273	11	4	10.30	Y	D6	7812121	—
	12	1.25	110	23	-	0.367	0.273	11	4	10.80	27/64	D5	—	7812124
	12	1.50	110	23	-	0.367	0.273	11	4	10.50	Z	D5	—	7812125

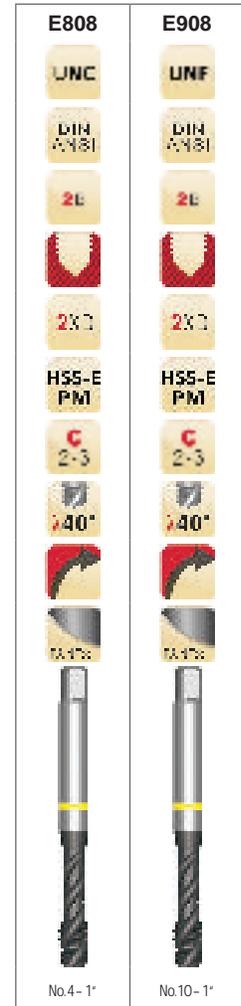
Note: Sizes up to M10 have male centers on both ends • Sizes over M10 have female centers on both ends.

DIN ANSI Machine Tap, Yellow for Low Alloy Steels

E808 Designed for blind hole tapping in low Alloy Steel applications. Premium HSCo Powder Metal substrate with TiAlN-Top Coating combined with a special 40° Spiral Flute geometry prevents nesting and reduces the risk of re-cutting chips on reversal allowing taps to operate at higher speeds while providing improved thread quality.

E908

- 1.1
- 1.2
- 1.3
- 6.1
- 6.3
- 1.4
- 1.5
- 6.2



Pack Qty = 1 pc

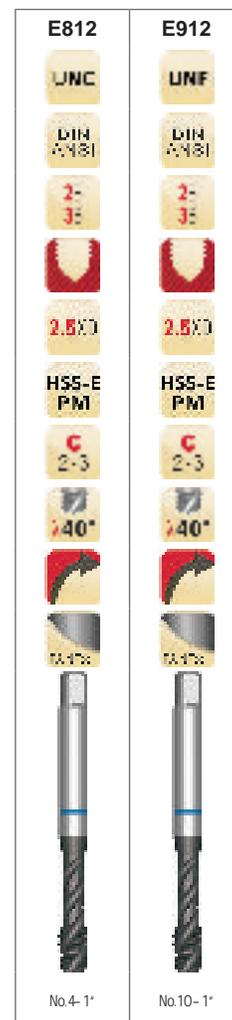
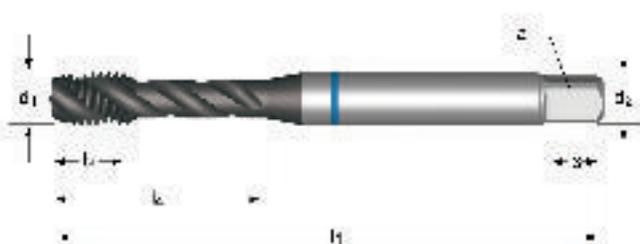
UNC	UNF	TPI	l_1 Inch	l_2 Inch	l_4 Inch	d_2 Inch	a Inch	l_3 Inch	No. of flutes	\leftarrow	\rightarrow	Limits	E808	E908
4		40	2.205	0.256	0.709	0.141	0.108	0.236	3	2.35	N43	H2	7350510	—
6		32	2.205	0.256	0.787	0.141	0.108	0.190	3	2.85	N36	H2	7350511	—
8		32	2.480	0.276	0.827	0.168	0.129	0.250	3	3.50	N29	H3	7350512	—
10		24	2.756	0.315	1.102	0.194	0.150	0.250	3	3.90	N25	H3	7350513	—
	10	32	2.756	0.315	1.102	0.194	0.150	0.250	3	4.10	N21	H3	—	7350523
1/4		20	3.150	0.394	0.984	0.255	0.189	0.310	3	5.10	N7	H5	7350514	—
	1/4	28	3.150	0.394	0.984	0.255	0.189	0.310	3	5.50	N3	H4	—	7350524
5/16		18	3.543	0.472	1.339	0.318	0.236	0.380	3	6.60	F	H5	7350515	—
	5/16	24	3.543	0.472	1.339	0.318	0.236	0.380	3	6.90	I	H4	—	7350525
3/8		16	3.937	0.591	1.535	0.381	0.284	0.440	3	8.00	5/16	H4	7350516	—
	3/8	24	3.543	0.591	1.476	0.381	0.284	0.440	3	8.50	Q	H4	—	7350526
7/16		14	3.937	0.591	—	0.323	0.240	0.410	3	9.40	U	H5	7350517	—
	7/16	20	3.937	0.591	—	0.323	0.240	0.410	3	9.90	25/64	H5	—	7350527
1/2		13	4.331	0.709	—	0.367	0.273	0.440	3	10.80	27/64	H5	7350518	—
	1/2	20	3.937	0.709	—	0.367	0.273	0.440	3	11.50	29/64	H5	—	7350528
5/8		11	4.331	0.787	—	0.480	0.358	0.560	4	13.50	17/32	H5	7350519	—
	5/8	18	3.937	0.591	—	0.480	0.358	0.560	4	14.50	37/64	H5	—	7350529
3/4		10	4.921	0.984	—	0.590	0.439	0.690	4	16.50	21/32	H5	7350520	—
	3/4	16	4.331	0.984	—	0.590	0.439	0.690	4	17.50	11/16	H5	—	7350530
7/8		9	5.512	0.984	—	0.697	0.520	0.750	4	19.50	49/64	H6	7350521	—
	7/8	14	4.921	0.984	—	0.697	0.520	0.750	4	20.40	13/16	H6	—	7350531
1"		8	6.299	1.181	—	0.800	0.597	0.810	4	22.25	7/8	H6	7350522	—
	1"	12	5.512	1.063	—	0.800	0.597	0.810	4	23.25	59/64	H6	—	7350532

Note: Sizes up to 3/8" have male centers on both ends • Sizes over 3/8" have female centers on both ends.

DIN ANSI Machine Tap, Blue Shark for Stainless Steel

E812 Designed for superior performance blind hole tapping in a wide range of Stainless Steel types. Premium HSCo Powder Metal substrate with Super-B (TiAlN+WC/C) Coating combined with an additional edge treatment and a 40° Flute angle facilitates better chip evacuation of ering improved thread quality and longer tool life. Available in both 2B and 3B Class of Fit to cover a wide range of applications.

2.1 2.2 2.3
1.2 1.3 1.4 1.5



Pack Qty = 1 pc

UNC	UNF	TPI	l ₁ Inch	l ₂ Inch	l ₄ Inch	d ₂ Ø Inch	□ a Inch	l ₃ Inch	No. of flutes	⌀	⌀	Limits	E812	E912
4		40	2.205	0.256	0.709	0.141	0.108	0.236	3	2.35	N43	H2	7350335	—
6		32	2.205	0.256	0.787	0.141	0.108	0.190	3	2.80	N36	H3	7350336	—
8		32	2.480	0.276	0.827	0.168	0.129	0.250	3	3.50	N29	H3	7350337	—
10		24	2.756	0.315	1.102	0.194	0.150	0.250	3	3.90	N25	H3	7350338	—
	10	32	2.756	0.315	1.102	0.194	0.150	0.250	3	4.10	N21	H3	—	7350356
1/4		20	3.150	0.394	0.984	0.255	0.189	0.310	3	5.10	N7	H5	7350339	—
1/4		20	3.150	0.394	0.984	0.255	0.189	0.310	3	5.10	N7	H3	7350340	—
	1/4	28	3.150	0.394	0.984	0.255	0.189	0.310	3	5.50	N3	H5	—	7350357
	1/4	28	3.150	0.394	0.984	0.255	0.189	0.310	3	5.50	N3	H3	—	7350358
5/16		18	3.543	0.472	1.339	0.318	0.236	0.380	3	6.60	F	H5	7350341	—
5/16		18	3.543	0.472	1.339	0.318	0.236	0.380	3	6.60	F	H3	7350342	—
	5/16	24	3.543	0.472	1.339	0.318	0.236	0.380	3	6.90	I	H4	—	7350359
	5/16	24	3.543	0.472	1.339	0.318	0.236	0.380	3	6.90	I	H3	—	7350360
3/8		16	3.937	0.591	1.535	0.381	0.284	0.440	3	8.00	5/16	H5	7350343	—
3/8		16	3.937	0.591	1.535	0.381	0.284	0.440	3	8.00	5/16	H3	7350344	—
	3/8	24	3.543	0.591	1.476	0.318	0.284	0.440	3	8.50	Q	H4	—	7350361
	3/8	24	3.543	0.591	1.476	0.318	0.284	0.440	3	8.50	Q	H3	—	7350362
7/16		14	3.937	0.591	—	0.323	0.240	0.410	4	9.40	U	H5	7350345	—
	7/16	20	3.937	0.591	—	0.323	0.240	0.410	4	9.90	25/64	H5	—	7350363
1/2		13	4.331	0.709	—	0.367	0.273	0.440	4	10.70	27/64	H5	7350346	—
1/2		13	4.331	0.709	—	0.367	0.273	0.440	4	10.70	27/64	H3	7350347	—
	1/2	20	3.937	0.709	—	0.367	0.273	0.440	4	11.50	29/64	H5	—	7350364
	1/2	20	3.937	0.709	—	0.367	0.273	0.440	4	11.50	29/64	H3	—	7350365
5/8		11	4.331	0.787	—	0.480	0.358	0.560	4	13.50	17/32	H5	7350348	—
5/8		11	4.331	0.787	—	0.480	0.358	0.560	4	13.50	17/32	H3	7350349	—
	5/8	18	3.937	0.591	—	0.480	0.358	0.560	4	14.50	37/64	H5	—	7350366
	5/8	18	3.937	0.591	—	0.480	0.358	0.560	4	14.50	37/64	H3	—	7350367

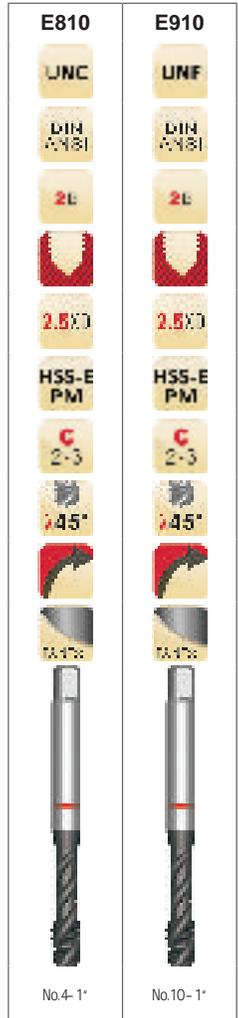
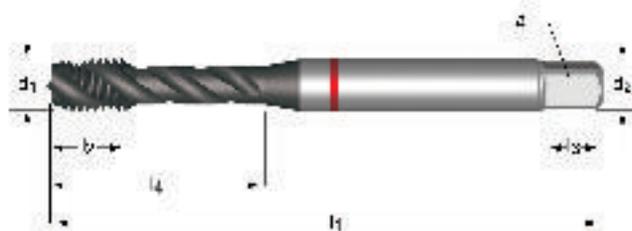
UNC	UNF	TPI	l_1 Inch	l_2 Inch	l_4 Inch	d_2 Ø Inch	a Inch	l_3 Inch	No. of flutes			Limits	E812	E912
3/4		10	4.921	0.984	—	0.590	0.439	0.690	4	16.50	21/32	H5	7350350	—
3/4		10	4.921	0.984	—	0.590	0.439	0.690	4	16.50	21/32	H3	7350351	—
	3/4	16	4.331	0.984	—	0.590	0.439	0.690	4	17.50	11/16	H5	—	7350368
	3/4	16	4.331	0.984	—	0.590	0.439	0.690	4	17.50	11/16	H3	—	7350369
7/8		9	5.512	0.984	—	0.697	0.520	0.750	4	19.50	49/64	H6	7350352	—
7/8		9	5.512	0.984	—	0.697	0.520	0.750	4	19.50	49/64	H4	7350353	—
	7/8	14	4.921	0.984	—	0.697	0.520	0.750	4	20.40	13/16	H6	—	7350370
	7/8	14	4.921	0.984	—	0.697	0.520	0.750	4	20.40	13/16	H4	—	7350371
1"		8	6.299	1.181	—	0.800	0.597	0.810	4	22.25	7/8	H6	7350354	—
1"		8	6.299	1.181	—	0.800	0.597	0.810	4	22.25	7/8	H4	7350355	—
	1"	12	5.512	1.063	—	0.800	0.597	0.810	4	23.25	59/64	H6	—	7350372
	1"	12	5.512	1.063	—	0.800	0.597	0.810	4	23.25	59/64	H4	—	7350373

Note: Sizes up to 3/8" have male centers on both ends • Sizes over 3/8" have female centers on both ends.

DIN ANSI Machine Tap, Red Shark for Alloy Steels

E810 Designed for high performance blind hole tapping in most medium Alloy Steels.
E910 The TiAlN-Top Coating combined with a special 45° Flute Geometry and an additional edge treatment provides excellent performance and consistency in high production applications. The back taper built into this design further facilitates chip evacuation and reduces torque when the tap reverses. It is recommended to use a toolholder with minimal float or soft start.

1.4 **1.5**
1.6 **4.2** **5.2**



Pack Qty = 1 pc

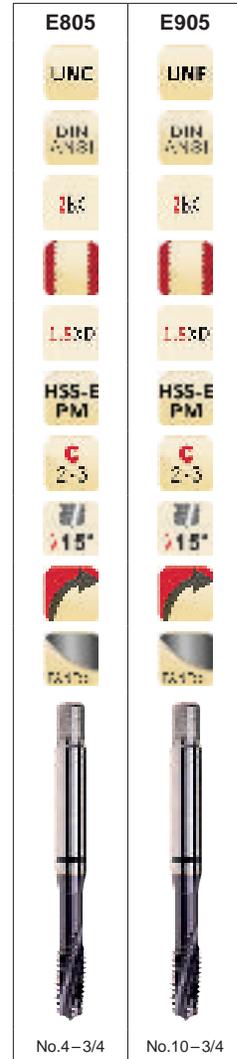
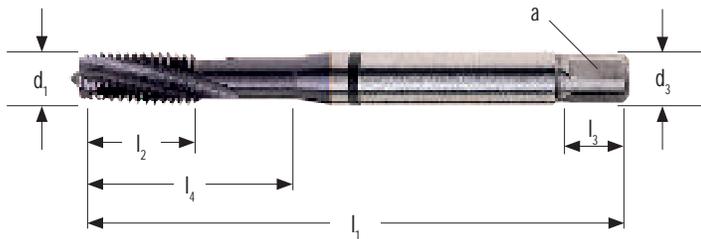
UNC	UNF	TPI	l ₁ Inch	l ₂ Inch	l ₄ Inch	d ₂ Ø Inch	□ a Inch	l ₃ Inch	No. of flutes			Limits	E810	E910
4		40	2.205	0.256	0.709	0.141	0.108	0.236	3	2.35	N43	H2	7350430	—
6		32	2.205	0.256	0.787	0.141	0.108	0.190	3	2.85	N36	H2	7350431	—
8		32	2.480	0.276	0.827	0.168	0.129	0.250	3	3.50	N29	H3	7350432	—
10		24	2.756	0.315	1.102	0.194	0.150	0.250	3	3.90	N25	H3	7350433	—
	10	32	2.756	0.315	1.102	0.194	0.150	0.250	3	4.10	N21	H3	—	7350443
1/4		20	3.150	0.394	0.984	0.255	0.189	0.310	3	5.10	N7	H5	7350434	—
	1/4	28	3.150	0.394	0.984	0.255	0.189	0.310	3	5.50	N3	H4	—	7350444
5/16		18	3.543	0.472	1.339	0.318	0.236	0.380	3	6.60	F	H5	7350435	—
	5/16	24	3.543	0.472	1.339	0.318	0.236	0.380	3	6.9	I	H4	—	7350445
3/8		16	3.937	0.591	1.535	0.381	0.284	0.440	3	8.00	5/16	H4	7350436	—
	3/8	24	3.543	0.591	1.476	0.381	0.284	0.440	3	8.50	Q	H4	—	7350446
7/16		14	3.937	0.591	—	0.323	0.240	0.410	3	9.40	U	H5	7350437	—
	7/16	20	3.937	0.591	—	0.323	0.240	0.410	3	9.90	25/64	H5	—	7350447
1/2		13	4.331	0.709	—	0.367	0.273	0.440	3	10.80	27/64	H5	7350438	—
	1/2	20	3.937	0.709	—	0.367	0.273	0.440	3	11.50	29/64	H5	—	7350448
5/8		11	4.331	0.787	—	0.480	0.358	0.560	4	13.50	17/32	H5	7350439	—
	5/8	18	3.937	0.591	—	0.480	0.358	0.560	4	14.50	37/64	H5	—	7350449
3/4		10	4.921	0.984	—	0.590	0.439	0.690	4	16.50	21/32	H5	7350440	—
	3/4	16	4.331	0.984	—	0.590	0.439	0.690	4	17.50	11/16	H5	—	7350450
7/8		9	5.512	0.984	—	0.697	0.520	0.750	4	19.50	49/64	H6	7350441	—
	7/8	14	4.921	0.984	—	0.697	0.520	0.750	4	20.40	13/16	H6	—	7350451
1"		8	6.299	1.181	—	0.800	0.597	0.810	4	22.25	7/8	H6	7350442	—
	1"	12	5.512	1.063	—	0.800	0.597	0.810	4	23.25	59/64	H6	—	7350452

Note: Sizes up to 3/8" have male centers on both ends • Sizes over 3/8" have female centers on both ends.

DIN-ANSI Machine Tap Black Shark for Hard Alloys, Spiral Flute

E805 Designed for high performance blind hole tapping in high strength and heat-resistant work-materials with hardness up to 45HRC. The TiAlN-Top coating combined with geometry what significantly increases cutting edge strength, provides excellent performance and consistency in hard and difficult machine materials.

1.6 4.3 5.3
1.5 1.7 4.2 5.2



Pack Qty = 1 pc

UNC	UNF	TPI	l_1 Inch	l_2 Inch	l_4 Inch	d_2 Ø Inch	a Inch	l_3 Inch	No. of flutes			Limits	E805	E905
4		40	2.205	0.472	0.827	0.141	0.108	0.190	3	2.35	N43	H2	7812126	—
6		32	2.480	0.551	0.866	0.168	0.129	0.250	3	2.85	N36	H2	7812127	—
8		32	2.756	0.610	1.102	0.194	0.150	0.250	3	3.50	N29	H3	7812128	—
10		24	3.150	0.669	1.024	0.255	0.189	0.310	3	3.90	N25	H3	7812129	—
	10	32	3.150	0.669	1.024	0.255	0.189	0.310	3	4.10	N21	H3	—	7812137
1/4		20	3.543	0.807	1.378	0.318	0.236	0.380	3	5.10	N7	H5	7812130	—
	1/4	28	3.543	0.807	1.339	0.318	0.236	0.380	3	5.50	N3	H4	—	7812138
5/16		18	3.937	0.906	1.535	0.381	0.236	0.440	3	6.60	F	H5	7812131	—
	5/16	24	3.937	0.906	1.535	0.381	0.284	0.440	3	6.90	I	H4	—	7812139
3/8		16	3.937	0.787	1.535	0.381	0.236	0.440	3	8.00	5/16	H5	7812132	—
	3/8	24	3.937	0.787	1.535	0.381	0.284	0.440	3	8.50	Q	H4	—	7812140
7/16		14	3.937	0.787	-	0.323	0.240	0.410	4	9.40	U	H5	7812133	—
	7/16	20	3.937	0.787	-	0.325	0.240	0.440	4	9.90	25/64	H5	—	7812140
1/2		13	4.331	0.906	-	0.367	0.273	0.440	4	10.80	27/64	H5	7812134	—
	1/2	20	4.331	0.906	-	0.367	0.273	0.440	4	11.50	29/64	H5	—	7812142
5/8		11	4.331	0.906	-	0.480	0.358	0.560	4	13.50	17/32	H5	7812135	—
	5/8	18	4.331	0.906	-	0.480	0.358	0.560	4	14.50	37/64	H5	—	7812143
3/4		10	4.921	1.181	-	0.590	0.440	0.690	4	16.50	21/32	H5	7812136	—
	3/4	16	4.921	1.181	-	0.590	0.440	0.690	4	17.50	11/16	H5	—	7812144

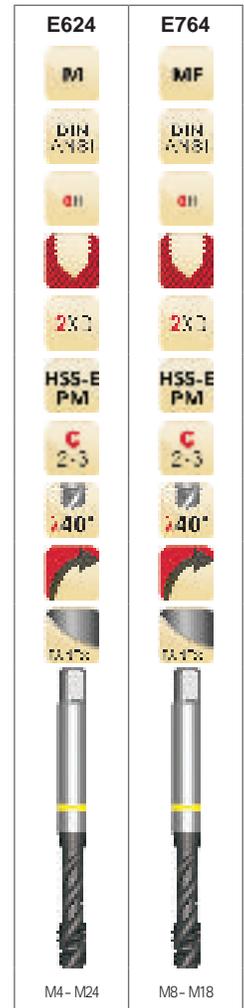
Note: Sizes up to 3/8" have male centers on both ends • Sizes over 3/8" have female centers on both ends.

DIN ANSI Machine Tap, Yellow for Low Alloy Steels

E624 Designed for blind hole tapping in low Alloy Steel applications. Premium HSCo Powder Metal substrate with TiAlN-Top Coating combined with a special 40° Spiral Flute geometry prevents nesting and reduces the risk of re-cutting chips on reversal allowing taps to operate at higher speeds while providing improved thread quality.

E764

- 1.1
- 1.2
- 1.3
- 6.1
- 6.3
- 1.4
- 1.5
- 6.2



Pack Qty = 1 pc

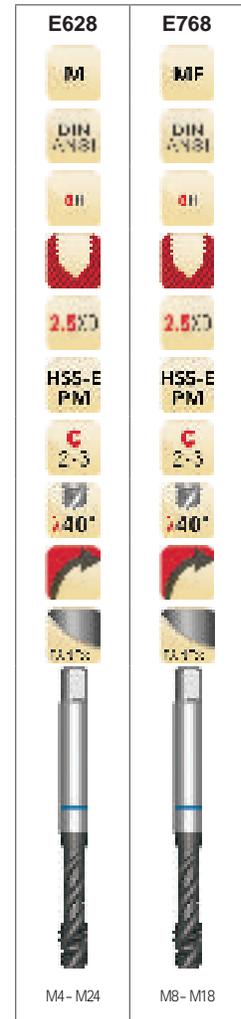
M	MF	P mm	l ₁ mm	l ₂ mm	l ₄ mm	d ₂ ∅ Inch	a Inch	l ₃ mm	No. of flutes	↔	↔	Limits	E624	E764
4		0.70	63	7	21	0.168	0.129	6	3	3.30	N30	D4	7350533	—
5		0.80	70	8	25	0.194	0.150	6	3	4.20	N19	D4	7350534	—
6		1.00	80	10	30	0.255	0.189	8	3	5.00	N9	D5	7350535	—
	8	1.00	90	13	35	0.318	0.236	10	3	7.00	J	D5	—	7350544
8		1.25	90	13	35	0.318	0.236	10	3	6.80	H	D5	7350536	—
	10	1.25	100	15	39	0.381	0.284	11	3	8.80	11/32	D6	—	7350545
10		1.50	100	15	39	0.381	0.284	11	3	8.50	Q	D6	7350537	—
	12	1.25	100	15	—	0.367	0.273	11	3	10.80	27/64	D6	—	7350546
	12	1.50	100	15	—	0.367	0.273	11	3	10.50	Z	D6	—	7350547
12		1.75	110	18	—	0.367	0.273	11	3	10.30	Y	D6	7350538	—
	14	1.50	100	15	—	0.429	0.320	13	3	12.50	31/64	D7	—	7350548
14		2.00	110	20	—	0.429	0.320	13	3	12.00	15/32	D7	7350539	—
	16	1.50	100	15	—	0.480	0.358	14	4	14.50	9/16	D7	—	7350549
16		2.00	110	20	—	0.480	0.358	14	4	14.00	35/64	D7	7350540	—
	18	1.50	110	17	—	0.542	0.404	16	4	16.50	41/64	D7	—	7350550
18		2.50	125	25	—	0.542	0.404	16	4	15.50	39/64	D7	7350541	—
20		2.50	140	25	—	0.652	0.487	18	4	17.50	11/16	D7	7350542	—
24		3.00	160	30	—	0.760	0.567	19	4	21.00	53/64	D8	7350543	—

Note: Sizes up to M10 have male centers on both ends • Sizes over M10 have female centers on both ends.

DIN ANSI Machine Tap, Blue Shark for Stainless Steel

E628 Designed for superior performance blind hole tapping in a wide range of Stainless Steel types. Premium HSCo Powder Metal substrate with Super-B (TiAlN+WC/C) Coating combined with an additional edge treatment and a 40° Flute angle facilitates better chip evacuation of ering improved thread quality and longer tool life. Available in both 2B and 3B Class of Fit to cover a wide range of applications.

2.1 2.2 2.3
1.2 1.3 1.4 1.5



Pack Qty = 1 pc

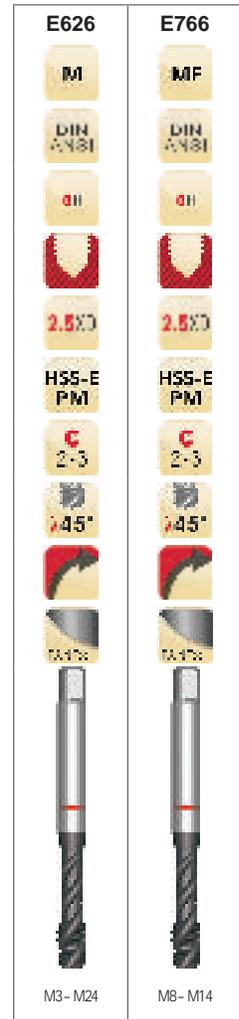
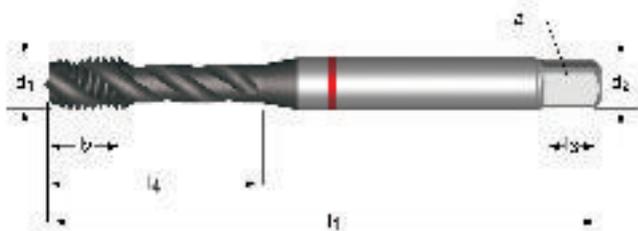
M	MF	P mm	l ₁ mm	l ₂ mm	l ₄ mm	d ₂ Ø Inch	□ a Inch	l ₃ mm	No. of futes	↔	↔	Limits	E628	E768
4		0.70	63	7	21	0.168	0.129	6	3	3.30	N30	D4	7350374	—
5		0.80	70	8	25	0.194	0.150	6	3	4.20	N19	D4	7350375	—
6		1.00	80	10	30	0.255	0.189	8	3	5.00	N9	D5	7350376	—
	8	1.00	90	13	35	0.318	0.236	10	3	7.00	J	D5	—	7350385
8		1.25	90	13	35	0.318	0.236	10	3	6.80	H	D5	7350377	—
	10	1.25	100	15	39	0.381	0.284	11	3	8.80	11/32	D6	—	7350386
10		1.50	100	15	39	0.381	0.284	11	3	8.50	Q	D6	7350378	—
	12	1.50	100	15	—	0.367	0.273	11	4	10.50	Z	D6	—	7350387
12		1.75	110	18	—	0.367	0.273	11	4	10.30	Y	D6	7350379	—
	14	1.50	100	15	—	0.429	0.320	13	4	12.50	31/64	D7	—	7350388
14		2.00	110	20	—	0.429	0.320	13	4	12.00	15/32	D7	7350380	—
	16	1.50	100	15	—	0.480	0.358	14	4	14.50	9/16	D7	—	7350389
16		2.00	110	20	—	0.480	0.358	14	4	14.00	35/64	D7	7350381	—
	18	1.50	110	17	—	0.542	0.404	16	4	16.50	41/64	D7	—	7350390
18		2.50	125	25	—	0.542	0.404	16	4	15.50	39/64	D7	7350382	—
20		2.50	140	25	—	0.652	0.487	18	4	17.50	11/16	D7	7350383	—
24		3.00	160	30	—	0.760	0.567	19	4	21.00	53/64	D8	7350384	—

Note: Sizes up to M10 have male centers on both ends • Sizes over M10 have female centers on both ends.

DIN ANSI Machine Tap, Red Shark for Alloy Steels

E626 Designed for high performance blind hole tapping in most medium Alloy Steels.
E766 The TiAlN-Top Coating combined with a special 45° Flute Geometry and an additional edge treatment provides excellent performance and consistency in high production applications. The back taper built into this design further facilitates chip evacuation and reduces torque when the tap reverses. It is recommended to use a toolholder with minimal float or soft start.

1.4 1.5
1.6 4.2 5.2



Pack Qty = 1 pc

M	MF	P mm	l ₁ mm	l ₂ mm	l ₄ mm	d ₂ Ø Inch	a Inch	l ₃ mm	No. of futes	↔	↔	Limits	E626	E766
3		0.50	56	6	18	0.141	0.108	5	3	2.50	N40	D3	7350453	—
4		0.70	63	7	21	0.168	0.129	6	3	3.30	N30	D4	7350454	—
5		0.80	70	8	25	0.194	0.150	6	3	4.20	N19	D4	7350455	—
6		1.00	80	10	30	0.255	0.189	8	3	5.00	N9	D5	7350456	—
	8	1.00	90	13	35	0.318	0.236	10	3	7.00	J	D5	—	7350465
8		1.25	90	13	35	0.318	0.236	10	3	6.80	H	D5	7350457	—
	10	1.25	100	15	39	0.381	0.284	11	3	8.80	11/32	D6	—	7350466
10		1.50	100	15	39	0.381	0.284	11	3	8.50	Q	D6	7350458	—
	12	1.25	100	15	—	0.367	0.273	11	3	10.80	27/64	D6	—	7350467
12		1.75	110	18	—	0.367	0.273	11	3	10.30	Y	D6	7350459	—
	14	1.50	100	15	—	0.429	0.320	13	3	12.50	31/64	D7	—	7350468
14		2.00	110	20	—	0.429	0.320	13	3	12.00	15/32	D7	7350460	—
16		2.00	110	20	—	0.480	0.358	14	4	14.00	35/64	D7	7350461	—
18		2.50	125	25	—	0.542	0.404	16	4	15.50	39/64	D7	7350462	—
20		2.50	140	25	—	0.652	0.487	18	4	17.50	11/16	D7	7350463	—
24		3.00	160	30	—	0.760	0.567	19	4	21.00	53/64	D8	7350464	—

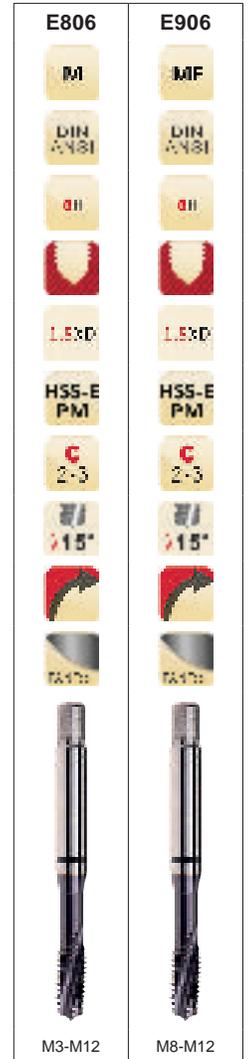
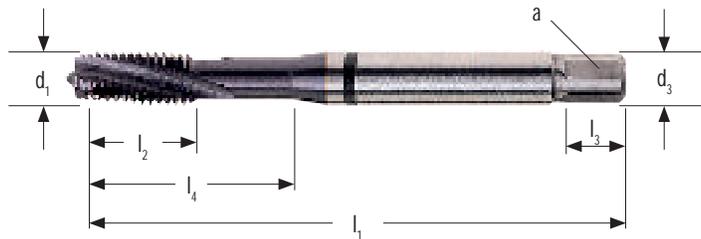
Note: Sizes up to M10 have male centers on both ends • Sizes over M10 have female centers on both ends.

DIN-ANSI Machine Tap Black Shark for Hard Alloys, Plug Style

E806 Designed for high performance blind hole tapping in high strength and heat-resistant work-materials with hardness up to 45HRC. The TiAlN-Top coating combined with geometry what significantly increases cutting edge strength, provides excellent performance and consistency in hard and difficult to machine materials.

E906

1.6 4.3 5.3
1.5 1.7 4.2 5.2



Pack Qty = 1 pc

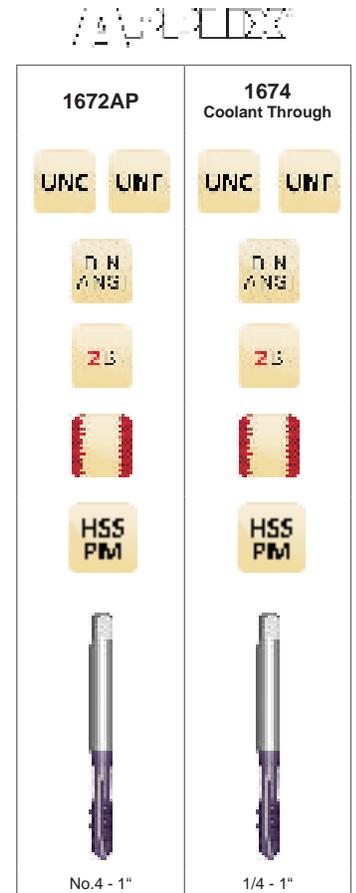
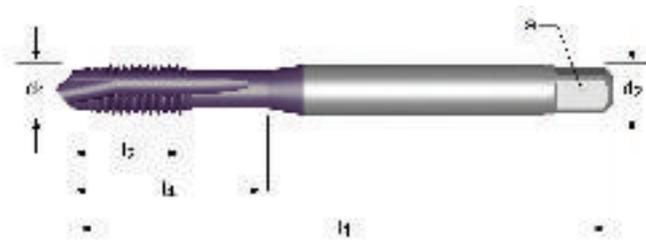
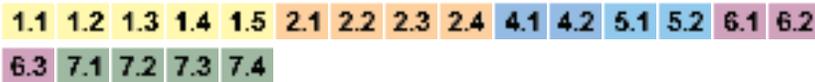
M	MF	P mm	l ₁ mm	l ₂ mm	l ₄ mm	d ₂ Ø Inch	∠ a Inch	l ₃ mm	No. of flutes			Limits	E806	E906
3		0.50	63	15	22	0.168	0.129	6	3	2.50	N40	D3	7812145	—
4		0.70	70	16	28	0.194	0.150	6	3	3.30	N30	D4	7812146	—
5		0.80	80	17	26	0.255	0.189	8	3	4.20	N19	D4	7812147	—
6		1.00	90	21	35	0.318	0.236	10	3	5.00	N9	D5	7812148	—
8		1.25	100	23	39	0.381	0.284	11	3	6.80	H	D5	7812149	—
	8	1.00	100	23	39	0.381	0.284	11	3	7.00	J	D5	—	7812152
10		1.50	100	20	38	0.381	0.284	11	3	8.50	Q	D6	7812150	—
12		1.75	110	23	-	0.367	0.273	11	4	10.30	Y	D6	7812151	—
	10	1.25	100	20	38	0.381	0.284	11	3	8.80	11/32	D5	—	7812153
	12	1.25	110	23	-	0.367	0.273	11	4	10.80	27/64	D5	—	7812155
	12	1.50	110	23	-	0.367	0.273	11	4	10.50	Z	D5	—	7812154

Note: Sizes up to M10 have male centers on both ends • Sizes over M10 have female centers on both ends.

MXP Multi-Application, Plug Chamfer

1672AP Designed for through hole tapping in a variety of materials with a hardness up to 36 Rc. The premium substrate and TiCN coating combine to offer superior abrasion resistance, higher operating speeds, improved thread quality, reduced cycle times, and longer tool life.

1674 Coolant thru design allows higher tapping speeds and eliminates the problems associated with inadequate coolant in horizontal or deep hole applications.



UNC	UNF	TPI	l ₁ Inch	l ₂ Inch	l ₄ Inch (Neck Length)	d ₁ Ø Inch	a Inch	# of Flutes	Limits	Pack Qty	1672AP	1674
4		40	2.205	0.433	0.709	0.141	0.110	2	H2	1	46204859	¹⁾ —
6		32	2.205	0.472	0.787	0.141	0.110	2	H3	1	46204864	¹⁾ —
8		32	2.480	0.512	0.827	0.168	0.131	3	H3	1	46204869	¹⁾ —
	10	32	2.756	0.512	0.984	0.194	0.152	3	H3	1	46204852	¹⁾ —
10		24	2.756	0.591	0.984	0.194	0.152	3	H3	1	46204851	¹⁾ —
	1/4	28	3.150	0.669	1.181	0.255	0.191	3	H4	1	46204850	¹⁾ 1716512 ¹⁾
1/4		20	3.150	0.669	1.181	0.255	0.191	3	H5	1	46204849	¹⁾ 1716510 ¹⁾
	5/16	24	3.543	0.669	1.378	0.318	0.238	3	H4	1	46204861	¹⁾ —
5/16		18	3.543	0.787	1.378	0.318	0.238	3	H5	1	46204860	¹⁾ 1716514 ¹⁾
	3/8	24	3.937	0.709	1.535	0.381	0.286	3	H4	1	46204858	¹⁾ —
3/8		16	3.937	0.866	1.535	0.381	0.286	3	H5	1	46204857	¹⁾ 1716518 ¹⁾
	7/16	20	3.937	0.866		0.323	0.242	3	H5	1	46204866	²⁾ —
7/16		14	3.937	0.866		0.323	0.242	3	H5	1	46204865	²⁾ —
	1/2	20	3.937	0.866		0.367	0.275	3	H5	1	—	—
	1/2	20	3.937	0.866		0.397	0.275	3	H5	1	46204848	²⁾ —
1/2		13	4.331	0.984		0.367	0.275	3	H5	1	46204847	²⁾ 1716534 ²⁾
	5/8	18	3.937	0.866		0.480	0.360	4	H5	1	46204863	²⁾ —
5/8		11	4.331	1.063		0.480	0.360	4	H5	1	46204862	²⁾ 1716538 ²⁾
	3/4	16	4.331	0.984		0.590	0.442	4	H5	1	46204856	²⁾ —
3/4		10	4.921	1.181		0.590	0.442	4	H5	1	46204855	²⁾ —
3/4		10	4.921	1.181		0.590	0.442	4	H5	1	—	1716542 ²⁾
7/8		9	5.512	1.260		0.697	0.523	4	H6	1	46204868	²⁾ —
1"		8	6.299	1.417		0.800	0.600	4	H6	1	46204854	²⁾ — ²⁾

¹⁾ Reinforced Shanks

²⁾ Reduced Shanks

SPIRAL POINT TAPS



Multi-Application, Plug Chamfer

E025 Premium substrate for through hole tapping in tough or abrasive materials. Bronze oxide body and shank reduces rust and corrosion. Bright finish flutes improve chip flow in soft or non-ferrous materials.

E035

E025 = UNC Sizes, E035 = UNF Sizes

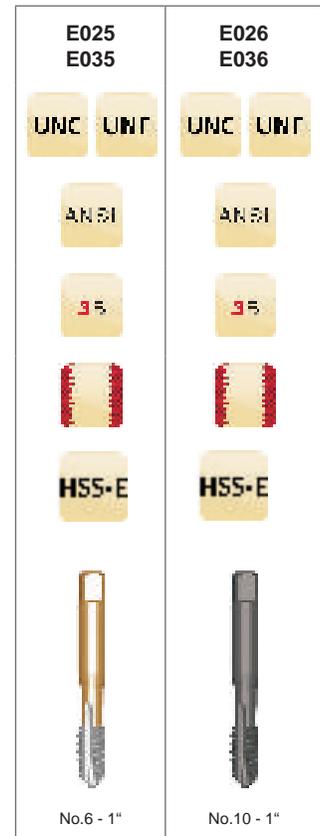
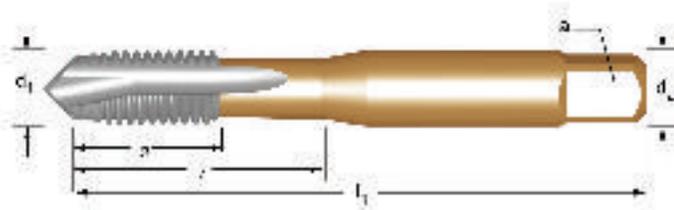
1.1 1.2 1.3 1.4 1.5 1.6 3.1 3.2 3.3 3.4 4.1 4.2 5.1 5.2 6.1
6.2 6.3 7.1 7.2 7.3 7.4 8.1

E026 Premium substrate with steam oxide surface treatment reduces wear and prevents chip welding in abrasive or harder ferrous materials.

E036

E026 = UNC Sizes, E036 = UNF Sizes

1.1 1.2 1.3 1.4 1.5 1.6 2.1 2.2 2.3 3.1 3.2 3.3 3.4



UNC	UNF	TPI	l ₁ Inch	l ₂ Inch	d ₂ Inch	a Inch	# of Flutes	Limits	↕	↕	l ₄ Inch	Pack Qty	E025 E035	E026 E036
2		56	1.3/4	0.3140	0.1410	0.1100	2	H2	N50	1.80	0.3140	1	—	0583203 ¹⁾
4		40	1.7/8	0.6091	0.1410	0.1100	2	H2	N43	2.35	0.6091	1	—	0581254 ¹⁾
5		40	1.15/16	0.7404	0.1410	0.1100	2	H2	N38	2.65	0.7404	1	—	0581261 ¹⁾
	6	40	2"	0.2610	0.1410	0.1100	2	H2	N33	2.95	0.5938	1	0581957 ¹⁾	—
6		32	2"	0.2610	0.1410	0.1100	2	H2	N36	2.85	0.5938	1	0581070 ¹⁾	0581278 ¹⁾
	8	36	2.1/8	0.2484	0.1680	0.1310	2	H2	N29	3.50	0.6526	1	0581964	—
8		32	2.1/8	0.2484	0.1680	0.1310	2	H2	N29	3.50	0.6526	1	0581087 ¹⁾	0581285 ¹⁾
	10	32	2.3/8	0.4303	0.1940	0.1520	2	H2	N21	4.10	0.8434	1	0581971 ¹⁾	0582145 ¹⁾
10		24	2.3/8	0.4303	0.1940	0.1520	2	H3	N25	3.90	0.8434	1	0581094 ¹⁾	0581292 ¹⁾
	12	28	2.3/8	0.4173	0.2200	0.1650	2	H3	N14	4.70	0.8848	1	— ¹⁾	0582152 ¹⁾
12		24	2.3/8	0.4173	0.2200	0.1650	2	H3	N16	4.50	0.8848	1	0581100 ¹⁾	0581308 ¹⁾
	1/4	28	2.1/2	0.5075	0.2550	0.1910	2	H3	N3	5.50	1.0073	1	0581995 ¹⁾	0582169 ¹⁾
	1/4	28	2.1/2	0.5075	0.2550	0.1910	3	H3	N3	5.50	1.0073	1	0582008 ¹⁾	0582176 ¹⁾
1/4		20	2.1/2	0.5075	0.2550	0.1910	2	H3	N7	5.10	1.0073	1	0581117 ¹⁾	0581315 ¹⁾
1/4		20	2.1/2	0.5075	0.2550	0.1910	3	H3	N7	5.10	1.0073	1	0581124 ¹⁾	0581339 ¹⁾
1/4		20	2.1/2	0.5075	0.2550	0.1910	3	H11	N7	5.10	1.0073	1	—	0581322 ¹⁾³⁾
	5/16	24	2.23/32	0.5939	0.3180	0.2380	2	H3	I	6.90	1.1891	1	0582015 ¹⁾	0582183 ¹⁾
	5/16	24	2.23/32	0.5939	0.3180	0.2380	3	H3	I	6.90	1.1891	1	0582022 ¹⁾	0582190 ¹⁾
5/16		18	2.23/32	0.5939	0.3180	0.2380	2	H3	F	6.60	1.1891	1	0581131 ¹⁾	0581346 ¹⁾
5/16		18	2.23/32	0.5939	0.3180	0.2380	3	H3	F	6.60	1.1891	1	0581148 ¹⁾	0581360 ¹⁾
5/16		18	2.23/32	0.5939	0.3180	0.2380	3	H11	F	6.60	1.1891	1	—	0581353 ¹⁾³⁾
	3/8	24	2.15/16	0.6020	0.3810	0.2860	2	H3	Q	8.50	1.2915	1	0582039 ¹⁾	0582206 ¹⁾
	3/8	24	2.15/16	0.6020	0.3810	0.2860	3	H3	Q	8.50	1.2915	1	0582046 ¹⁾	0582213 ¹⁾
3/8		16	2.15/16	0.6020	0.3810	0.2860	2	H3	5/16	8.00	1.2915	1	0581155 ¹⁾	0581377 ¹⁾
3/8		16	2.15/16	0.6020	0.3810	0.2860	3	H3	5/16	8.00	1.2915	1	0581162 ¹⁾	0581391 ¹⁾
3/8		16	2.15/16	0.6020	0.3810	0.2860	3	H11	5/16	8.00	1.2915	1	—	0581384 ¹⁾³⁾
	7/16	20	3.5/32	0.9055	0.3230	0.2420	3	H3	25/64	9.90	—	1	0582053 ²⁾	0582220 ²⁾
7/16		14	3.5/32	0.9055	0.3230	0.2420	3	H3	U	9.40	—	1	0581179 ²⁾	0581407 ²⁾
	1/2	20	3.3/8	0.9055	0.3670	0.2750	2	H3	29/64	11.50	—	1	0582060 ²⁾	0582237 ²⁾

¹⁾ Reinforced Shanks

²⁾ Reduced Shanks

³⁾ Oversize +.005", not 3B

UNC	UNF	TPI	l ₁ Inch	l ₂ Inch	d ₂ ∅ Inch	a Inch	# of Flutes	Limits			l ₄ Inch	Pack Qty	E025 E035	E026 E036
	1/2	20	3.3/8	0.9055	0.3670	0.2750	3	H3	29/64	11.50	—	1	0582077 ²⁾	0582244 ²⁾
1/2		13	3.3/8	0.9055	0.3670	0.2750	2	H3	27/64	10.80	—	1	0581186 ²⁾	0581414 ²⁾
1/2		13	3.3/8	0.9055	0.3670	0.2750	3	H3	27/64	10.80	—	1	0581193 ²⁾	0581438 ²⁾
1/2		13	3.3/8	0.9055	0.3670	0.2750	3	H11	27/64	10.80	—	1	—	0581421 ²⁾³⁾
	9/16	18	3.19/32	0.9843	0.4290	0.3220	3	H3	33/64	12.90	—	1	0582084 ²⁾	0582251 ²⁾
9/16		12	3.19/32	0.9843	0.4290	0.3220	3	H3	31/64	12.20	—	1	0581209 ²⁾	0581445 ²⁾
	5/8	18	3.13/16	0.9843	0.4800	0.3600	3	H3	37/64	14.50	—	1	0582091 ²⁾	0582268 ²⁾
5/8		11	3.13/16	0.9843	0.4800	0.3600	3	H3	17/32	13.50	—	1	0581216 ²⁾	0581469 ²⁾
5/8		11	3.13/16	0.9843	0.4800	0.3600	3	H11	17/32	13.50	—	1	—	0581452 ²⁾³⁾
	3/4	16	4.1/4	1.1614	0.5900	0.4420	3	H3	11/16	17.50	—	1	0582107 ²⁾	0582275 ²⁾
3/4		10	4.1/4	1.1614	0.5900	0.4420	3	H4	21/32	16.50	—	1	0581223 ²⁾	0581476 ²⁾
	7/8	14	4.11/16	1.1614	0.6970	0.5230	3	H4	13/16	20.40	—	1	0582114 ²⁾	0582282 ²⁾
7/8		9	4.11/16	1.1614	0.6970	0.5230	3	H4	49/64	19.50	—	1	0581230 ²⁾	0581483 ²⁾
	1"	12	5.1/8	1.3976	0.8000	0.6000	3	H4	59/64	23.25	—	1	— ²⁾	0582299 ²⁾
	1"	14	5.1/8	1.3976	0.8000	0.6000	3	H4	59/64	23.50	—	1	0582138 ²⁾	0582305 ²⁾
1"		8	5.1/8	1.3976	0.8000	0.6000	3	H4	7/8	22.25	—	1	0581247 ²⁾	0581490 ²⁾

- ¹⁾ Reinforced Shanks
- ²⁾ Reduced Shanks
- ³⁾ Oversize +.005", not 3B

SPIRAL POINT TAPS



Multi-Application, Plug Chamfer

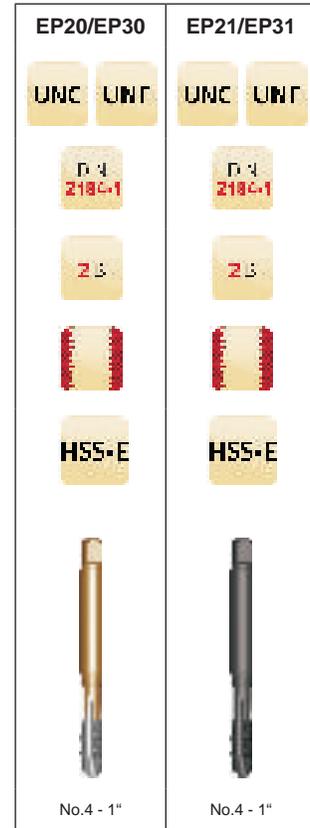
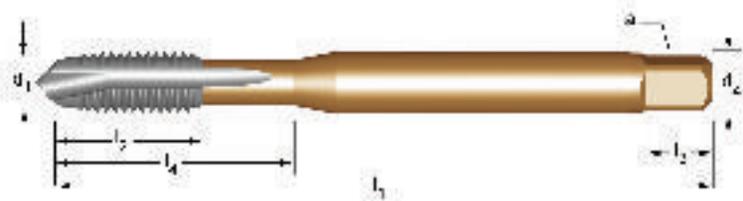
**EP20/
EP30** Premium substrate for through hole tapping in tough or abrasive materials. Bronze oxide body and shank reduces rust and corrosion. Bright finish flutes improve chip flow in soft or non-ferrous materials.
EP20 = UNC Sizes, EP30 = UNF Sizes

1.1 1.2 1.3 1.4 1.5 1.6 3.1 3.2 3.3 3.4 4.1 4.2 5.1 5.2 6.1
6.2 6.3 7.1 7.2 7.3 7.4 8.1

**EP21/
EP31** Premium substrate with steam oxide surface treatment reduces wear and chip welding in abrasive or harder ferrous materials.

EP21 = UNC Sizes, EP31 = UNF Sizes

1.1 1.2 1.3 1.4 1.5 1.6 2.1 2.2 2.3 3.1 3.2 3.3 3.4



UNC	UNF	TPI	d ₁ nom mm	l ₁ mm	l ₂ mm	d ₂ Ø mm	a mm	l ₃ mm	# of Flutes	±	l ₄ mm	Limits	Pack Qty	EP20/EP30	EP21/ EP31
4		40	2.845	56	9	3.5	2.7	6	3	2.35	18	H2	1	0138021	¹⁾ 0138175
5		40	3.175	56	10	3.5	2.7	6	3	2.65	18	H2	1	0138038	¹⁾ 0138182
6		32	3.505	56	11	4.0	3.0	6	3	2.85	20	H2	1	0138045	¹⁾ 0138199
	8	36	4.166	63	12	4.5	3.4	8	3	3.5	21	H3	1	0138366	¹⁾ 0138472
8		32	4.166	63	12	4.5	3.4	8	3	3.5	21	H3	1	0138052	¹⁾ 0138205
	10	32	4.826	70	13	6.0	4.9	8	3	4.1	25	H3	1	0138373	¹⁾ 0138489
10		24	4.826	70	13	6.0	4.9	8	3	3.9	25	H3	1	0138069	¹⁾ 0138212
12		24	5.486	80	15	6.0	4.9	8	3	4.5	30	H3	1	0138076	¹⁾ 0138229
	1/4	28	6.350	80	15	7.0	5.5	8	3	5.5	30	H4	1	0138380	¹⁾ 0138496
1/4		20	6.350	80	15	7.0	5.5	8	3	5.1	30	H5	1	0138083	¹⁾ 0138274
	5/16	24	7.938	90	18	8.0	6.2	9	3	6.9	35	H4	1	0138397	¹⁾ 0138502
5/16		18	7.938	90	18	8.0	6.2	9	3	6.6	35	H5	1	0138090	¹⁾ 0138281
	3/8	24	9.525	100	20	10.0	8.0	11	3	8.5	39	H4	1	0138403	¹⁾ 0138519
3/8		16	9.525	100	20	10.0	8.0	11	3	8	39	H5	1	0138106	¹⁾ 0138298
	7/16	20	11.112	100	20	8.0	6.2	9	3	9.9	-	H5	1	0138410	²⁾ 0138526
7/16		14	11.112	100	20	8.0	6.2	9	3	9.4	-	H5	1	0138113	²⁾ 0138304
	1/2	20	12.700	110	23	9.0	7.0	10	3	11.5	-	H5	1	0138427	²⁾ 0138533
1/2		13	12.700	110	23	9.0	7.0	10	3	10.8	-	H5	1	0138120	²⁾ 0138311
	5/8	18	15.875	110	25	12.0	9.0	12	3	14.5	-	H5	1	0138434	²⁾ 0138540
5/8		11	15.875	110	25	12.0	9.0	12	3	13.5	-	H5	1	0138137	²⁾ 0138328
	3/4	16	19.050	125	30	14.0	11.0	14	4	17.5	-	H5	1	0138441	²⁾ 0138557
3/4		10	19.050	125	30	14.0	11.0	14	4	16.5	-	H5	1	0138144	²⁾ 0138335
	7/8	14	22.225	140	34	18.0	14.5	17	4	20.4	-	H6	1	0138458	²⁾ 0138564
7/8		9	22.225	140	34	18.0	14.5	17	4	19.5	-	H6	1	0138151	²⁾ 0138342
	1"	12	25.400	160	38	18.0	14.5	17	4	23.25	-	H6	1	0138465	²⁾ 0138571
1"		8	25.400	160	38	18.0	14.5	17	4	22.25	-	H6	1	0138168	²⁾ 0138359

Note: DIN shank and square dimensions will necessitate metric holders

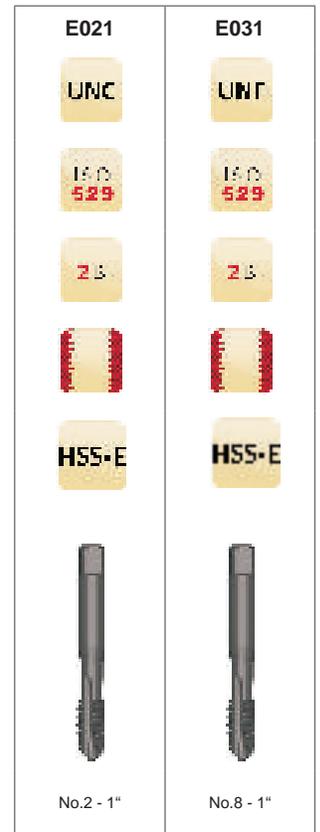
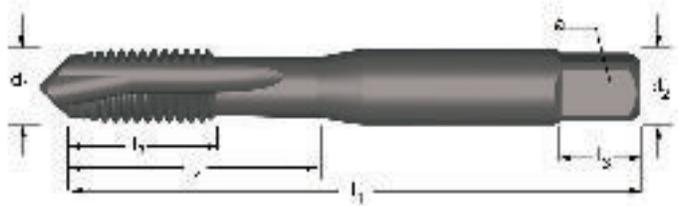
¹⁾ Reinforced Shanks

²⁾ Reduced Shanks

Multi-Application, PLUG CHAMFER

E021 Premium substrate with steam oxide surface treatment reduces wear and prevents chip welding in abrasive or harder ferrous materials.
E031 treatment reduces wear and prevents chip welding in abrasive or harder ferrous materials.
E021 = UNC Sizes, E031 = UNF Sizes

1.1 1.2 1.3 1.4 1.5 1.6 2.1 2.2 2.3 3.1 3.2 3.3 3.4



UNC	UNF	TPI	d ₁ nom mm	l ₁ mm	l ₂ mm	d ₂ Ø mm	a mm	l ₃ mm	# of Flutes	±	l ₄ mm	Limits	Pack Qty	E021	E031
2		56	2.184	44.5	9.5	2.80	2.24	5	2	1.85	9.5	H2	1	0010396 ¹⁾	—
4		40	2.845	48	14	3.15	2.50	5	3	2.35	14	H2	1	0569108 ¹⁾	—
5		40	3.175	48	12.5	3.15	2.50	5	3	2.65	12.5	H2	1	0010419 ¹⁾	—
6		32	3.505	50	16	3.55	2.80	5	3	2.85	16	H3	1	0569115 ¹⁾	—
	8	36	4.166	53	9.5	4.5	3.55	6	3	3.50	17	H3	1	—	0569641 ¹⁾
8		32	4.166	53	9.5	4.50	3.55	6	3	3.50	17	H3	1	0569122 ¹⁾	—
	10	32	4.826	58	11	5.0	4.00	7	3	4.10	20	H3	1	—	0569658 ¹⁾
10		24	4.826	58	11	5.00	4.00	7	3	3.90	20	H3	1	0569139 ¹⁾	—
12		24	5.486	62	12	5.60	4.50	7	3	4.50	21	H3	1	0569146 ¹⁾	—
	1/4	28	6.350	66	13	6.3	5.00	8	3	5.50	26	H4	1	—	0569665 ¹⁾
1/4		20	6.350	66	13	6.30	5.00	8	3	5.10	26	H5	1	0569153 ¹⁾	—
	5/16	24	7.938	72	16	8.0	6.30	9	3	6.90	29	H4	1	—	0569672 ¹⁾
5/16		18	7.938	72	16	8.00	6.30	9	3	6.60	29	H5	1	0569160 ¹⁾	—
	3/8	24	9.525	80	18	10.0	8.00	11	3	8.50	32	H4	1	—	0569689 ¹⁾
3/8		16	9.525	80	18	10.00	8.00	11	3	8.00	32	H5	1	0569177 ¹⁾	—
	7/16	20	11.112	85	19	8.0	6.30	9	3	9.90	-	H5	1	—	0569696 ²⁾
7/16		14	11.112	85	19	8.00	6.30	9	3	9.40	-	H5	1	0569184 ²⁾	—
	1/2	20	12.700	89	22	9.0	7.10	10	3	11.50	-	H5	1	—	0569702 ²⁾
1/2		13	12.700	89	22	9.00	7.10	10	3	10.80	-	H5	1	0569191 ²⁾	—
	9/16	18	14.288	95	24	11.2	9.00	12	3	12.90	-	H5	1	—	0569719 ²⁾
	5/8	18	15.875	102	24	12.5	10.00	13	3	14.50	-	H5	1	—	0569726 ²⁾
5/8		11	15.875	102	24	12.50	10.00	13	3	13.50	-	H5	1	0569207 ²⁾	—
	3/4	16	19.050	112	29	14.0	11.20	14	4	17.50	-	H5	1	—	0569733 ²⁾
3/4		10	19.050	112	29	14.00	11.20	14	4	16.50	-	H5	1	0569214 ²⁾	—
	7/8	14	22.225	118	29	16.0	12.50	16	4	20.40	-	H6	1	—	0569740 ²⁾
7/8		9	22.225	118	29	16.00	12.50	16	4	19.50	-	H6	1	0569221 ²⁾	—
	1"	12	25.400	130	35	18.0	14.00	18	4	23.25	-	H6	1	—	0569757 ²⁾
1"		8	25.400	130	35	18.00	14.00	18	4	22.25	-	H6	1	0569238 ²⁾	—

Note: ISO shank and square dimensions will necessitate metric holders

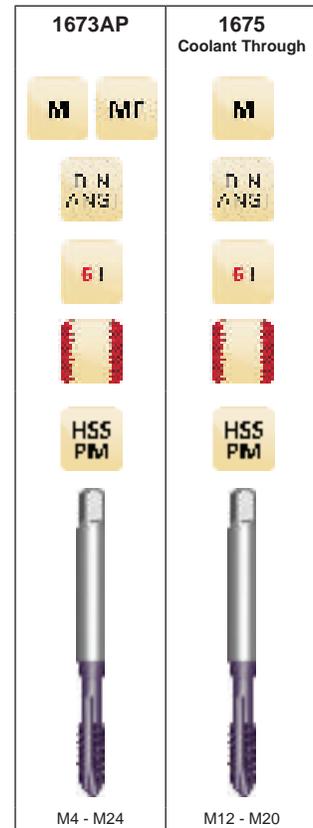
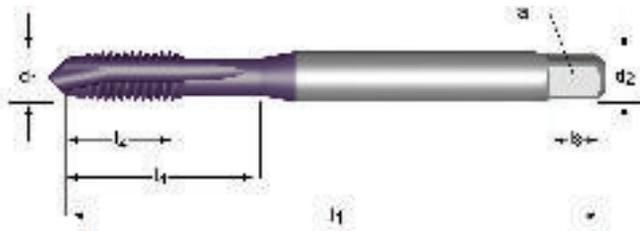
¹⁾ Reinforced Shanks
²⁾ Reduced Shanks

SPIRAL POINT TAPS

MXP Multi-Application, Plug Chamfer, Metric

1673AP Designed for through hole tapping in a variety of materials with a hardness up to 36 Rc. The premium substrate and TiCN coating combine to offer superior abrasion resistance, higher operating speeds, improved thread quality, reduced cycle times, and longer tool life.

1675 Coolant thru design allows higher tapping speeds and eliminates the problems associated with inadequate coolant in horizontal or deep hole applications.



M	MF	P mm	l ₁ mm	l ₂ mm	l ₄ Inch (Neck Length)	d ₂ ∅ Inch	a Inch	# of Flutes	Limits	Pack Qty	1673AP	1675
4		0.70	63	13	21	0.168	0.131	3	D4	1	46204884	¹⁾ —
5		0.80	70	15	25	0.194	0.152	3	D4	1	46204885	¹⁾ —
6		1.00	80	17	30	0.255	0.191	3	D5	1	46204886	¹⁾ —
	8	1.00	90	17	35	0.318	0.238	3	D5	1	46205008	¹⁾ —
8		1.25	90	20	35	0.318	0.238	3	D5	1	46204887	¹⁾ —
	10	1.25	100	16	39	0.381	0.286	3	D6	1	46204870	¹⁾ —
10		1.50	100	22	39	0.381	0.286	3	D6	1	46204871	¹⁾ —
	12	1.25	100	21		0.367	0.275	3	D6	1	46205009	²⁾ —
	12	1.50	100	22		0.367	0.275	3	D6	1	46204872	²⁾ —
12		1.75	110	24		0.367	0.275	3	D6	1	46204873	²⁾ 1716722 ²⁾
	14	1.50	100	22		0.429	0.322	4	D7	1	46204874	²⁾ —
14		2.00	110	26		0.429	0.322	4	D7	1	46204875	²⁾ —
	16	1.50	100	22		0.480	0.360	4	D7	1	46204876	²⁾ —
16		2.00	110	27		0.480	0.360	4	D7	1	46204877	²⁾ 1716730 ²⁾
	18	1.50	110	25		0.542	0.406	4	D7	1	46204878	²⁾ —
20		2.50	140	32		0.652	0.489	4	D7	1	46204881	²⁾ 1716738 ²⁾
	24	2.00	140	27		0.760	0.570	4	D8	1	46204882	²⁾ —
24		3.00	160	34		0.760	0.570	4	D8	1	46204883	²⁾ —

¹⁾ Reinforced Shanks
²⁾ Reduced Shanks

Multi-Application, Plug Chamfer

E005 Premium substrate for through hole tapping in tough or abrasive materials. Bronze oxide body and shank reduces rust and corrosion. Bright finish flutes improve chip flow in soft or non-ferrous materials.

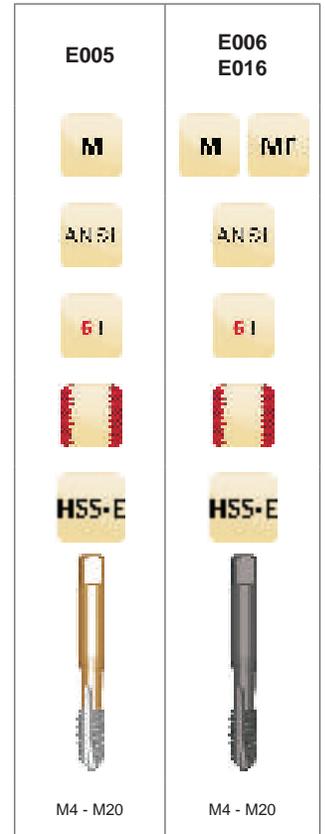
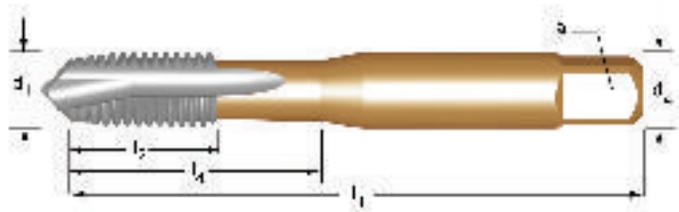
E005 = Metric Coarse

1.1 1.2 1.3 1.4 1.5 1.6 3.1 3.2 3.3 3.4 4.1 4.2 5.1 5.2 6.1
6.2 6.3 7.1 7.2 7.3 7.4 8.1

**E006/
E016** Premium substrate with steam oxide surface treatment reduces wear and prevents chip welding in abrasive or harder ferrous materials.

E006 = Metric Coarse, E016 = Metric Fine

1.1 1.2 1.3 1.4 1.5 1.6 2.1 2.2 2.3 3.1 3.2 3.3 3.4



M	MF	P mm	l_1 Inch	l_2 Inch	d_2 Inch	a Inch	# of Flutes	l_3	l_4 Inch	Limits	Pack Qty	E005	E006 E016
4		0.70	2.1/8	0.2484	0.1680	0.1310	2	3.30	N30	0.6526	D4	1	0580301 ¹⁾ 0580462 ¹⁾
4		0.70	2.1/8	0.2484	0.1680	0.1310	3	3.30	N30	0.6526	D4	1	0580318 ¹⁾ 0583180 ¹⁾
5		0.80	2.3/8	0.4303	0.1940	0.1520	2	4.20	N19	0.8434	D4	1	0580325 ¹⁾ 0580479 ¹⁾
5		0.80	2.3/8	0.4303	0.1940	0.1520	3	4.20	N19	0.8434	D4	1	0580332 ¹⁾ 0580486 ¹⁾
6		1.00	2.1/2	0.5075	0.2550	0.1910	2	5.00	N9	1.0073	D5	1	0580349 ¹⁾ 0580493 ¹⁾
6		1.00	2.1/2	0.5075	0.2550	0.1910	3	5.00	N9	1.0073	D5	1	0580356 ¹⁾ 0580509 ¹⁾
	8	1.00	2.23/32	0.5939	0.3180	0.2380	3	7.00	J	1.1891	D5	1	— 0580950 ¹⁾
8		1.25	2.23/32	0.5939	0.3180	0.2380	2	6.80	H	1.1891	D5	1	0580363 ¹⁾ 0580516 ¹⁾
8		1.25	2.23/32	0.5939	0.3180	0.2380	3	6.80	H	1.1891	D5	1	0580370 ¹⁾ 0583197 ¹⁾
	10	1.00	2.15/16	0.6020	0.3810	0.2860	3	9.00	T	1.2915	D6	1	— 0580967 ¹⁾
10		1.50	2.15/16	0.6020	0.3810	0.2860	2	8.50	Q	1.2915	D6	1	0580387 ¹⁾ 0580523 ¹⁾
10		1.50	2.15/16	0.6020	0.3810	0.2860	3	8.50	Q	1.2915	D6	1	0580394 ¹⁾ 0580530 ¹⁾
12		1.75	3.3/8	0.9055	0.3670	0.2750	2	10.30	Y		D6	1	0580400 ²⁾ 0580547 ²⁾
12		1.75	3.3/8	0.9055	0.3670	0.2750	3	10.30	Y		D6	1	0580417 ²⁾ 0580554 ²⁾
	14	1.50	3.19/32	0.9843	0.4290	0.3220	3	12.50	31/64		D7	1	— 0580974 ²⁾
14		2.00	3.19/32	0.9843	0.4290	0.3220	3	12.00	15/32		D7	1	0580424 ²⁾ 0580561 ²⁾
16		2.00	3.13/16	0.9843	0.4800	0.3600	3	14.00	35/64		D7	1	0580431 ²⁾ 0580578 ²⁾
18		2.50	4.1/32	1.1614	0.5420	0.4060	3	15.50	39/64		D7	1	0580448 ²⁾ 0580585 ²⁾
20		2.50	4.15/32	1.1614	0.6520	0.4890	3	17.50	11/16		D7	1	0580455 ²⁾ 0580592 ²⁾

¹⁾ Reinforced Shanks

²⁾ Reduced Shanks

SPIRAL POINT TAPS



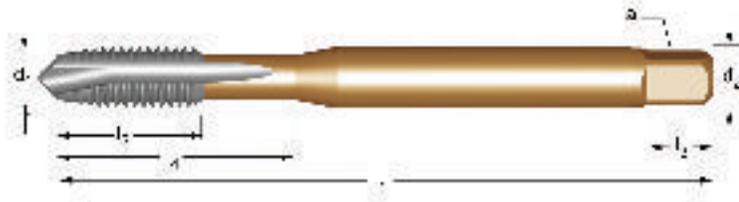
Multi-Application, Plug Chamfer

EP006H Premium substrate for through hole tapping in tough or abrasive materials. Bronze oxide body and shank reduces rust and corrosion. Bright finish flutes improve chip flow in soft or non-ferrous materials.

1.1 1.2 1.3 1.4 1.5 1.6 3.1 3.2 3.3 3.4 4.1 4.2 5.1 5.2 6.1
6.2 6.3 7.1 7.2 7.3 7.4 8.1

EP016H Premium substrate with steam oxide surface treatment reduces wear and prevents chip welding in abrasive or harder ferrous materials.

1.1 1.2 1.3 1.4 1.5 1.6 2.1 2.2 2.3 3.1 3.2 3.3 3.4



M	P mm	l ₁ mm	l ₂ mm	d ₂ Ø mm	a mm	l ₃ mm	# of Flutes	l ₄ mm	Limits	Pack Qty	EP006H	EP016H
2	0.40	50	6	2.8	2.1	5	2	1.6	9 D3	1	0137239 ¹⁾	0137253 ¹⁾
2.5	0.45	50	8	2.8	2.1	5	2	2.1	12.5 D3	1	0137246 ¹⁾	0137291 ¹⁾
3	0.50	56	10	2.2	1.8	4	3	2.5	18 D3	1	0135716 ²⁾	0136126 ²⁾
3	0.50	56	9	3.5	2.7	6	3	2.5	18 D3	1	0135709 ¹⁾	0136119 ¹⁾
3.5	0.60	56	11	4.0	3.0	6	3	2.9	20 D4	1	0135723 ¹⁾	0136133 ¹⁾
4	0.70	63	12	2.8	2.1	5	3	3.3	21 D4	1	0135747 ²⁾	0136157 ²⁾
4	0.70	63	12	4.5	3.4	6	3	3.3	21 D4	1	0135730 ¹⁾	0136140 ¹⁾
4.5	0.75	70	13	6.0	4.9	8	3	3.8	25 D4	1	0135754 ¹⁾	0136164 ¹⁾
5	0.80	70	13	3.5	2.7	6	3	4.2	25 D4	1	0135853 ²⁾	0136188 ²⁾
5	0.80	70	13	6.0	4.9	8	3	4.2	25 D4	1	0135846 ¹⁾	0136171 ¹⁾
6	1.00	80	15	4.5	3.4	6	3	5	30 D5	1	0135877 ²⁾	0136201 ²⁾
6	1.00	80	15	6.0	4.9	8	3	5	30 D5	1	0135860 ¹⁾	0136195 ¹⁾
7	1.00	80	15	7.0	5.5	8	3	6	30 D5	1	0135884 ¹⁾	0136218 ¹⁾
8	1.25	90	18	6.0	4.9	8	3	6.8	35 D5	1	0135907 ²⁾	0136232 ²⁾
8	1.25	90	18	8.0	6.2	9	3	6.8	35 D5	1	0135891 ¹⁾	0136225 ¹⁾
10	1.50	100	20	7.0	5.5	8	3	8.5	- D6	1	0135921 ²⁾	0136256 ²⁾
10	1.50	100	20	10.0	8.0	11	3	8.5	39 D6	1	0135914 ¹⁾	0136249 ¹⁾
12	1.75	110	23	9.0	7.0	10	3	10.3	- D6	1	0135938 ²⁾	0136263 ²⁾
14	2.00	110	25	11.0	9.0	12	3	12	- D7	1	0135945 ²⁾	0136317 ²⁾
16	2.00	110	25	12.0	9.0	12	3	14	- D7	1	0135952 ²⁾	0136324 ²⁾
18	2.50	125	30	14.0	11.0	14	4	15.5	- D7	1	0135969 ²⁾	0136331 ²⁾
20	2.50	140	30	16.0	12.0	15	4	17.5	- D7	1	0135976 ²⁾	0136348 ²⁾
22	2.50	140	34	18.0	14.5	17	4	19.5	- D8	1	0135983 ²⁾	0136355 ²⁾
24	3.00	160	38	18.0	14.5	17	4	21	- D8	1	0135990 ²⁾	0136362 ²⁾
27	3.00	160	38	20.0	16.0	19	4	24	- D8	1	0136003 ²⁾	0136379 ²⁾
30	3.50	180	45	22.0	18.0	21	4	26.5	- D9	1	0136010 ²⁾	0136386 ²⁾

Note: DIN shank and square dimensions will necessitate metric holders

¹⁾ Reinforced Shanks (DIN 371)
²⁾ Reduced Shanks (DIN 376)

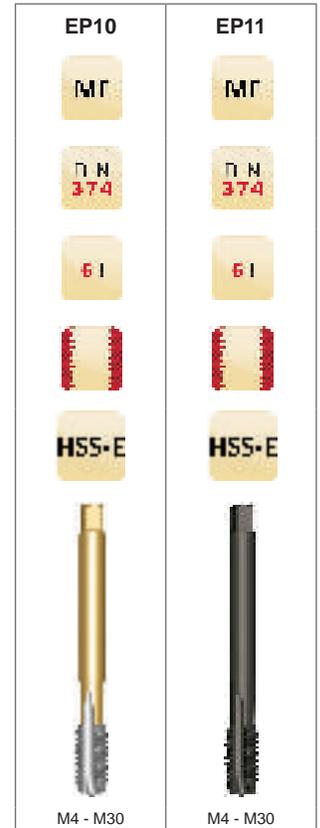
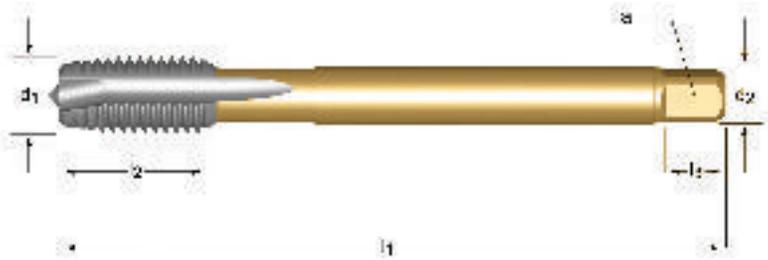
Multi-Application, Plug Chamfer

EP10 Premium substrate for through hole tapping in tough or abrasive materials. Bronze oxide body and shank reduces rust and corrosion. Bright finish flutes improve chip flow in soft or non-ferrous materials.

1.1 1.2 1.3 1.4 1.5 1.6 3.1 3.2 3.3 3.4 4.1 4.2 5.1 5.2 6.1
6.2 6.3 7.1 7.2 7.3 7.4 8.1

EP11 Premium substrate with steam oxide surface treatment reduces wear and prevents chip welding in abrasive or harder ferrous materials.

1.1 1.2 1.3 1.4 1.5 1.6 2.1 2.2 2.3 3.1 3.2 3.3 3.4



MF	P mm	l ₁ mm	l ₂ mm	d ₂ Ø mm	a mm	l ₃ mm	# of Flutes	±	Limits	Pack Qty	EP10	EP11
4	0.50	63	12	2.8	2.1	5	3	3.5	D4	1	0137345	0137642
5	0.50	70	13	3.5	2.7	6	3	4.5	D4	1	0137352	0137659
6	0.75	80	15	4.5	3.4	6	3	5.3	D5	1	0137369	0137666
8	0.75	80	15	6.0	4.9	8	3	7.3	D5	1	0137376	0137673
8	1.00	90	18	6.0	4.9	8	3	7	D5	1	0137383	0137680
10	0.75	90	18	7.0	5.5	8	3	9.3	D6	1	0137390	0137697
10	1.00	90	18	7.0	5.5	8	3	9	D6	1	0137406	0137703
10	1.25	100	20	7.0	5.5	8	3	8.8	D6	1	0137413	0137710
12	1.00	100	21	9.0	7.0	10	3	11	D6	1	0137420	0137727
12	1.25	100	21	9.0	7.0	10	3	10.8	D6	1	0137437	0137819
12	1.50	100	21	9.0	7.0	10	3	10.5	D6	1	0137444	0137826
14	1.00	100	21	11.0	9.0	12	3	13	D7	1	0137451	0137833
14	1.25	100	21	11.0	9.0	12	3	13	D7	1	0137468	0137840
14	1.50	100	21	11.0	9.0	12	3	12.5	D7	1	0137475	0137857
16	1.00	100	21	12.0	9.0	12	3	15	D7	1	0137482	0137864
16	1.50	100	21	12.0	9.0	12	3	14.5	D7	1	0137499	0137871
18	1.00	110	24	14.0	11.0	14	4	17	D7	1	0137505	0137888
18	1.50	110	24	14.0	11.0	14	4	16.5	D7	1	0137512	0137895
20	1.00	125	24	16.0	12.0	15	4	19	D7	1	0137529	0137901
20	1.50	125	24	16.0	12.0	15	4	18.5	D7	1	0137536	0137918
22	1.50	125	25	18.0	14.5	17	4	20.5	D8	1	0137543	0137925
24	1.50	140	28	18.0	14.5	17	4	22.5	D8	1	0137550	0137932
24	2.00	140	28	18.0	14.5	17	4	22	D8	1	0137567	0137949
25	1.50	140	28	18.0	14.5	17	4	23.5	D8	1	0137574	0137956
26	1.50	140	28	18.0	14.5	17	4	24.5	D8	1	0137581	0137963
27	1.50	140	28	20.0	16.0	19	4	25.5	D8	1	0137598	0137970
27	2.00	140	28	20.0	16.0	19	4	25	D8	1	0137604	0137987
28	1.50	140	28	20.0	16.0	19	4	26.5	D9	1	0137611	0137994
30	1.50	150	28	22.0	18.0	21	4	28.5	D9	1	0137628	0138007
30	2.00	150	28	22.0	18.0	21	4	28	D9	1	0137635	0138014

Note: DIN shank and square dimensions will necessitate metric holders

SPIRAL POINT TAPS



Multi-Application, Plug Chamfer

E000 Premium substrate for through hole tapping in tough or abrasive materials. Bronze oxide body and shank reduces rust and corrosion. Bright finish flutes improve chip flow in soft or non-ferrous materials.

E000 = Metric Coarse, E000TIN = TiN Coated

1.1	1.2	1.3	1.4	1.5	1.6	3.1	3.2	3.3	3.4	4.1	4.2	5.1	5.2	6.1
6.2	6.3	7.1	7.2	7.3	7.4	8.1								

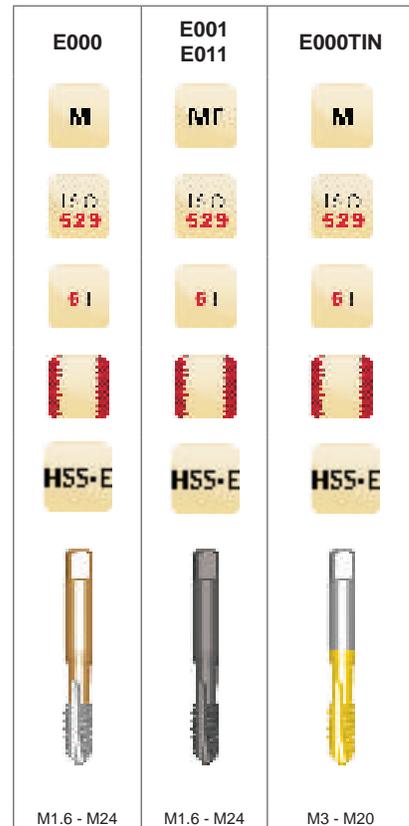
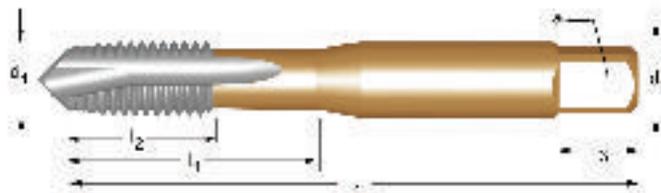
E000TIN E000 with a TiN coat

1.1	1.2	1.3	1.4	1.5	1.6	2.1	2.2	2.3	3.1	3.2	3.3	3.4	4.1	4.2
5.1	5.2	6.1	6.2	6.3	7.3	7.4	8.2							

E001 Premium substrate with steam oxide surface treatment reduces wear and prevents chip welding in abrasive or harder ferrous materials.

E001 = Metric Coarse, E011 = Metric Fine

1.1	1.2	1.3	1.4	1.5	1.6	2.1	2.2	2.3	3.1	3.2	3.3	3.4		
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	--	--



M	MF	P	l_1	l_2	d_2	a	l_3	# of Flutes	l_4	Limits	Pack Qty	E000	E001 E011	E000TIN
1.6		0.35	41	7	2.50	2.00	4	2	1.25	7	D3	0168769 ¹⁾	0168790 ¹⁾	—
2		0.40	41	8	2.50	2.00	4	2	1.6	8	D3	0168776 ¹⁾	0168806 ¹⁾	—
2.5		0.45	44.5	9.5	2.80	2.24	5	2	2.05	9.5	D3	0168783 ¹⁾	0168813 ¹⁾	—
3		0.50	48	15	3.15	2.50	5	3	2.5	15	D3	0567586 ¹⁾	0567722 ¹⁾	46196635 ¹⁾
3.5		0.60	50	16	3.55	2.80	5	3	2.9	16	D4	0567593 ¹⁾	0567739 ¹⁾	—
4		0.50	53	17	4.0	3.15	6	3	3.5	17	D4	—	0568385 ¹⁾	—
4		0.70	53	17	4.00	3.15	6	3	3.3	17	D4	0567609 ¹⁾	0567746 ¹⁾	46196636 ¹⁾
5		0.50	58	11	5.0	4.00	7	3	4.5	22	D4	—	0568392 ¹⁾	—
5		0.80	58	11	5.00	4.00	7	3	4.2	22	D4	0567616 ¹⁾	0567753 ¹⁾	46196637 ¹⁾
6		0.50	66	13	6.3	5.00	8	3	5.5	26	D5	—	0568408 ¹⁾	—
6		0.75	66	13	6.3	5.00	8	3	5.3	26	D5	—	0568415 ¹⁾	—
6		1.00	66	13	6.30	5.00	8	3	5.0	26	D5	0567623 ¹⁾	0567760 ¹⁾	46196638 ¹⁾
8		0.75	72	16	8.0	6.30	9	3	7.3	29	D5	—	0568422 ¹⁾	—
8		1.00	72	16	8.0	6.30	9	3	7.0	29	D5	—	0568439 ¹⁾	—
8		1.25	72	16	8.00	6.30	9	3	6.8	29	D5	0567630 ¹⁾	0567777 ¹⁾	46196639 ¹⁾
10		1.00	80	18	10.0	8.00	11	3	9.0	34	D6	—	0568446 ¹⁾	—
10		1.25	80	18	10.0	8.00	11	3	8.8	34	D6	—	0568453 ¹⁾	—
10		1.50	80	18	10.00	8.00	11	3	8.5	34	D6	0567647 ¹⁾	0567784 ¹⁾	46196690 ¹⁾
12		1.00	89	22	9.0	7.10	10	3	11.0	-	D6	—	0568460 ²⁾	—
12		1.25	89	22	9.0	7.10	10	3	10.8	-	D6	—	0568477 ²⁾	—
12		1.50	89	22	9.0	7.10	10	3	10.5	-	D6	—	0568484 ²⁾	—
12		1.75	89	22	9.00	7.10	10	3	10.3	-	D6	0567654 ²⁾	0567791 ²⁾	46196691 ²⁾
14		1.00	95	24	11.2	9.00	12	3	13.0	-	D7	—	0568491 ²⁾	—
14		1.25	95	24	11.2	9.00	12	3	12.8	-	D7	—	0568507 ²⁾	—
14		1.50	95	24	11.2	9.00	12	3	12.5	-	D7	—	0568514 ²⁾	—
14		2.00	95	24	11.20	9.00	12	3	12.0	-	D7	0567661 ²⁾	0567807 ²⁾	—
16		1.00	102	24	12.5	10.00	13	3	15.0	-	D7	—	0568521 ²⁾	—
16		1.50	102	24	12.5	10.00	13	3	14.5	-	D7	—	0568538 ²⁾	—
16		2.00	102	24	12.50	10.00	13	3	14.0	-	D7	0567678 ²⁾	0567814 ²⁾	46196692 ²⁾

¹⁾ Reinforced Shanks

²⁾ Reduced Shanks

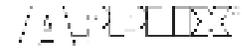
M	MF	P mm	l ₁ mm	l ₂ mm	d ₂ ∅ mm	a mm	l ₃ mm	# of Flutes		l ₄ mm	Limits	Pack Qty	E000	E001 E011	E000TIN
	18	1.00	112	29	14.0	11.20	14	4	17.0	-	D7	1	—	0568545 ²⁾	—
	18	1.50	112	29	14.0	11.20	14	4	16.5	-	D7	1	—	0568552 ²⁾	—
18		2.50	112	29	14.00	11.20	14	4	15.5	-	D7	1	0567685 ²⁾	0567821 ²⁾	—
	20	1.00	112	29	14.0	11.20	14	4	19.0	-	D7	1	—	0568569 ²⁾	—
	20	1.50	112	29	14.0	11.20	14	4	18.5	-	D7	1	—	0568576 ²⁾	—
	20	2.00	112	29	14.0	11.20	14	4	18.0	-	D7	1	—	0568583 ²⁾	—
20		2.50	112	29	14.00	11.20	14	4	17.5	-	D7	1	0567692 ²⁾	—	46196693 ²⁾
	22	1.50	118	29	16.0	12.50	16	4	20.5	-	D8	1	—	0568590 ²⁾	—
22		2.50	118	29	16.00	12.50	16	4	19.5	-	D8	1	0567708 ²⁾	0567845 ²⁾	—
	24	1.50	130	35	18.0	14.00	18	4	22.5	-	D8	1	—	0568606 ²⁾	—
	24	2.00	130	35	18.0	14.00	18	4	22.0	-	D8	1	—	0568613 ²⁾	—
24		3.00	130	35	18.00	14.00	18	4	21.0	-	D8	1	0567715 ²⁾	0567852 ²⁾	—

¹⁾ Reinforced Shanks

²⁾ Reduced Shanks

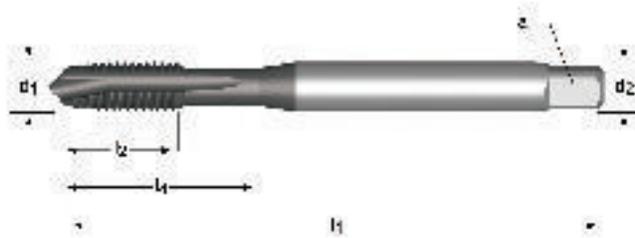
SPIRAL POINT TAPS

HMD Hard Materials / Cast Iron, Plug Chamfer



1629AP Designed for through hole tapping materials with a hardness of >38 Rc. Premium substrate provides superior abrasion resistance and edge strength. TiAlN-Top coating lowers the coefficient of friction, improves thread quality, affords higher operating speeds, and longer tool life.

1.5 1.6 2.4 3.1 3.2 3.3 3.4 4.3 5.3 6.4



1629AP

UNF UNC

T N
ANS

Z S

HSS
PM

No.4 - 1"

UNC	UNF	TPI	l_1 Inch	l_2 Inch	l_4 Inch (Neck Length)	d_2 Ø Inch	a Inch	# of Flutes	Limits	Pack Qty	1629AP
4		40	2.205	0.472	0.709	0.141	0.110	2	H2	1	46204796 ¹⁾
6		32	2.205	0.472	0.787	0.141	0.110	3	H3	1	46204801 ¹⁾
8		32	2.480	0.512	0.827	0.168	0.131	3	H3	1	46204805 ¹⁾
	10	32	2.756	0.512	0.984	0.194	0.152	3	H3	1	46204759 ¹⁾
10		24	2.756	0.591	0.984	0.194	0.152	3	H3	1	46204758 ¹⁾
	1/4	28	3.150	0.669	1.181	0.255	0.191	3	H4	1	46204757 ¹⁾
1/4		20	3.150	0.669	1.181	0.255	0.191	3	H5	1	46204756 ¹⁾
	5/16	24	3.543	0.669	1.378	0.318	0.238	3	H4	1	46204798 ¹⁾
5/16		18	3.543	0.787	1.378	0.318	0.238	3	H5	1	46204797 ¹⁾
	3/8	24	3.937	0.709	1.535	0.381	0.286	3	H4	1	46204795 ¹⁾
3/8		16	3.937	0.866	1.535	0.381	0.286	3	H5	1	46204794 ¹⁾
	1/2	20	3.937	0.866		0.367	0.275	3	H5	1	46204755 ¹⁾
1/2		13	4.331	0.984		0.367	0.275	3	H5	1	46204754 ²⁾
	5/8	18	3.937	0.866		0.480	0.360	3	H5	1	46204800 ²⁾
5/8		11	4.331	1.063		0.480	0.360	3	H5	1	46204799 ²⁾
3/4		10	4.921	1.181		0.590	0.442	3	H5	1	46204792 ²⁾
7/8		9	5.512	1.260		0.697	0.523	3	H6	1	46204804 ²⁾
1"		8	6.299	1.417		0.800	0.600	3	H6	1	46204791 ²⁾

¹⁾ Reinforced Shanks

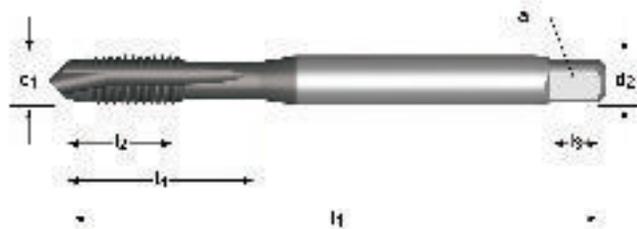
²⁾ Reduced Shanks

HMD Hard Materials / Cast Iron, Plug Chamfer



1659AP Designed for through hole tapping materials with a hardness of >38 Rc. Premium substrate provides superior abrasion resistance and edge strength. TiAlN-Top coating lowers the coefficient of friction, improves thread quality, affords higher operating speeds, and longer tool life.

1.5 1.6 2.4 3.1 3.2 3.3 3.4 4.3 5.3 6.4



1659AP(MF)

M

1.5
1.6
2.4

6.4



HSS PM



M3 - M12

M	P mm	l ₁ mm	l ₂ mm	l ₄ Inch (Neck Length)	d ₂ Ø Inch	a Inch	# of Flutes	Limits	Pack Qty	1659AP
3	0.50	56	11	18	0.141	0.110	3	D3	1	46204832
4	0.70	63	13	21	0.168	0.131	3	D4	1	46204833 ¹⁾
5	0.80	70	15	25	0.194	0.152	3	D4	1	46204834 ¹⁾
6	1.00	80	17	30	0.255	0.191	3	D5	1	46204835 ¹⁾
8	1.25	90	20	35	0.318	0.238	3	D5	1	46204837 ¹⁾
10	1.50	100	22	39	0.381	0.286	3	D6	1	46204829 ¹⁾
12	1.75	110	24		0.367	0.275	3	D6	1	46204831 ²⁾

¹⁾ Reinforced Shanks

²⁾ Reduced Shanks

STRAIGHT FLUTE TAPS

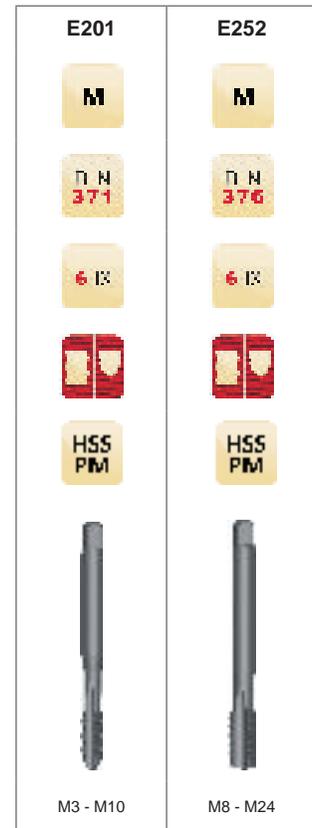


For Cast Iron, Plug Chamfer

E201 Designed for through or blind hole tapping with a specific geometry for cast iron and those materials producing broken, powdery chips. Also ideal for non-metallics, cast brass, and other brass materials. Nitride and steam oxide coating reduces wear and chip welding in abrasive materials.

E252

3.1 3.2 3.3 3.4 6.2 6.4 7.4 8.2



M	P mm	l ₁ mm	l ₂ mm	d ₂ ∅ mm	a mm	l ₃ mm	# of Flutes	Flute Width mm	l ₄ mm	Limits	Pack Qty	E201	E252
3	0.50	56	9	3.5	2.7	6	3	2.5	18	D3	1	0165607 ¹⁾	—
4	0.70	63	12	4.5	3.4	6	4	3.3	21	D4	1	0085196 ¹⁾	—
5	0.80	70	13	6.0	4.9	8	4	4.2	25	D4	1	0085202 ¹⁾	—
6	1.00	80	15	6.0	4.9	8	4	5.0	30	D5	1	0085219 ¹⁾	—
8	1.25	90	18	6.0	4.9	8	4	6.8		D5	1	—	0087343 ¹⁾
8	1.25	90	18	8.0	6.2	9	4	6.8	35	D5	1	0085226 ¹⁾	—
10	1.50	100	20	10.0	8.0	11	4	8.5	39	D6	1	0085189 ¹⁾	—
10	1.50	100	20	7.0	5.5	8	4	8.5		D6	1	—	0087268 ²⁾
12	1.75	110	23	9.0	7.0	10	4	10.3		D6	1	—	0087275 ²⁾
14	2.00	110	25	11.0	9.0	12	4	12.0		D7	1	—	0087282 ²⁾
16	2.00	110	25	12.0	9.0	12	4	14.0		D7	1	—	0087299 ²⁾
18	2.50	125	30	14.0	11.0	14	4	15.5		D7	1	—	0087305 ²⁾
20	2.50	140	30	16.0	12.0	15	4	17.5		D7	1	—	0087312 ²⁾
22	2.50	140	34	18.0	14.5	17	4	19.5		D8	1	—	0087329 ²⁾
24	3.00	160	38	18.0	14.5	17	4	21.0		D8	1	—	0087336 ²⁾

Note: DIN shank and square dimensions will necessitate metric holders

¹⁾ Reinforced Shanks

²⁾ Reduced Shanks

DDX, High Hook, Plug Chamfer

1985 Type DDX taps feature a special O.D. and P.D. relief and increased back taper. Intended for use in through hole applications where a free cutting action is desirable. Designed to produce a class 2B f t. Sizes No.4 - 3/8" are 'necked' to allow for use in deep hole applications. Steam oxide reduces wear and prevents chip welding when through hole tapping in abrasive or harder ferrous materials.

1.1 1.2 1.3 1.4 1.5 1.6 2.1 2.2 4.1 4.2 4.3 5.1 5.2 5.3



1985

UNC UNF

ANSI

2B

HSS

No.4 - 1"

UNC	UNF	TPI	l ₁ Inch	l ₂ Inch	d ₂ Ø Inch	a Inch	l ₃ Inch	# of Flutes	l ₄ Inch	Pack Qty	1985
4	4	48	1.7/8	9/16	0.1410	0.1100	3/16	2	0.69	1	1013038 ¹⁾
4		40	1.7/8	9/16	0.1410	0.1100	3/16	2	0.69	1	1013037 ¹⁾
	5	44	1.15/16	5/8	0.1410	0.1100	3/16	2	0.75	1	1013040 ¹⁾
5		40	1.15/16	5/8	0.1410	0.1100	3/16	2	0.75	1	1013039 ¹⁾
	6	40	2"	11/16	0.1410	0.1100	3/16	2	0.78	1	1013042 ¹⁾
6		32	2"	11/16	0.1410	0.1100	3/16	2	0.78	1	1013041 ¹⁾
	8	36	2.1/8	3/4	0.1680	0.1310	1/4	2	0.81	1	1013044 ¹⁾
8		32	2.1/8	3/4	0.1680	0.1310	1/4	2	0.81	1	1013043 ¹⁾
	10	32	2.3/8	7/8	0.1940	0.1520	1/4	2	0.94	1	1013046 ¹⁾
10		24	2.3/8	7/8	0.1940	0.1520	1/4	2	0.94	1	1013045 ¹⁾
	1/4	28	2.1/2	1"	0.2550	0.1910	5/16	2	1.19	1	1013050 ¹⁾
1/4		20	2.1/2	1"	0.2550	0.1910	5/16	2	1.19	1	1013049 ¹⁾
	5/16	24	2.23/32	1.1/8	0.3180	0.2380	3/8	3	1.31	1	1013052 ¹⁾
5/16		18	2.23/32	1.1/8	0.3180	0.2380	3/8	3	1.31	1	1013051 ¹⁾
	3/8	24	2.15/16	1.1/4	0.3810	0.2860	7/16	3	1.44	1	1013054 ¹⁾
3/8		16	2.15/16	1.1/4	0.3810	0.2860	7/16	3	1.44	1	1013053 ¹⁾
	7/16	20	3.5/32	1.7/16	0.3230	0.2420	13/32	3	-	1	1013056 ²⁾
7/16		14	3.5/32	1.7/16	0.3230	0.2420	13/32	3	-	1	1013055 ²⁾
	1/2	20	3.3/8	1.21/32	0.3670	0.2750	7/16	3	-	1	1013058 ²⁾
1/2		13	3.3/8	1.21/32	0.3670	0.2750	7/16	3	-	1	1013057 ²⁾
	9/16	18	3.19/32	1.21/32	0.4290	0.3220	1/2	3	-	1	1013060 ²⁾
9/16		12	3.19/32	1.21/32	0.4290	0.3220	1/2	3	-	1	1013059 ²⁾
	5/8	18	3.13/16	1.13/16	0.4800	0.3600	9/16	3	-	1	1013062 ²⁾
5/8		11	3.13/16	1.13/16	0.4800	0.3600	9/16	3	-	1	1013061 ²⁾
	3/4	16	4.1/4	2"	0.5900	0.4420	11/16	3	-	1	1013066 ²⁾
3/4		10	4.1/4	2"	0.5900	0.4420	11/16	3	-	1	1013065 ²⁾
	7/8	14	4.11/16	2.7/32	0.6970	0.5230	3/4	4	-	1	1013068 ²⁾
7/8		9	4.11/16	2.7/32	0.6970	0.5230	3/4	4	-	1	1013067 ²⁾
1"		8	5.1/8	2.1/2	0.8000	0.6000	13/16	4	-	1	1013069 ²⁾

¹⁾ Reinforced Shanks

²⁾ Reduced Shanks

APPLIX SPIRAL FLUTE TAP (48°-52°)

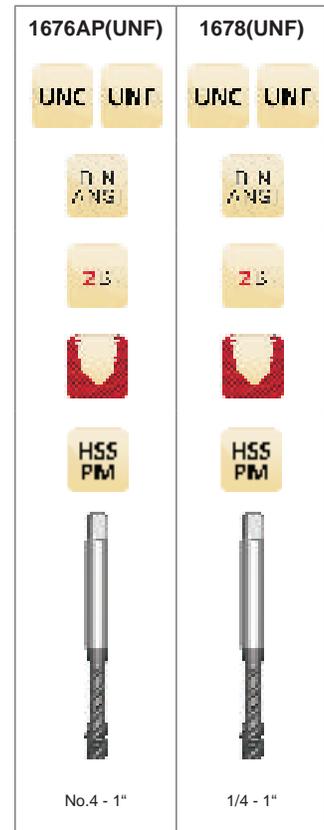


APPLIX

MXL Multi-Application, Semi-Bottoming

1676AP Designed for blind hole tapping in a variety of materials with a hardness up to 36 Rc. The premium substrate and TiCN coating combine to offer superior abrasion resistance, higher operating speeds, improved thread quality, reduced cycle times, and longer tool life.

1678 Coolant thru design allows higher tapping speeds and eliminates the problems associated with inadequate coolant in horizontal or deep hole applications.



UNC	UNF	TPI	l ₁ Inch	l ₂ Inch	l ₄ Inch (Neck Length)	d ₂ ∅ Inch	a Inch	# of Flutes	Limits	Pack Qty	1676AP	1678
4		40	2.205	0.236	0.709	0.141	0.110	3	H2	1	46204902	¹⁾ —
6		32	2.205	0.236	0.787	0.141	0.110	3	H2	1	46204907	¹⁾ —
8		32	2.480	0.236	0.827	0.168	0.131	3	H3	1	46204912	¹⁾ —
	10	32	2.756	0.354	0.984	0.194	0.152	3	H3	1	46204895	¹⁾ —
10		24	2.756	0.354	0.984	0.194	0.152	3	H3	1	46204894	¹⁾ —
	1/4	28	3.150	0.433	1.181	0.255	0.191	3	H4	1	46204893	¹⁾ 1717512 ¹⁾
1/4		20	3.150	0.433	1.181	0.255	0.191	3	H5	1	46204892	¹⁾ 1717510 ¹⁾
	5/16	24	3.543	0.472	1.378	0.318	0.238	3	H4	1	46204904	¹⁾ —
5/16		18	3.543	0.472	1.378	0.318	0.238	3	H5	1	46204903	¹⁾ 1717514 ¹⁾
	3/8	24	3.937	0.551	1.535	0.381	0.286	3	H4	1	46204901	¹⁾ —
3/8		16	3.937	0.551	1.535	0.381	0.286	3	H5	1	46204900	¹⁾ 1717518 ¹⁾
	7/16	20	3.937	0.591		0.323	0.242	3	H5	1	46204909	²⁾ 1717532 ²⁾
7/16		14	3.937	0.591		0.323	0.242	3	H5	1	46204908	²⁾ 1717530 ²⁾
	1/2	20	3.937	0.630		0.367	0.275	3	H5	1	46204891	²⁾ —
1/2		13	4.331	0.630		0.367	0.275	3	H5	1	46204890	²⁾ 1717534 ²⁾
	5/8	18	3.937	0.745		0.480	0.360	3	H5	1	46204906	²⁾ —
5/8		11	4.331	0.745		0.480	0.360	3	H5	1	46204905	²⁾ 1717538 ²⁾
	3/4	16	4.331	0.820		0.590	0.442	3	H5	1	46204899	²⁾ —
3/4		10	4.921	0.820		0.590	0.442	3	H5	1	46204898	²⁾ 1717542 ²⁾
	7/8	14	4.921	0.910		0.697	0.523	4	H6	1	46204910	²⁾ —
7/8		9	5.512	0.910		0.697	0.523	4	H6	1	46204911	²⁾ 46204932 ²⁾
1"		8	6.299	1.025		0.800	0.600	4	H6	1	46204897	²⁾ 1717546 ²⁾

¹⁾ Reinforced Shanks

²⁾ Reduced Shanks

Multi-Application, Semi-Bottoming

E027
E037

Premium substrate for blind hole tapping in tough or abrasive materials. Bronze oxide body and shank reduces rust and corrosion. Bright finish flutes improve chip flow in soft and non-ferrous materials.

E027 = UNC Sizes, E037 = UNF Sizes

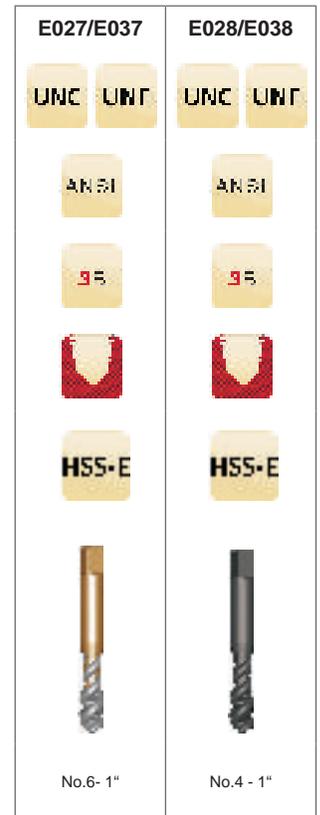
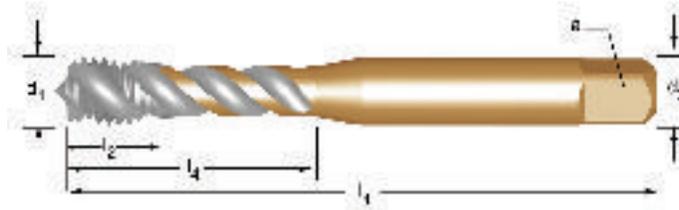
1.1 1.2 1.3 1.4 1.5 4.1 4.2 5.1 5.2 6.1 6.2 6.3 7.1 7.2 7.3
7.4 8.1

E028
E038

Premium substrate with Steam Oxide surface treatment reduces wear and prevents chip welding in abrasive or harder ferrous materials.

E028 = UNC Sizes, E038 = UNF Sizes

1.1 1.2 1.3 1.4 1.5 1.6 2.1 2.2 2.3



UNC	UNF	TPI	l ₁ Inch	l ₂ Inch	d ₂ Ø Inch	a Inch	# of Flutes	Limits	Flute Depth Inch	l ₄ Inch	Pack Qty	E027 E037	E028 E038	
4		40	1.7/8	0.6091	0.1410	0.1100	3	H2	N43	2.35	0.6091	1	—	0581643 ¹⁾
5		40	1.15/16	0.7404	0.1410	0.1100	3	H2	N38	2.65	0.7404	1	—	0581650 ¹⁾
6		32	2"	0.2610	0.1410	0.1100	3	H2	N36	2.85	0.5938	1	0581506	0581667 ¹⁾
8		32	2.1/8	0.2484	0.1680	0.1310	3	H2	N29	3.50	0.6526	1	0581513	0581674 ¹⁾
	10	32	2.3/8	0.2650	0.1940	0.1520	3	H2	N21	4.10	0.8434	1	0582312	0582435 ¹⁾
10		24	2.3/8	0.2650	0.1940	0.1520	3	H3	N25	3.90	0.8434	1	0581520	0581681 ¹⁾
12		24	2.3/8	0.2520	0.2200	0.1650	3	H3	N16	4.50	0.8848	1	0581537	0581698 ¹⁾
	1/4	28	2.1/2	0.3937	0.2550	0.1910	3	H3	N3	5.50	1.0993	1	0582329	0582442 ¹⁾
1/4		20	2.1/2	0.3937	0.2550	0.1910	3	H3	N7	5.10	1.0993	1	0581544	0581704 ¹⁾
	5/16	24	2.23/32	0.4567	0.3180	0.2380	3	H3	I	6.90	1.3094	1	0582336	0582459 ¹⁾
5/16		18	2.23/32	0.4567	0.3180	0.2380	3	H3	F	6.60	1.3094	1	0581551	0581711 ¹⁾
	3/8	24	2.15/16	0.5315	0.3810	0.2860	3	H3	Q	8.50	1.4415	1	0582343	0582466 ¹⁾
3/8		16	2.15/16	0.5315	0.3810	0.2860	3	H3	5/16	8.00	1.4415	1	0581568	0581728 ¹⁾
3/8		16	2.15/16	0.5315	0.3810	0.2860	3	H5	5/16	8.00	1.4415	1	—	0581735 ¹⁾³⁾
	7/16	20	3.5/32	0.6299	0.3230	0.2420	3	H3	25/64	9.90	-	1	0582350	0582473 ²⁾
7/16		14	3.5/32	0.6299	0.3230	0.2420	3	H3	U	9.40	-	1	0581575	0581742 ²⁾
	1/2	20	3.3/8	0.6890	0.3670	0.2750	3	H3	29/64	11.50	-	1	0582367	0582480 ²⁾
1/2		13	3.3/8	0.6890	0.3670	0.2750	3	H3	27/64	10.80	-	1	0581582	0581759 ²⁾
	9/16	18	3.19/32	0.7087	0.4290	0.3220	3	H3	33/64	12.90	-	1	0582374	0582497 ²⁾
9/16		12	3.19/32	0.7087	0.4290	0.3220	3	H3	31/64	12.20	-	1	0581599	0581766 ²⁾
	5/8	18	3.13/16	0.7087	0.4800	0.3600	3	H3	37/64	14.50	-	1	0582381	0582503 ²⁾
5/8		11	3.13/16	0.7087	0.4800	0.3600	3	H3	17/32	13.50	-	1	0581605	0581773 ²⁾
	3/4	16	4.1/4	0.8858	0.5900	0.4420	3	H3	11/16	17.50	-	1	0582398	0582510 ²⁾
3/4		10	4.1/4	0.8858	0.5900	0.4420	3	H4	21/32	16.50	-	1	0581612	0581780 ²⁾
	7/8	14	4.11/16	0.9843	0.6970	0.5230	3	H4	13/16	20.40	-	1	0582404	0582527 ²⁾
7/8		9	4.11/16	0.9843	0.6970	0.5230	3	H4	49/64	19.50	-	1	0581629	0581797 ²⁾
	1"	14	5.1/8	1.1811	0.8000	0.6000	3	H4	59/64	23.50	-	1	0582428	0582541 ²⁾
1"		8	5.1/8	1.1811	0.8000	0.6000	3	H4	7/8	22.25	-	1	0581636	0581803 ²⁾

¹⁾ Reinforced Shanks

²⁾ Reduced Shanks

³⁾ Class of f: 2B

SPIRAL FLUTE TAPS (45°)



Multi-Application, Semi-Bottoming

EX20 Premium substrate for blind hole tapping in tough or abrasive materials. Bronze oxide body and shank reduces rust and corrosion. Bright finish flutes improve chip flow in soft and non-ferrous materials.

EX30

EX20 = UNC Sizes, EX30 = UNF Sizes

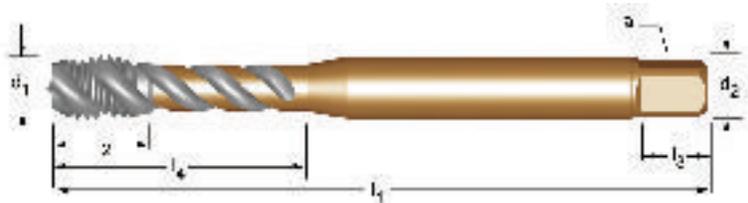
1.1 1.2 1.3 1.4 1.5 4.1 4.2 5.1 5.2 7.1 7.2 7.3 7.4

EX21 Premium substrate with Steam Oxide surface treatment reduces wear and prevents chip welding in abrasive or harder ferrous materials.

EX31

EX21 = UNC Sizes, EX31 = UNF Sizes

1.1 1.2 1.3 1.4 1.5 2.1 2.2 2.3



UNC	UNF	TPI	d ₁ nom mm	l ₁ mm	l ₂ mm	d ₂ Ø mm	a mm	l ₃ mm	# of Flutes	±	Limits	l ₄ mm	Pack Qty	EX20 EX30	EX21 EX31
4		40	2.845	56	6	3.5	2.7	6	3	2.35	H2	18	1	0150269 ¹⁾	0150412 ¹⁾
5		40	3.175	56	6	3.5	2.7	6	3	2.65	H2	18	1	0150276 ¹⁾	0150429 ¹⁾
6		32	3.505	56	7	4.0	3.0	6	3	2.85	H2	20	1	0150283 ¹⁾	0150436 ¹⁾
	8	36	4.166	63	7	4.5	3.4	8	3	3.5	H3	21	1	0168325 ¹⁾	0168431 ¹⁾
8		32	4.166	63	7	4.5	3.4	8	3	3.5	H3	21	1	0150290 ¹⁾	0150443 ¹⁾
	10	32	4.826	70	8	6.0	4.9	8	3	4.1	H3	25	1	0168332 ¹⁾	0168448 ¹⁾
10		24	4.826	70	8	6.0	4.9	8	3	3.9	H3	25	1	0150306 ¹⁾	0150450 ¹⁾
12		24	5.486	80	10	6.0	4.9	8	3	4.5	H3	30	1	0150313 ¹⁾	0150467 ¹⁾
	1/4	28	6.350	80	10	7.0	5.5	8	3	5.5	H4	30	1	0168349 ¹⁾	0168455 ¹⁾
1/4		20	6.350	80	10	7.0	5.5	8	3	5.1	H5	30	1	0150320 ¹⁾	0150474 ¹⁾
	5/16	24	7.938	90	12	8.0	6.2	9	3	6.9	H4	35	1	0168356 ¹⁾	0168462 ¹⁾
5/16		18	7.938	90	12	8.0	6.2	9	3	6.6	H5	35	1	0150337 ¹⁾	0150627 ¹⁾
	3/8	24	9.525	100	15	10.0	8.0	11	3	8.5	H4	39	1	0168363 ¹⁾	0168479 ¹⁾
3/8		16	9.525	100	15	10.0	8.0	11	3	8	H5	39	1	0150344 ¹⁾	0151945 ¹⁾
	7/16	20	11.112	100	15	8.0	6.2	9	3	9.9	H5	-	1	0168370 ²⁾	0168486 ²⁾
7/16		14	11.112	100	15	8.0	6.2	9	3	9.4	H5	-	1	0150351 ²⁾	0159507 ²⁾
	1/2	20	12.700	110	18	9.0	7.0	10	3	11.5	H5	-	1	0168387 ²⁾	0168493 ²⁾
1/2		13	12.700	110	18	9.0	7.0	10	3	10.8	H5	-	1	0150368 ²⁾	0159514 ²⁾
	5/8	18	15.875	110	20	12.0	9.0	12	4	14.5	H5	-	1	0168394 ²⁾	0168509 ²⁾
5/8		11	15.875	110	20	12.0	9.0	12	4	13.5	H5	-	1	0150375 ²⁾	0159552 ²⁾
	3/4	16	19.050	125	25	14.0	11.0	14	4	17.5	H5	-	1	0168400 ²⁾	0168516 ²⁾
3/4		10	19.050	125	25	14.0	11.0	14	4	16.5	H5	-	1	0150382 ²⁾	0159576 ²⁾
	7/8	14	22.225	140	25	18.0	14.5	17	4	20.4	H6	-	1	0168417 ²⁾	0168523 ²⁾
7/8		9	22.225	140	25	18.0	14.5	17	4	19.5	H6	-	1	0150399 ²⁾	0159590 ²⁾
	1"	12	25.400	160	30	18.0	14.5	17	4	23.25	H6	-	1	0168424 ²⁾	0168530 ²⁾
1"		8	25.400	160	30	18.0	14.5	17	4	22.25	H6	-	1	0150405 ²⁾	0168318 ²⁾

Note: DIN shank and square dimensions will necessitate metric holders

¹⁾ Reinforced Shanks

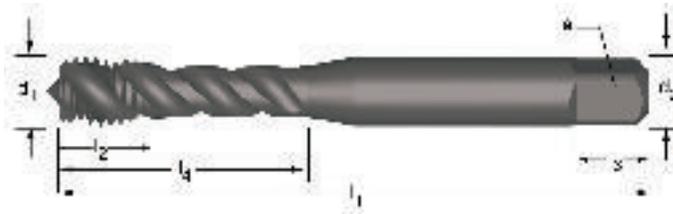
²⁾ Reduced Shanks

Multi-Application, Semi-Bottoming

E023 Premium substrate with Steam Oxide surface treatment
E033 reduces wear and prevents chip welding in abrasive or harder ferrous materials.

E023 = UNC Sizes, E033 = UNF Sizes

1.1 1.2 1.3 1.4 1.5 2.1 2.2 2.3



E023/E033

UNC UNF

1.1
529

2.3



HSS-E



No.2 - 1"

UNC	UNF	TPI	d ₁ nom mm	l ₁ mm	l ₂ mm	d ₂ Ø mm	a mm	l ₃ mm	# of Flutes	Flute Pitch mm	l ₄ mm	Limits	Pack Qty	E023 E033
2		56	2.184	44.5	9.5	2.80	2.24	5	2	1.85	9.5	H2	1	0010440 ¹⁾
4		40	2.845	48	6	3.15	2.50	5	3	2.35	14	H2	1	0569382 ¹⁾
5		40	3.175	48	6	3.15	2.50	5	3	2.65	12.5	H2	1	0010471 ¹⁾
6		32	3.505	50	6	3.55	2.80	5	3	2.85	16	H2	1	0569399 ¹⁾
	8	36	4.166	53	7	4.5	3.55	6	3	3.50	17	H3	1	0570081 ¹⁾
8		32	4.166	53	7	4.50	3.55	6	3	3.50	17	H3	1	0569405 ¹⁾
	10	32	4.826	58	8	5.0	4.00	7	3	4.10	20	H3	1	0570098 ¹⁾
10		24	4.826	58	8	5.00	4.00	7	3	3.90	20	HH3	1	0569412 ¹⁾
12		24	5.486	62	12	5.60	4.50	7	3	4.50	21	H3	1	0569429 ¹⁾
	1/4	28	6.350	66	10	6.3	5.00	8	3	5.50	28	H4	1	0570104 ¹⁾
1/4		20	6.350	66	10	6.30	5.00	8	3	5.10	28	H5	1	0569436 ¹⁾
	5/16	24	7.938	72	12	8.0	6.30	9	3	6.90	31	H4	1	0570111 ¹⁾
5/16		18	7.938	72	12	8.00	6.30	9	3	6.60	31	H5	1	0569443 ¹⁾
	3/8	24	9.525	80	15	10.0	8.00	11	3	8.50	34	H4	1	0570128 ¹⁾
3/8		16	9.525	80	15	10.00	8.00	11	3	8.00	34	H5	1	0569450 ¹⁾
	7/16	20	11.112	85	19	8.0	6.30	9	3	9.90	-	H5	1	0570135 ²⁾
7/16		14	11.112	85	19	8.00	6.30	9	3	9.40	-	H5	1	0569467 ²⁾
	1/2	20	12.700	89	22	9.0	7.10	10	3	11.50	-	H5	1	0570142 ²⁾
1/2		13	12.700	89	19	9.00	7.10	10	3	10.80	-	H5	1	0569474 ²⁾
	9/16	18	14.288	95	24	11.2	9.00	12	3	12.90	-	H5	1	0570159 ²⁾
	5/8	18	15.875	102	24	12.5	10.00	13	4	14.50	-	H5	1	0570166 ²⁾
5/8		11	15.875	102	24	12.50	10.00	13	4	13.50	-	H5	1	0569481 ²⁾
	3/4	16	19.050	112	29	14.0	11.20	14	4	17.50	-	H5	1	0570173 ²⁾
3/4		10	19.050	112	29	14.00	11.20	14	4	16.50	-	H5	1	0569498 ²⁾
	7/8	14	22.225	118	29	16.0	12.50	16	4	20.40	-	H6	1	0570180 ²⁾
7/8		9	22.225	118	29	16.00	12.50	16	4	19.50	-	H6	1	0569504 ²⁾
	1"	12	25.400	130	35	18.0	14.00	18	4	23.25	-	H6	1	0570197 ²⁾
1"		8	25.400	130	35	18.00	14.00	18	4	22.25	-	H6	1	0569511 ²⁾

Note: ISO shank and square dimensions will necessitate metric holders

¹⁾ Reinforced Shanks

²⁾ Reduced Shanks

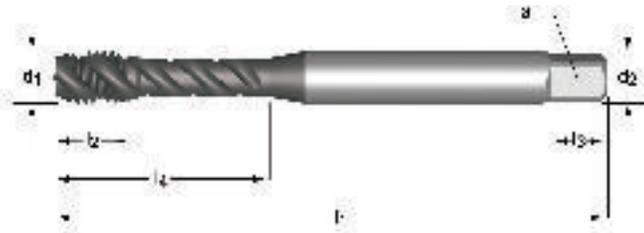
SPIRAL FLUTE TAP (48°-52°)



MXL Multi-Application, Semi-Bottoming

1677AP Designed for blind hole tapping in a variety of materials with a hardness up to 36 Rc. The premium substrate and TiCN coating combine to offer superior abrasion resistance, higher operating speeds, improved thread quality, reduced cycle times, and longer tool life.

1679 Coolant thru design allows higher tapping speeds and eliminates the problems associated with inadequate coolant in horizontal or deep hole applications.



1677AP(M)

M MF

T N
ANS

6.1

HSS
PM

M4 - M24

1679(M)

M MF

T N
ANS

6.1

HSS
PM

M6 - M24

M	MF	TPI	l ₁ mm	l ₂ mm	l ₄ Inch (Neck Length)	Limits	d ₂ Ø Inch	a Inch	# of Flutes	Pack Qty	1677AP	1679(M)
4		0.70	63	6	21	D4	0.168	0.131	3	1	46204927	¹⁾ —
5		0.80	70	9	25	D4	0.194	0.152	3	1	46204928	¹⁾ —
6		1.00	80	11	30	D5	0.255	0.191	3	1	46204929	¹⁾ 1717704 ¹⁾
	8	1.00	90	12	35	D5	0.318	0.238	3	1	46205010	¹⁾ —
8		1.25	90	12	35	D5	0.318	0.238	3	1	46204930	¹⁾ 1717706 ¹⁾
	10	1.25	100	14	39	D6	0.381	0.286	3	1	46204913	¹⁾ 1717708
10		1.50	100	14	39	D6	0.381	0.286	3	1	46204914	¹⁾ 1717710 ¹⁾
	12	1.50	100	16		D6	0.367	0.275	3	1	46204915	²⁾ —
12		1.75	110	16		D6	0.367	0.275	3	1	46204916	²⁾ 1717722 ²⁾
	14	1.50	100	18		D7	0.429	0.322	3	1	46204917	²⁾ —
14		2.00	110	18		D7	0.429	0.322	3	1	46204918	²⁾ 1717726 ²⁾
16		2.00	110	19		D7	0.480	0.360	3	1	46204920	²⁾ 1717730 ²⁾
	18	1.50	110	21		D7	0.542	0.406	3	1	46204921	²⁾ —
18		2.50	125	21		D7	0.542	0.406	3	1	46204922	²⁾ 1717734 ²⁾
	20	1.50	125	21		D7	0.652	0.489	3	1	46204923	²⁾ —
20		2.50	140	21		D7	0.652	0.489	3	1	46204924	²⁾ 1717738 ²⁾
24		3.00	160	26		D8	0.760	0.570	4	1	46204926	²⁾ 1717742 ²⁾

¹⁾ Reinforced Shanks

²⁾ Reduced Shanks

Multi-Application, Semi-Bottoming

E007 Premium substrate for blind hole tapping in tough or abrasive materials. Bronze oxide body and shank reduces rust and corrosion. Bright finish flutes improve chip flow in soft and non-ferrous materials.

E007 = Metric Coarse, E017 = Metric Fine

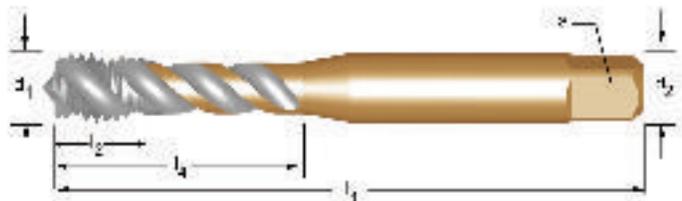
1.1 1.2 1.3 1.4 1.5 4.1 4.2 5.1 5.2 7.1 7.2 7.3 7.4

E008 Premium substrate with Steam Oxide surface treatment reduces wear and prevents chip welding in abrasive or harder ferrous materials.

E018

E008 = Metric Coarse, E018 = Metric Fine

1.1 1.2 1.3 1.4 1.5 2.1 2.2 2.3



M	MF	P mm	l ₁ Inch	l ₂ Inch	d ₂ Ø Inch	a Inch	# of flutes	Limits	±	l ₄ Inch	Pack Qty	E007		E008 E018		
4		0.70	2.1/8	0.2484	0.1680	0.1310	3	D4	3.30	N30	0.6526	1	0580608	¹⁾	0580707	¹⁾
5		0.80	2.3/8	0.2650	0.1940	0.1520	3	D4	4.20	N19	0.8434	1	0580615	¹⁾	0580714	¹⁾
6		1.00	2.1/2	0.3937	0.2550	0.1910	3	D5	5.00	N9	1.0993	1	0580622	¹⁾	0580721	¹⁾
	8	1.00	2.23/32	0.4567	0.3180	0.2380	3	D5	7.00	J	1.3094	1	—		0581032	¹⁾
8		1.25	2.23/32	0.4567	0.3180	0.2380	3	D5	6.80	H	1.3094	1	0580639	¹⁾	0580738	¹⁾
	10	1.00	2.15/16	0.5315	0.3810	0.2860	3	D6	9.00	T	1.4415	1	—		0581049	¹⁾
10		1.50	2.15/16	0.5315	0.3810	0.2860	3	D6	8.50	Q	1.4415	1	0580646	¹⁾	0580745	¹⁾
12		1.75	3.3/8	0.6890	0.3670	0.2750	3	D6	10.30	Y		1	0580653	²⁾	0580752	²⁾
	14	1.50	3.19/32	0.7087	0.4290	0.3220	3	D7	12.50	31/64		1	—		0581056	²⁾
14		2.00	3.19/32	0.7087	0.4290	0.3220	3	D7	12.00	15/32		1	—	²⁾	0580769	²⁾
16		2.00	3.13/16	0.7087	0.4800	0.3600	3	D7	14.00	35/64		1	0580677	²⁾	0580776	²⁾
20		2.50	4.15/32	0.8858	0.6520	0.4890	3	D7	17.50	11/16		1	—	²⁾	0580790	²⁾

¹⁾ Reinforced Shanks

²⁾ Reduced Shanks

SPIRAL FLUTE TAPS (45°)



Multi-Application, Semi-Bottoming

EX006H Premium substrate for blind hole tapping in tough or abrasive materials. Bronze oxide body and shank reduces rust and corrosion. Bright finish flutes improve chip flow in soft and non-ferrous materials.

1.1 1.2 1.3 1.4 1.5 4.1 4.2 5.1 5.2 7.1 7.2 7.3 7.4

EX016H Premium substrate with Steam Oxide surface treatment reduces wear and prevents chip welding in abrasive or harder ferrous materials.

1.1 1.2 1.3 1.4 1.5 2.1 2.2 2.3



M	P mm	l ₁ mm	l ₂ mm	d ₂ Ø mm	a mm	l ₃ mm	# of Flutes	±	l ₄ mm	Limits	Pack Qty	EX006H	EX016H
2	0.40	45	4	2.8	2.1	5	3	1.6	9	D3	1	0137307 ¹⁾	0137321 ¹⁾
2.5	0.45	50	4	2.8	2.1	5	3	2.05	12.5	D3	1	0137314 ¹⁾	0137338 ¹⁾
3	0.50	56	6	3.5	2.7	6	3	2.5	18	D3	1	0136591 ¹⁾	0136942 ¹⁾
3.5	0.60	56	7	4.0	3.0	6	3	2.9	20	D4	1	0136607 ¹⁾	0136966 ¹⁾
4	0.70	63	7	4.5	3.4	6	3	3.3	21	D4	1	0136614 ¹⁾	0136973 ¹⁾
5	0.80	70	8	6.0	4.9	8	3	4.2	25	D4	1	0136621 ¹⁾	0136980 ¹⁾
6	1.00	80	10	4.5	3.4	6	3	5	31	D5	1	0136645 ²⁾	0137000 ²⁾
6	1.00	80	10	6.0	4.9	8	3	5	31	D5	1	0136638 ¹⁾	0136997 ¹⁾
7	1.00	80	10	7.0	5.5	8	3	6	31	D5	1	0136652 ¹⁾	0137017 ¹⁾
8	1.25	90	13	6.0	4.9	8	3	6.8	35	D5	1	0136676 ²⁾	0137031 ²⁾
8	1.25	90	12	8.0	6.2	9	3	6.8	35	D5	1	0136669 ¹⁾	0137024 ¹⁾
10	1.50	100	15	7.0	5.5	8	3	8.5	39	D6	1	0136690 ²⁾	0137055 ²⁾
10	1.50	100	15	10.0	8.0	11	3	8.5	39	D6	1	0136683 ¹⁾	0137048 ¹⁾
12	1.75	110	16	9.0	7.0	10	3	10.3	-	D6	1	0136706 ²⁾	0137062 ²⁾
14	2.00	110	20	11.0	9.0	12	3	12	-	D7	1	0136713 ²⁾	0137079 ²⁾
16	2.00	110	20	12.0	9.0	12	4	14	-	D7	1	0136720 ²⁾	0137086 ²⁾
18	2.50	125	25	14.0	11.0	14	4	15.5	-	D7	1	0136737 ²⁾	0137093 ²⁾
20	2.50	140	25	16.0	12.0	15	4	17.5	-	D7	1	0136744 ²⁾	0137109 ²⁾
22	2.50	140	25	18.0	14.5	17	4	19.5	-	D8	1	0136829 ²⁾	0137116 ²⁾
24	3.00	160	30	18.0	14.5	17	4	21	-	D8	1	0136836 ²⁾	0137123 ²⁾
27	3.00	160	30	20.0	16.0	19	4	24	-	D8	1	0136843 ²⁾	0137130 ²⁾
30	3.50	180	36	22.0	18.0	21	4	26.5	-	D9	1	0136850 ²⁾	0137147 ²⁾
33	3.50	180	36	25.0	20.0	23	4	29.5	-	D9	1	0136867 ²⁾	0137154 ²⁾
36	4.00	200	40	28.0	22.0	25	4	32	-	D9	1	0136874 ²⁾	0137161 ²⁾
39	4.00	200	40	32.0	24.0	27	4	35	-	D9	1	0136881 ²⁾	0137178 ²⁾
42	4.50	200	45	32.0	24.0	27	4	37.5	-	D10	1	0136898 ²⁾	0137185 ²⁾
48	5.00	250	50	36.0	29.0	32	4	43	-	D11	1	0136904 ²⁾	0137192 ²⁾
52	5.00	250	50	40.0	32.0	35	5	47	-	D11	1	0136911 ²⁾	0137208 ²⁾
56	5.50	250	55	40.0	32.0	35	5	50.5	-	D11	1	0136928 ²⁾	0137215 ²⁾
64	6.00	315	60	50.0	39.0	42	6	58	-	D12	1	0136935 ²⁾	0137222 ²⁾

Note: DIN shank and square dimensions will necessitate metric holders

¹⁾ Reinforced Shanks (DIN 371)

²⁾ Reduced Shanks (DIN 376)

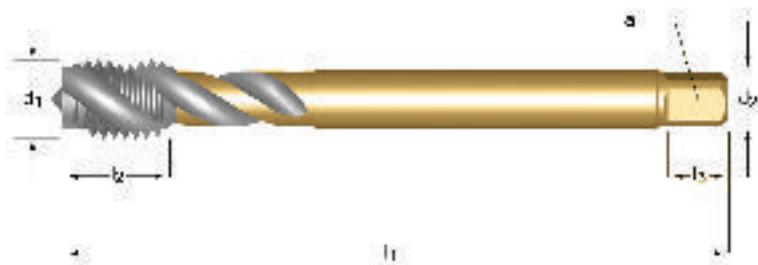
Multi-Application, Semi-Bottoming

EX10 Premium substrate for blind hole tapping in tough or abrasive materials. Bronze oxide body and shank reduces rust and corrosion. Bright finish flutes improve chip flow in soft and non-ferrous materials.

1.1 1.2 1.3 1.4 1.5 4.1 4.2 5.1 5.2 7.1 7.2 7.3 7.4

EX11 Premium substrate with Steam Oxide surface treatment reduces wear and prevents chip welding in abrasive or harder ferrous materials.

1.1 1.2 1.3 1.4 1.5 2.1 2.2 2.3



MF	P mm	l ₁ mm	l ₂ mm	d ₂ ∅ mm	a mm	l ₃ mm	# of Flutes	Limits	Pack Qty	EX10	EX11	
4	0.50	63	7	2.8	2.1	5	3	3.5	D4	1	0149669	0149966
5	0.50	70	8	3.5	2.7	6	3	4.5	D4	1	0149676	0149973
6	0.75	80	10	4.5	3.4	6	3	5.3	D5	1	0149683	0149980
8	0.75	80	13	6.0	4.9	8	3	7.3	D5	1	0149690	0149997
8	1.00	90	13	6.0	4.9	8	3	7	D5	1	0149706	0150009
10	0.75	90	13	7.0	5.5	8	3	9.3	D6	1	0149713	0150016
10	1.00	90	13	7.0	5.5	8	3	9	D6	1	0149720	0150023
10	1.25	100	15	7.0	5.5	8	3	8.8	D6	1	0149737	0150030
12	1.00	100	15	9.0	7.0	10	3	11	D6	1	0149744	0150047
12	1.25	100	15	9.0	7.0	10	3	10.8	D6	1	0149751	0150054
12	1.50	100	15	9.0	7.0	10	3	10.5	D6	1	0149768	0150061
14	1.00	100	15	11.0	9.0	12	3	13	D7	1	0149775	0150078
14	1.25	100	15	11.0	9.0	12	3	12.8	D7	1	0149782	0150085
14	1.50	100	15	11.0	9.0	12	3	12.5	D7	1	0149799	0150092
16	1.00	100	15	12.0	9.0	12	4	15	D7	1	0149805	0150108
16	1.50	100	15	12.0	9.0	12	4	14.5	D7	1	0149812	0150115
18	1.00	110	17	14.0	11.0	14	4	17	D7	1	0149829	0150122
18	1.50	110	17	14.0	11.0	14	4	16.5	D7	1	0149836	0150139
20	1.00	125	17	16.0	12.0	15	4	19	D7	1	0149843	0150146
20	1.50	125	17	16.0	12.0	15	4	18.5	D7	1	0149850	0150153
22	1.50	125	17	18.0	14.5	17	4	20.5	D8	1	0149867	0150160
24	1.50	140	20	18.0	14.5	17	4	22.5	D8	1	0149874	0150177
24	2.00	140	20	18.0	14.5	17	4	22	D8	1	0149881	0150184
25	1.50	140	20	18.0	14.5	17	4	23.5	D8	1	0149898	0150191
26	1.50	140	20	18.0	14.5	17	4	24.5	D8	1	0149904	0150207
27	1.50	140	20	20.0	16.0	19	4	25.5	D8	1	0149911	0150214
27	2.00	140	20	20.0	16.0	19	4	25	D8	1	0149928	0150221
28	1.50	140	20	20.0	16.0	19	4	26.5	D9	1	0149935	0150238
30	1.50	150	20	22.0	18.0	21	4	28.5	D9	1	0149942	0150245
30	2.00	150	20	22.0	18.0	21	4	28	D9	1	0149959	0150252

Note: DIN shank and square dimensions will necessitate metric holders

SPIRAL FLUTE TAPS (45°)



Multi-Application, Semi-Bottoming

E002 Premium substrate for blind hole tapping in tough or abrasive materials. Bronze oxide body and shank reduces rust and corrosion. Bright finish flutes improve chip flow in soft and non-ferrous materials.

E002 = Metric Coarse

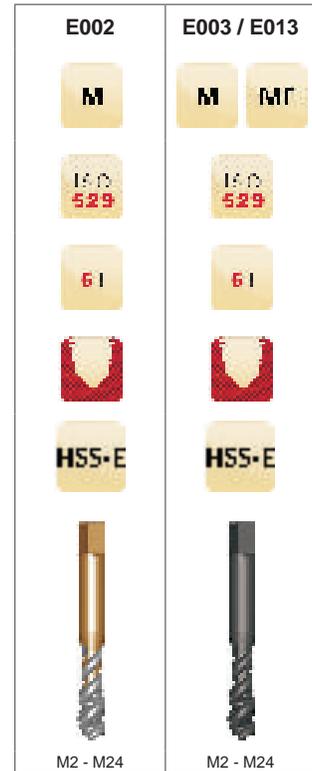
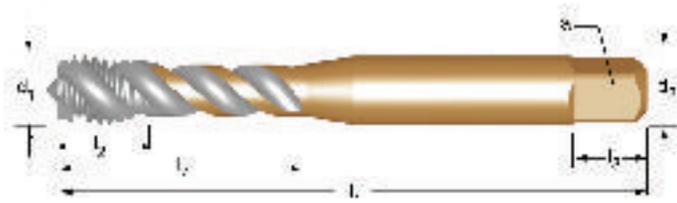
1.1 1.2 1.3 1.4 1.5 4.1 4.2 5.1 5.2 7.1 7.2 7.3 7.4

E003 Premium substrate with Steam Oxide surface treatment reduces wear and prevents chip welding in abrasive or harder ferrous materials.

E013

E003 = Metric Coarse, E013 = Metric Fine

1.1 1.2 1.3 1.4 1.5 2.1 2.2 2.3



Note: ISO shank and square dimensions will necessitate metric holders

M	MF	P mm	l ₁ mm	l ₂ mm	d ₂ ∅ mm	a mm	l ₃ mm	# of Flutes	Limits	∅ mm	l ₄ mm	Pack Qty	E002	E003 E013
2		0.40	41	8	2.50	2.00	4	2	D3	1.6	8	1	0168820 ¹⁾	0168844 ¹⁾
2.5		0.45	44.5	9.5	2.80	2.24	5	2	D3	2.05	9.5	1	0168837 ¹⁾	0168851 ¹⁾
3		0.50	48	6	3.15	2.50	5	3	D3	2.5	12.5	1	0567869 ¹⁾	0568002 ¹⁾
	4	0.50	53	7	4.0	3.15	6	3	D4	3.5	19	1	—	0568798 ¹⁾
4		0.70	53	7	4.00	3.15	6	3	D4	3.3	19	1	0567883 ¹⁾	0568026 ¹⁾
	5	0.50	58	8	5.0	4.0	7	3	D4	4.5	22	1	—	0568804 ¹⁾
5		0.80	58	8	5.00	4.00	7	3	D4	4.2	22	1	0567890 ¹⁾	0568033 ¹⁾
	6	0.50	66	10	6.3	5.0	8	3	D5	5.5	27	1	—	0568811 ¹⁾
	6	0.75	66	10	6.3	5.0	8	3	D5	5.3	27	1	—	0568828 ¹⁾
6		1.00	66	10	6.30	5.00	8	3	D5	5.0	27	1	0567906 ¹⁾	0568040 ¹⁾
	8	0.75	72	12	8.0	6.3	9	3	D5	7.3	31	1	—	0568835 ¹⁾
	8	1.00	72	12	8.0	6.3	9	3	D5	7.0	31	1	—	0568842 ¹⁾
8		1.25	72	12	8.00	6.30	9	3	D5	6.8	31	1	0567913 ¹⁾	0568057 ¹⁾
	10	1.00	80	15	10.0	8.0	11	3	D6	9.0	35	1	—	0568859 ¹⁾
	10	1.25	80	15	10.0	8.0	11	3	D6	8.8	35	1	—	0568866 ¹⁾
10		1.50	80	15	10.00	8.00	11	3	D6	8.5	35	1	0567920 ¹⁾	0568064 ¹⁾
	12	1.00	89	16	9.0	7.1	10	3	D6	11.0	-	1	—	0568873 ²⁾
	12	1.25	89	16	9.0	7.1	10	3	D6	10.8	-	1	—	0568880 ²⁾
	12	1.50	89	16	9.0	7.1	10	3	D6	10.5	-	1	—	0568897 ²⁾
12		1.75	89	16	9.00	7.10	10	3	D6	10.3	-	1	0567937 ²⁾	0568071 ²⁾
	14	1.50	95	18	11.2	9.0	12	3	D7	12.5	-	1	—	0568903 ²⁾
14		2.00	95	18	11.20	9.00	12	3	D7	12.0	-	1	0567944 ²⁾	0568088 ²⁾
	16	1.00	102	18	12.5	10.0	13	4	D7	15.0	-	1	—	0568910 ²⁾
	16	1.50	102	18	12.5	10.0	13	4	D7	14.5	-	1	—	0568927 ²⁾
16		2.00	102	18	12.50	10.00	13	4	D7	14.0	-	1	0567951 ²⁾	0568095 ²⁾
	18	1.50	112	29	14.0	11.2	14	4	D7	16.5	-	1	—	0568934 ²⁾
18		2.50	112	29	14.00	11.20	14	4	D7	15.5	-	1	0567968 ²⁾	0568101 ²⁾
	20	1.50	112	29	14.0	11.2	14	4	D7	18.5	-	1	—	0568941 ²⁾
20		2.50	112	29	14.00	11.20	14	4	D7	17.5	-	1	0567975 ²⁾	0568118 ²⁾
	22	1.50	118	29	16.0	12.5	16	4	D8	20.5	-	1	—	0568958 ²⁾
22		2.50	118	29	16.00	12.50	16	4	D8	19.5	-	1	0567982 ²⁾	0568125 ²⁾
24		3.00	130	35	18.00	14.00	18	4	D8	21.0	-	1	0567999 ²⁾	0568132 ²⁾

¹⁾ Reinforced Shanks, ²⁾ Reduced Shanks

HMD Hard Materials / Cast Iron, Semi-Bottoming

1630AP Designed for blind hole tapping materials with a hardness of >38 Rc. Premium substrate provides superior abrasion resistance and edge strength. TiAlN-Top coating lowers the coef. of friction, improves thread quality, affords higher operating speeds, and longer tool life.

1.5 1.6 2.4 3.1 3.2 3.3 3.4 4.3 5.3 6.4



1630AP

UNC UNF

T N / NS

Z 3

HSS PM

No.4 - 1"

UNC	UNF	TPI	l ₁ Inch	l ₂ Inch	l ₄ Inch (Neck Length)	Limits	d ₂ ∅ Inch	a Inch	# of Flutes	Pack Qty	1630AP
4		40	2.205	0.236	0.709	H2	0.141	0.110	2	1	46204818 ¹⁾
6		32	2.205	0.236	0.787	H2	0.141	0.110	2	1	46204823 ¹⁾
8		32	2.480	0.236	0.827	H3	0.168	0.131	2	1	46204828 ¹⁾
	10	32	2.756	0.354	0.984	H3	0.194	0.152	3	1	46204811 ¹⁾
10		24	2.756	0.354	0.984	H3	0.194	0.152	3	1	46204810 ¹⁾
	1/4	28	3.150	0.433	1.181	H4	0.255	0.191	3	1	46204809 ¹⁾
1/4		20	3.150	0.433	1.181	H5	0.255	0.191	3	1	46204808 ¹⁾
	5/16	24	3.543	0.472	1.378	H4	0.318	0.238	3	1	46204820 ¹⁾
5/16		18	3.543	0.472	1.378	H5	0.318	0.238	3	1	46204819 ¹⁾
	3/8	24	3.937	0.551	1.535	H4	0.381	0.286	3	1	46204817 ¹⁾
3/8		16	3.937	0.551	1.535	H5	0.381	0.286	3	1	46204816 ¹⁾
	7/16	20	3.937	0.591	-	H5	0.323	0.242	3	1	46204825 ²⁾
7/16		14	3.937	0.591	-	H5	0.323	0.242	3	1	46204824 ²⁾
	1/2	20	3.937	0.630	-	H5	0.367	0.275	3	1	46204807 ²⁾
1/2		13	4.331	0.630	-	H5	0.367	0.275	3	1	46204806 ²⁾
	5/8	18	3.937	0.745	-	H5	0.480	0.360	4	1	46204822 ²⁾
5/8		11	4.331	0.745	-	H5	0.480	0.360	4	1	46204821 ²⁾
	3/4	16	4.331	0.820	-	H5	0.590	0.442	4	1	46204815 ²⁾
3/4		10	4.921	0.820	-	H5	0.590	0.442	4	1	46204814 ²⁾
	7/8	14	4.921	0.910	-	H6	0.697	0.523	4	1	46204826 ²⁾
7/8		9	5.512	0.910	-	H6	0.697	0.523	4	1	46204827 ²⁾
1"		8	6.299	1.025	-	H6	0.800	0.600	4	1	46204813 ²⁾

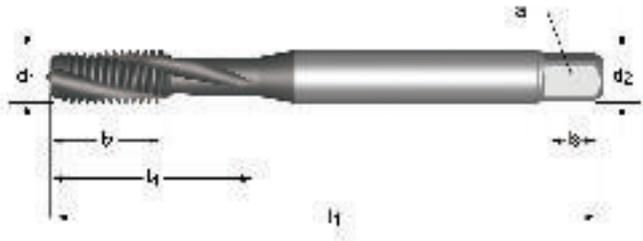
¹⁾ Reinforced Shanks
²⁾ Reduced Shanks

SPIRAL FLUTE TAP (16°-19°)

HMD Hard Materials / Cast Iron, Semi-Bottoming

1660AP Designed for blind hole tapping materials with a hardness of >38 Rc. Premium substrate provides superior abrasion resistance and edge strength. TiAlN-Top coating lowers the coefficient of friction, improves thread quality, affords higher operating speeds, and longer tool life.

1.5 1.6 2.4 3.1 3.2 3.3 3.4 4.3 5.3 6.4



1660AP(M)

M

11 M / ANG

6.1

HSS PM

M3 - M12

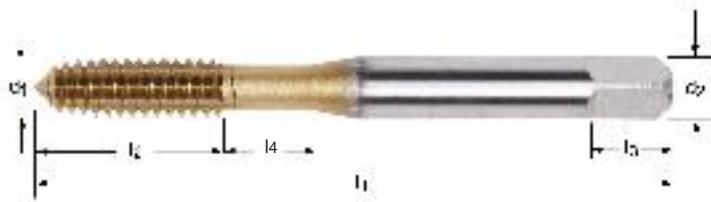
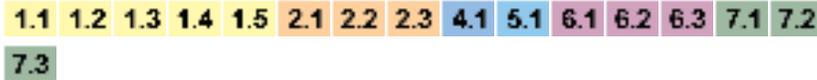
M	P mm	l_1 mm	l_2 mm	l_4 Inch (Neck Length)	d_2 Ø Inch	a Inch	# of Flutes	Limits	Pack Qty	1660AP(M)
3	0.50	56	8	18	0.141	0.110	3	D3	1	46204841
4	0.70	63	6	21	0.168	0.131	3	D4	1	46204842 ¹⁾
5	0.80	70	9	25	0.194	0.152	3	D4	1	46204843 ¹⁾
6	1.00	80	11	30	0.255	0.191	3	D5	1	46204844 ¹⁾
8	1.25	90	12	35	0.318	0.238	3	D5	1	46204846 ¹⁾
10	1.50	100	14	39	0.381	0.286	3	D6	1	46204838 ¹⁾
12	1.75	110	16		0.367	0.275	3	D6	1	46204840 ²⁾

¹⁾ Reinforced Shanks
²⁾ Reduced Shanks

Multi-Application / Lube Grooves, Full-Bottoming

1641 Premium PM substrate provides superior abrasion resistance and edge strength. Multiple Lube Groove design assures lubrication in the forming zone and eliminates the build up of hydraulic pressure in blind holes. TiN coated for enhanced performance. The hard, smooth coating provides a greater lubricity, increases tool life, and improves thread finish.

The entry taper is full bottoming style (1-2 thread chamfer) for blind hole tapping.



1641(UNC)	1641(UNF)
No.4 - 1/2	No.10 - 3/8

UNC	UNF	TPI	l_1 Inch	l_2 Inch	l_4 Inch (Neck Length)	l_3 Inch	d_2 Ø Inch	a Inch	Limits	Pack Qty	1641(UNC)	1641(UNF)
4		40	1.7/8	5/16	9/16	3/16	0.141	0.110	H3	1	1712221	—
4		40	1.7/8	5/16	9/16	3/16	0.141	0.110	H5	1	1712223	—
6		32	2"	3/8	11/16	3/16	0.141	0.110	H3	1	1712233	—
6		32	2"	3/8	11/16	3/16	0.141	0.110	H5	1	1712235	—
8		32	2.1/8	3/8	3/4	1/4	0.141	0.110	H3	1	1712239	—
8		32	2.1/8	3/8	3/4	1/4	0.141	0.110	H5	1	1712241	—
	10	32	2.3/8	1/2	7/8	1/4	0.194	0.152	H4	1	—	1712258
	10	32	2.3/8	1/2	7/8	1/4	0.194	0.152	H6	1	—	1712260
10		24	2.3/8	1/2	7/8	1/4	0.194	0.152	H6	1	1712254	—
	1/4	28	2.1/2	5/8	1"	5/16	0.255	0.191	H4	1	—	1712270
	1/4	28	2.1/2	5/8	1"	5/16	0.255	0.191	H6	1	—	1712272
1/4		20	2.1/2	5/8	1"	5/16	0.255	0.191	H4	1	1712264	—
1/4		20	2.1/2	5/8	1"	5/16	0.255	0.191	H6	1	1712266	—
	5/16	24	2.23/32	11/16	1.1/8	3/8	0.318	0.238	H7	1	—	1712285
5/16		18	2.23/32	11/16	1.1/8	3/8	0.318	0.238	H5	1	1712277	—
5/16		18	2.23/32	11/16	1.1/8	3/8	0.318	0.238	H7	1	1712279	—
	3/8	24	2.15/16	3/4	1.1/4	7/16	0.381	0.286	H7	1	—	1712297
3/8		16	2.15/16	3/4	1.1/4	7/16	0.381	0.286	H5	1	1712289	—
3/8		16	2.15/16	3/4	1.1/4	7/16	0.381	0.286	H7	1	1712291	—
1/2		13	3.3/8	15/16	1.21/32	7/16	0.367	0.275	H5	1	1712301	—
1/2		13	3.3/8	15/16	1.21/32	7/16	0.367	0.275	H8	1	1712304	—

THREAD FORMING TAPS

Multi-Application / Lube Grooves, Full-Bottoming

1671 Premium PM substrate provides superior abrasion resistance and edge strength. Multiple Lube Groove design assures lubrication in the forming zone and eliminates the build up of hydraulic pressure in blind holes. TiN coated for enhanced performance. The hard, smooth coating provides a greater lubricity, increases tool life, and improves thread finish.

The entry taper is full bottoming style for blind hole tapping.

1.1 1.2 1.3 1.4 1.5 2.1 2.2 2.3 4.1 5.1 6.1 6.2 6.3 7.1 7.2
7.3



1671(M)

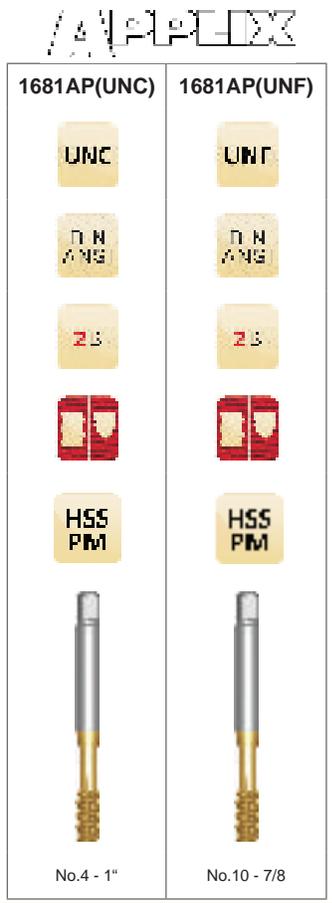
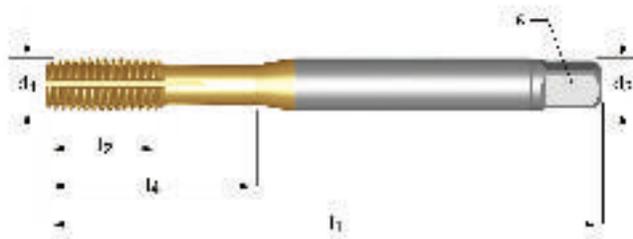
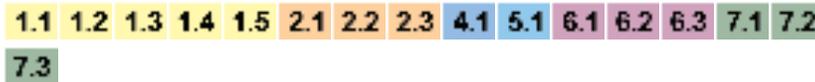


M3 - M10

M	P mm	l_1 Inch	l_2 Inch	l_4 Inch (Neck Length)	l_3 Inch	d_2 Ø Inch	a Inch	Limits	Pack Qty	1671(M)
3	0.50	1.15/16	5/16	1/2	3/16	0.141	0.110	D5	1	1713051
4	0.70	2.1/8	3/8	3/4	1/4	0.168	0.131	D6	1	1713052
5	0.80	2.3/8	1/2	7/8	1/4	0.194	0.152	D7	1	1713053
6	1.00	2.1/2	5/8	1"	5/16	0.255	0.191	D8	1	1713054
8	1.00	2.23/32	11/16	1.1/8	3/8	0.318	0.238	D9	1	1713055
8	1.25	2.23/32	11/16	1.1/8	3/8	0.318	0.238	D9	1	1713056
10	1.50	2.15/16	3/4	1.1/4	7/16	0.381	0.286	D10	1	1713057

MXR Multi-Application / Lube Grooves, Semi-Bottoming

1681AP Premium PM substrate provides superior abrasion resistance and edge strength. Multiple Lube Groove design assures lubrication in the forming zone and eliminates the build up of hydraulic pressure in blind holes. The TiN-Top coating process reduces friction, prevents chip welding and improves chip flow.



UNC	UNF	TPI	l_1 Inch	l_2 Inch	l_4 Inch (Neck Length)	Limits	d_2 Ø Inch	a Inch	Pack Qty	1681AP (UNC)	1681AP (UNF)
4		40	2.205	0.433	0.709	H5	0.141	0.110	1	46204945 ¹⁾	—
6		32	2.205	0.472	0.787	H5	0.141	0.110	1	46204950 ¹⁾	—
8		32	2.480	0.512	0.827	H5	0.168	0.131	1	46204955 ¹⁾	—
	10	32	2.756	0.512	0.984	H6	0.194	0.152	1	—	46204938 ¹⁾
10		24	2.756	0.591	0.984	H6	0.194	0.152	1	46204937 ¹⁾	—
12		24	3.150	0.630	1.142	H6	0.220	0.165	1	46371643 ¹⁾	—
	1/4	28	3.150	0.669	1.181	H6	0.255	0.191	1	—	46204936 ¹⁾
1/4		20	3.150	0.669	1.181	H6	0.255	0.191	1	46204935 ¹⁾	—
	5/16	24	3.543	0.669	1.378	H7	0.318	0.238	1	—	46204947 ¹⁾
5/16		18	3.546	0.787	1.378	H7	0.318	0.238	1	46204946 ¹⁾	—
	3/8	24	3.937	0.709	1.535	H7	0.381	0.286	1	—	46204944 ¹⁾
3/8		16	3.937	0.866	1.535	H7	0.381	0.286	1	46204943 ¹⁾	—
	7/16	20	3.937	0.866	—	H8	0.323	0.242	1	—	46204952 ²⁾
7/16		14	3.937	0.866	—	H8	0.323	0.242	1	46204951 ²⁾	—
	1/2	20	3.937	0.866	—	H8	0.397	0.275	1	—	46204934 ²⁾
1/2		13	4.331	0.984	—	H8	0.367	0.275	1	46204933 ²⁾	—
5/8		11	4.331	1.063	—	H8	0.480	0.360	1	46204948 ²⁾	—
	3/4	16	4.331	0.984	—	H8	0.590	0.442	1	—	46204942 ²⁾
3/4		10	4.921	1.181	—	H8	0.590	0.442	1	46204941 ²⁾	—
	7/8	14	4.921	1.024	—	H9	0.697	0.523	1	—	46204953 ²⁾
7/8		9	5.512	1.260	—	H9	0.697	0.523	1	46204954 ²⁾	—
1"		8	6.299	1.417	—	H9	0.800	0.600	1	46204940 ²⁾	—

¹⁾ Reinforced Shanks

²⁾ Reduced Shanks

THREAD FORMING TAPS

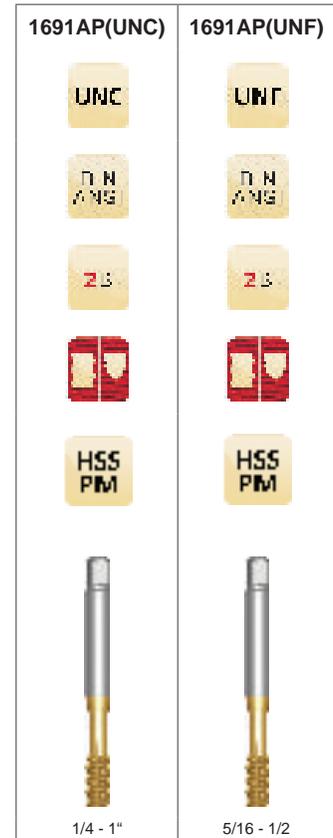
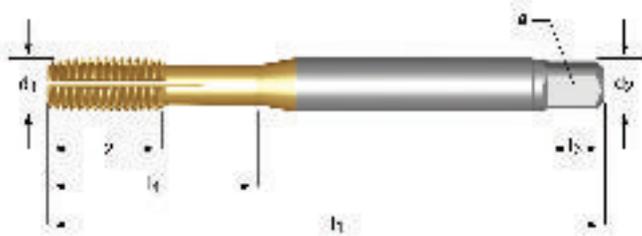


APPLEX

MXR Multi-Application / Lube Grooves, Semi-Bottoming

1691AP Coolant thru premium PM substrate allows higher tapping speeds in soft ferrous or non-ferrous materials. The TiN-Top coating process reduces friction, prevents chip welding and improves chip flow.

1.1 1.2 1.3 1.4 1.5 2.1 2.2 2.3 4.1 5.1 6.1 6.2 6.3 7.1 7.2
7.3



UNC	UNF	TPI	l_1 Inch	l_2 Inch	l_4 Inch (Neck Length)	Limits	d_2 Ø Inch	a Inch	Pack Qty	1691AP (UNC)	1691AP (UNF)
1/4		20	3.150	0.669	1.181	H6	0.255	0.191	1	46204976 ¹⁾	—
	5/16	24	3.543	0.669	1.378	H7	0.318	0.238	1	—	46204985 ¹⁾
5/16		18	3.546	0.787	1.378	H7	0.318	0.238	1	46204984 ¹⁾	—
	3/8	24	3.937	0.709	1.535	H7	0.381	0.286	1	—	46204983 ¹⁾
3/8		16	3.937	0.866	1.535	H7	0.381	0.286	1	46204982 ¹⁾	—
	7/16	20	3.937	0.866	—	H8	0.323	0.242	1	—	46204989 ²⁾
	1/2	20	3.937	0.866	—	H8	0.397	0.275	1	—	46204975 ²⁾
1/2		13	4.331	0.984	—	H8	0.367	0.275	1	46204974 ²⁾	—
5/8		11	4.331	1.063	—	H8	0.480	0.360	1	46204986 ²⁾	—
3/4		10	4.921	1.181	—	H8	0.590	0.442	1	46204980 ²⁾	—
1"		8	6.299	1.417	—	H9	0.800	0.600	1	46204979 ²⁾	—

¹⁾ Reinforced Shanks

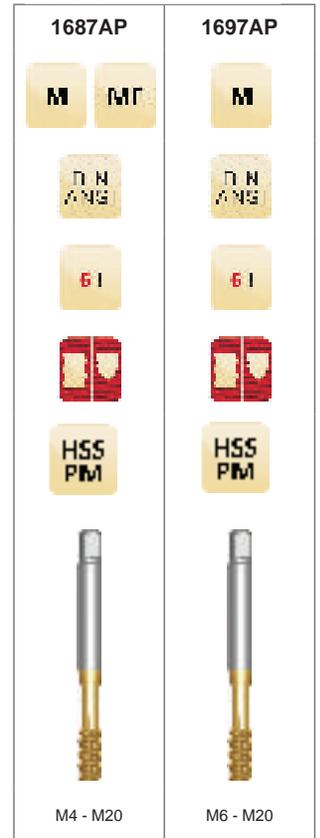
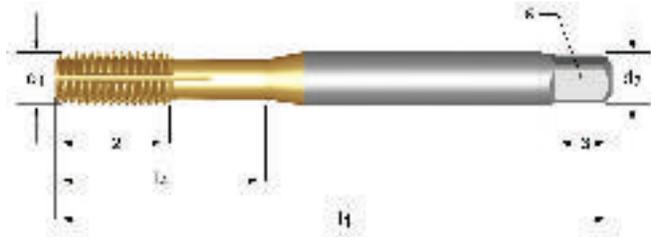
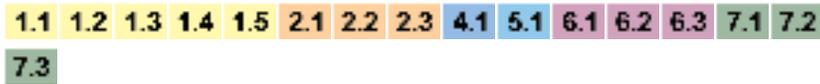
²⁾ Reduced Shanks

MXR Multi-Application / Lube Grooves, Semi-Bottoming



1687AP Premium PM substrate provides superior abrasion resistance and edge strength. Multiple Lube Groove design assures lubrication in the forming zone and eliminates the build up of hydraulic pressure in blind holes. The TiN-Top coating process reduces friction, prevents chip welding and improves chip flow. Features a semi-bottoming lead for improved performance and longer tool life. Can be used for through or blind holes.

1697AP Coolant thru premium PM substrate allows higher tapping speeds in soft ferrous or non-ferrous materials. The TiN-Top coating process reduces friction, prevents chip welding and improves chip flow.



M	MF	P mm	l ₁ mm	l ₂ mm	l ₂ Inch	l ₄ Inch (Neck Length)	Limits	d ₂ Ø Inch	a Inch	Pack Qty	1687AP	1697AP
4		0.70	63	13		21	D6	0.168	0.131	1	46204970	¹⁾ —
5		0.80	70	15		25	D7	0.194	0.152	1	46204971	¹⁾ —
6		1.00	80	17		30	D8	0.255	0.191	1	46204972	¹⁾ 46205004
8		1.25	90	20		25	D9	0.318	0.238	1	46204973	¹⁾ —
8		1.25	90	20		35	D9	0.318	0.238	1	—	46205005
	10	1.25	100	16		39	D10	0.381	0.286	1	46204956	¹⁾ —
10		1.50	100	22		39	D10	0.381	0.286	1	46204957	¹⁾ 46204991
	12	1.50	100	22			D11	0.367	0.275	1	46204958	²⁾ —
12		1.75	110	24			D11	0.367	0.275	1	46204959	²⁾ 46204993
	14	1.50	100	22			D10	0.429	0.322	1	46204960	²⁾ —
14		2.00	110	26			D11	0.429	0.322	1	46204961	²⁾ —
	16	1.50	100	22			D10	0.480	0.360	1	46204962	²⁾ —
16		2.00	110	27			D11	0.480	0.360	1	46204963	²⁾ 46204997
	20	1.50	125		25		D11	0.652	0.489	1	—	46205000
20		2.50	140	32			D12	0.652	0.489	1	46204967	²⁾ —

¹⁾ Reinforced Shanks

²⁾ Reduced Shanks

PIPE TAPS, STRAIGHT FLUTE



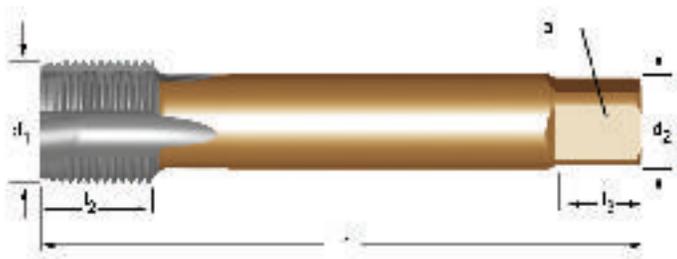
Parallel Thread, G (BSP), Plug Style

EP40 Bronze oxide body and shank reduces rust and corrosion. Bright flutes improve chip flow in soft or non-ferrous materials.

1.1 1.2 1.3 1.4 1.5 1.6 3.1 3.2 3.3 3.4 4.1 4.2 5.1 5.2 6.1
6.2 6.3 7.1 7.2 7.3 7.4 8.1

EP41 Steam oxide surface treatment reduces wear and chip welding in abrasive or harder ferrous materials.

1.1 1.2 1.3 1.4 1.5 1.6 2.1 2.2 2.3 3.1 3.2 3.3 3.4



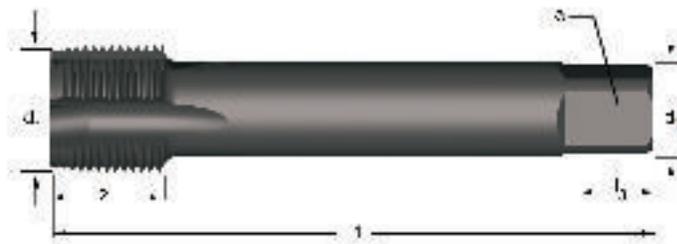
G(BSP)	TPI	d ₁ nom mm	l ₁ mm	l ₂ mm	d ₂ ∅ mm	a mm	l ₃ mm	# of flutes		Pack Qty	EP40	EP41
1/8	28	9.728	90	18	7.0	5.5	8	3	8.8	1	0138588	0138663
1/4	19	13.157	100	21	11.0	9.0	12	3	11.8	1	0138595	0138670
3/8	19	16.662	100	21	12.0	9.0	12	4	15.25	1	0138601	0138687
1/2	14	20.955	125	24	16.0	12.0	15	4	19	1	0138618	0138694
5/8	14	22.911	125	24	18.0	14.5	17	4	21	1	0138625	0138700
3/4	14	26.441	140	28	20.0	16.0	19	4	24.5	1	0138632	0147054
7/8	14	30.201	150	28	22.0	18.0	21	4	28.25	1	0138649	0149645
1"	11	33.249	160	30	25.0	20.0	23	4	30.75	1	0138656	0149652

Note: DIN shank and square dimensions will necessitate metric holders

Parallel Thread, G(BSP), Plug Style

E041 Steam oxide surface treatment reduces wear and chip welding in abrasive or harder ferrous materials.

1.1 1.2 1.3 1.4 1.5 1.6 2.1 2.2 2.3 3.1 3.2 3.3 3.4



E041

G

ISO

Normal

HSS-E



1/8 - 3/4

G(BSP)	TPI	d ₁ nom mm	l ₁ mm	l ₂ mm	d ₂ Ø mm	a mm	l ₃ mm	# of Flutes		Pack Qty	E041
1/8	28	9.728	90	15	8.0	6.3	9	3	8.80	1	0569818
1/4	19	13.157	100	19	10.0	8.0	11	3	11.80	1	0569825
3/8	19	16.662	100	21	12.5	10.0	13	3	15.25	1	0569832
1/2	14	20.955	125	26	16.0	12.5	16	4	19.00	1	0569849
3/4	14	26.441	140	28	20.0	16.0	20	4	24.50	1	0569856

Note: ISO shank and square dimensions will necessitate metric holders

PIPE TAPS, SPIRAL FLUTE



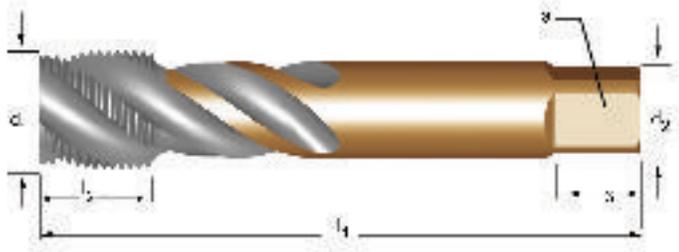
Parallel Thread, G(BSP), Semi- Bottoming

EX40 Bronze oxide body and shank reduces rust and corrosion. Bright flutes improve chip flow in soft or non-ferrous materials.

1.1 1.2 1.3 1.4 1.5 4.1 4.2 5.1 5.2 7.1 7.2 7.3 7.4 8.1

EX41 Steam oxide surface treatment reduces wear and chip welding in abrasive or harder ferrous materials.

1.1 1.2 1.3 1.4 1.5 2.1 2.2 2.3



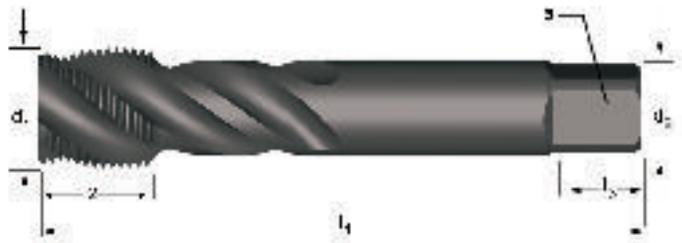
G(BSP)	TPI	d ₁ nom mm	l ₁ mm	l ₂ mm	d ₂ ∅ mm	a mm	l ₃ mm	# of flutes		Pack Qty	EX40	EX41
1/8	28	9.728	90	13	7.0	5.5	8	3	8.8	1	0168547	0168653
1/4	19	13.157	100	15	11.0	9.0	12	3	11.8	1	0168554	0168660
3/8	19	16.662	100	15	12.0	9.0	12	4	15.25	1	0168561	0168677
1/2	14	20.955	125	18	16.0	12.0	15	4	19	1	0168578	0168684
5/8	14	22.911	125	18	18.0	14.5	17	4	21	1	0168585	0168691
3/4	14	26.441	140	20	20.0	16.0	19	4	24.5	1	0168592	0168707
7/8	14	30.201	150	20	22.0	18.0	21	4	28.25	1	0168608	0168714
1"	11	33.249	160	22	25.0	20.0	23	4	30.75	1	0168615	0168721
1.1/8	11	37.897	170	22	28.0	22.0	25	4	35	1	0168622	0168738
1.1/4	11	41.910	170	22	32.0	24.0	27	4	39.5	1	0168639	0168745
1.1/2	11	47.803	190	23	36.0	29.0	32	4	45	1	0168646	0168752

Note: DIN shank and square dimensions will necessitate metric holders

Parallel Thread, G(BSP), Semi-Bottoming

E043 Steam oxide surface treatment reduces wear and chip welding in abrasive or harder ferrous materials.

1.1 1.2 1.3 1.4 1.5 1.6 2.1 2.2 2.3



E043



1/8 - 3/4

G(BSP)	TPI	d ₁ nom mm	l ₁ mm	l ₂ mm	d ₂ Ø mm	a mm	l ₃ mm	# of flutes		Pack Qty	E043
1/8	28	9.728	90	15	8.0	6.3	9	3	8.80	1	0569917
1/4	19	13.157	100	19	10.0	8.0	11	3	11.80	1	0569924
3/8	19	16.662	100	21	12.5	10.0	13	4	15.25	1	0569931
1/2	14	20.955	125	26	16.0	12.5	16	4	19.00	1	0569948
3/4	14	26.441	140	28	20.0	16.0	20	4	24.50	1	0569955

Note: ISO shank and square dimensions will necessitate metric holders

HAND TAPS



General Purpose

1500
1500S
1528
1528S

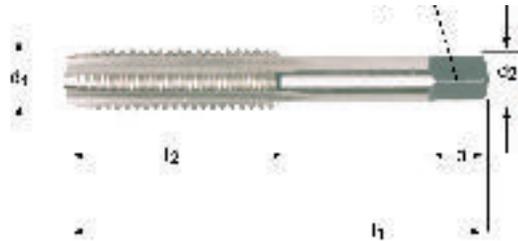
The most versatile taps for hand use or machine tapping in a wide variety of materials in through or blind hole applications. Available in 3 chamfer lengths - taper, plug, and bottoming.

Taper - 7-10 pitch chamfer length
 Plug - 3-5 pitch chamfer length
 Bottoming - 1-2 pitch chamfer length

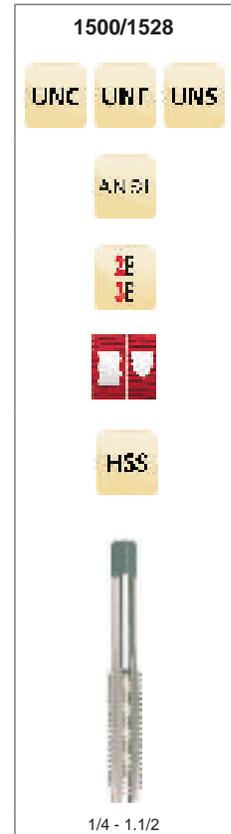
1500 - Fractional sizes

1528 - Machine screw sizes

1500S / 1528S - Sets include 1 of each tap (Taper, Plug, and Bottoming)



- Sizes 0 thru 3/8 have male centers on thread end
- Sizes larger than 3/8 all have female centers / f at ends



Nominal d ₁	TPI UNC	TPI UNF	TPI UNS	l ₁ Inch	l ₂ Inch	d ₂ Ø Inch /	a Inch	l ₃ Inch	# of Flutes	Limits	Pack Qty	Taper	Plug	Bottoming	Sets
0		80		1.5/8	5/16	0.1410	0.1100	3/16	2	H1	1	1010593	1010594	1010596	1010999
0		80		1.5/8	5/16	0.1410	0.1100	3/16	2	H2	1	—	1010595	1010597	—
1	64			1.11/16	3/8	0.1410	0.1100	3/16	2	H1	1	1010598	1010599	1010601	1011000
1		72		1.11/16	3/8	0.1410	0.1100	3/16	2	H1	1	1010603	1010604	1010606	1011001
2	56			1.3/4	7/16	0.1410	0.1100	3/16	2	H2	1	—	1010615	1010617	—
2	56			1.3/4	7/16	0.1410	0.1100	3/16	3	H1	1	1010608	1010610	1010612	—
2	56			1.3/4	7/16	0.1410	0.1100	3/16	3	H2	1	1010609	1010611	1010613	1011003
2		64		1.3/4	7/16	0.1410	0.1100	3/16	3	H2	1	—	—	—	1011073
3	48			1.13/16	1/2	0.1410	0.1100	3/16	2	H2	1	—	1010631	—	—
3	48			1.13/16	1/2	0.1410	0.1100	3/16	3	H2	1	1010625	1010627	1010629	1011005
3		56		1.13/16	1/2	0.1410	0.1100	3/16	3	H2	1	1010634	1010636	1010637	1011074
4	40			1.7/8	9/16	0.1410	0.1100	3/16	2	H2	1	—	1010650	1010652	—
4	40			1.7/8	9/16	0.1410	0.1100	3/16	3	H1	1	1010643	1010645	1010647	—
4	40			1.7/8	9/16	0.1410	0.1100	3/16	3	H2	1	1010644	1010646	1010648	1011008
4		48		1.7/8	9/16	0.1410	0.1100	3/16	3	H2	1	1010653	1010655	1010656	1011075
4			36	1.7/8	9/16	0.1410	0.1100	3/16	3	H2	1	—	—	—	1011006
5	40			1.15/16	5/8	0.1410	0.1100	3/16	3	H2	1	1010660	1010662	1010664	1011010
5		44		1.15/16	5/8	0.1410	0.1100	3/16	3	H2	1	1010669	1010671	1010672	1011076
6	32			2"	11/16	0.1410	0.1100	3/16	2	H2	1	—	1010685	1010688	—
6	32			2"	11/16	0.1410	0.1100	3/16	2	H3	1	—	1010686	1010689	—
6	32			2"	11/16	0.1410	0.1100	3/16	3	H1	1	1010675	1010678	1010681	—
6	32			2"	11/16	0.1410	0.1100	3/16	3	H2	1	1010676	1010679	1010682	1011012
6	32			2"	11/16	0.1410	0.1100	3/16	3	H3	1	1010677	1010680	1010683	1011013
6		40		2"	11/16	0.1410	0.1100	3/16	3	H2	1	1010690	1010692	1010693	1011014

Nominal d ₁	TPI UNC	TPI UNF	TPI UNS	l ₁ Inch	l ₂ Inch	d ₂ Ø Inch /	a Inch	l ₃ Inch	# of Flutes	Limits	Pack Qty	Taper	Plug	Bottoming	Sets
8	32			2.1/8	3/4	0.1680	0.1310	1/4	2	H2	1	—	1010706	1010709	—
8	32			2.1/8	3/4	0.1680	0.1310	1/4	2	H3	1	—	1010707	1010710	—
8	32			2.1/8	3/4	0.1680	0.1310	1/4	3	H2	1	—	1010712	1010715	—
8	32			2.1/8	3/4	0.1680	0.1310	1/4	3	H3	1	—	1010713	1010716	—
8	32			2.1/8	3/4	0.1680	0.1310	1/4	4	H1	1	—	1010699	—	—
8	32			2.1/8	3/4	0.1680	0.1310	1/4	4	H2	1	1010697	1010700	1010703	1011016
8	32			2.1/8	3/4	0.1680	0.1310	1/4	4	H3	1	1010698	1010701	1010704	1011017
8		36		2.1/8	3/4	0.1680	0.1310	1/4	4	H2	1	1010717	1010719	1010720	1011018
10	24			2.3/8	7/8	0.1940	0.1520	1/4	2	H2	1	—	1010733	1010736	—
10	24			2.3/8	7/8	0.1940	0.1520	1/4	2	H3	1	—	1010734	1010737	—
10	24			2.3/8	7/8	0.1940	0.1520	1/4	3	H2	1	—	1010739	—	—
10	24			2.3/8	7/8	0.1940	0.1520	1/4	3	H3	1	—	1010740	1010743	—
10	24			2.3/8	7/8	0.1940	0.1520	1/4	4	H1	1	—	1010726	—	—
10	24			2.3/8	7/8	0.1940	0.1520	1/4	4	H2	1	1010724	1010727	1010730	1011020
10	24			2.3/8	7/8	0.1940	0.1520	1/4	4	H3	1	1010725	1010728	1010731	1011021
10		32		2.3/8	7/8	0.1940	0.1520	1/4	2	H2	1	—	1010754	1010757	—
10		32		2.3/8	7/8	0.1940	0.1520	1/4	2	H3	1	—	1010755	1010758	—
10		32		2.3/8	7/8	0.1940	0.1520	1/4	3	H2	1	—	1010760	1010763	—
10		32		2.3/8	7/8	0.1940	0.1520	1/4	3	H3	1	—	1010761	1010764	—
10		32		2.3/8	7/8	0.1940	0.1520	1/4	4	H2	1	1010745	1010748	1010751	1011023
10	32			2.3/8	7/8	0.1940	0.1520	1/4	4	H3	1	1010746	1010749	1010752	1011024
12	24			2.3/8	15/16	0.2200	0.1650	9/32	4	H3	1	1010765	1010767	1010768	1011025
12		28		2.3/8	15/16	0.2200	0.1650	9/32	4	H3	1	1010769	1010771	1010772	1011026
1/4	20			2.1/2	1"	0.2550	0.1910	5/16	4	H1	1	1010001	1010004	1010008	—
1/4	20			2.1/2	1"	0.2550	0.1910	5/16	4	H2	1	1010002	1010005	1010009	—
1/4	20			2.1/2	1"	0.2550	0.1910	5/16	4	H3	1	1010003	1010006	1010010	1011029
1/4	20			2.1/2	1"	0.2550	0.1910	5/16	4	H5	1	—	1010007	1010011	—
1/4		28		2.1/2	1"	0.2550	0.1910	5/16	4	H2	1	—	1010016	1010020	—
1/4		28		2.1/2	1"	0.2550	0.1910	5/16	4	H3	1	1010014	1010017	1010021	1011032
1/4		28		2.1/2	1"	0.2550	0.1910	5/16	4	H4	1	—	1010018	1010022	—
5/16	18			2.23/32	1.1/8	0.3180	0.2380	3/8	4	H2	1	1010024	1010027	1010031	—
5/16	18			2.23/32	1.1/8	0.3180	0.2380	3/8	4	H3	1	1010025	1010028	1010032	1011035
5/16		24		2.23/32	1.1/8	0.3180	0.2380	3/8	4	H3	1	1010036	1010039	1010043	1011038
3/8	16			2.15/16	1.1/4	0.3810	0.2860	7/16	4	H2	1	1010046	1010049	1010053	—
3/8	16			2.15/16	1.1/4	0.3810	0.2860	7/16	4	H3	1	1010047	1010050	1010054	1011041
3/8	16			2.15/16	1.1/4	0.3810	0.2860	7/16	4	H5	1	—	1010051	1010055	—
3/8		24		2.15/16	1.1/4	0.3810	0.2860	7/16	4	H3	1	1010058	1010061	1010065	1011044
7/16	14			3.5/32	1.7/16	0.3230	0.2420	13/32	4	H3	1	1010067	1010070	1010074	1011045
7/16		20		3.5/32	1.7/16	0.3230	0.2420	13/32	4	H3	1	1010076	1010079	1010083	1011046
1/2	13			3.3/8	1.21/32	0.3670	0.2750	7/16	4	H2	1	—	1010087	1010091	—
1/2	13			3.3/8	1.21/32	0.3670	0.2750	7/16	4	H3	1	1010085	1010088	1010092	1011047
1/2	13			3.3/8	1.21/32	0.3670	0.2750	7/16	4	H5	1	—	1010089	1010093	—
1/2		20		3.3/8	1.21/32	0.3670	0.2750	7/16	4	H3	1	1010094	1010097	1010101	1011048
9/16	12			3.19/32	1.21/32	0.4290	0.3220	1/2	4	H3	1	1010103	1010106	1010108	1011049
9/16		18		3.19/32	1.21/32	0.4290	0.3220	1/2	4	H3	1	1010110	1010113	1010116	1011050
5/8	11			3.13/16	1.13/16	0.4800	0.3600	9/16	4	H3	1	1010118	1010121	1010123	1011051
5/8		18		3.13/16	1.13/16	0.4800	0.3600	9/16	4	H3	1	1010125	1010128	1010131	1011052
11/16			11	4.1/32	1.13/16	0.5420	0.4060	5/8	4	H3	1	—	—	—	1011053
11/16			16	4.1/32	1.13/16	0.5420	0.4060	5/8	4	H3	1	—	—	—	1011054
3/4	10			4.1/4	2"	0.5900	0.4420	11/16	4	H3	1	1010139	1010142	1010144	1011055
3/4		16		4.1/4	2"	0.5900	0.4420	11/16	4	H3	1	1010146	1010149	1010152	1011056
7/8	9			4.11/16	2.7/32	0.6970	0.5230	3/4	4	H4	1	1010154	1010157	1010159	1011057
7/8		14		4.11/16	2.7/32	0.6970	0.5230	3/4	4	H4	1	1010160	1010163	1010166	1011058

HAND TAPS



Nominal d ₁	TPI UNC	TPI UNF	TPI UNS	l ₁ Inch	l ₂ Inch	d ₂ Ø Inch /	a Inch	l ₃ Inch	# of Flutes	Limits	Pack Qty	Taper	Plug	Bottoming	Sets
1"	8			5.1/8	2.1/2	0.8000	0.6000	13/16	4	H4	1	1010167	1010170	1010172	1011059
1"		12		5.1/8	2.1/2	0.8000	0.6000	13/16	4	H4	1	1010173	1010174	1010175	1011060
1"			14	5.1/8	2.1/2	0.8000	0.6000	13/16	4	H4	1	1010176	1010178	1010181	1011061
1.1/8	7			5.7/16	2.9/16	0.8960	0.6720	7/8	4	H4	1	1010182	1010183	1010184	1011062
1.1/8		12		5.7/16	2.9/16	0.8960	0.6720	7/8	4	H4	1	1010185	1010186	1010187	1011063
1.1/4	7			5.3/4	2.9/16	1.0210	0.7660	1"	4	H4	1	1010188	1010189	1010190	1011064
1.1/4		12		5.3/4	2.9/16	1.0210	0.7660	1"	6	H4	1	1010191	1010192	1010193	1011065
1.3/8	6			6.1/16	3"	1.1000	0.8310	1.1/16	4	H4	1	1010194	1010195	1010196	1011066
1.3/8		12		6.1/16	3"	1.1000	0.8310	1.1/16	6	H4	1	1010197	1010198	1010199	1011067
1.1/2	6			6.3/8	3"	1.2300	0.9250	1.1/8	4	H4	1	1010200	1010201	1010202	1011068
1.1/2		12		6.3/8	3"	1.2300	0.9250	1.1/8	6	H4	1	1010203	1010204	1010205	1011069

General Purpose

1500A Similar in design to the standard 1500 series, but steam oxide treated to reduce wear and chip welding in harder ferrous materials. Not recommended for non-ferrous applications. For through or blind hole tapping.



¹⁾ Male centers on thread end

²⁾ Female centers / f at ends

1500A

UNC

UNF

ANSI

H3

H4

H5

H5S

1/4 - 1"

UNC	UNF	TPI	l ₁ Inch	l ₂ Inch	d ₂ ∅ Inch	a Inch	l ₃ Inch	# of Flutes	Limits	Chamfer	Pack Qty	1500A
1/4		20	2.1/2	1.000	0.2550	0.1910	5/16	4	H3	Plug	1	1050006 ¹⁾
	1/4	28	2.1/2	1.000	0.2550	0.1910	5/16	4	H3	Bottoming	1	1050021 ¹⁾
	5/16	24	2.23/32	1.1/8	0.3180	0.2380	3/8	4	H3	Plug	1	1050039 ¹⁾
5/16		18	2.23/32	1.1/8	0.3180	0.2380	3/8	4	H3	Plug	1	1050028 ¹⁾
	3/8	24	2.15/16	1.1/4	0.3810	0.2860	7/16	4	H3	Plug	1	1050061 ¹⁾
3/8		16	2.15/16	1.1/4	0.3810	0.2860	7/16	4	H3	Plug	1	1050050 ¹⁾
	7/16	20	3.5/32	1.7/16	0.3230	0.2420	13/32	4	H3	Plug	1	1050079 ²⁾
7/16		14	3.5/32	1.7/16	0.3230	0.2420	13/32	4	H3	Plug	1	1050070 ²⁾
	1/2	20	3.3/8	1.21/32	0.3670	0.2750	7/16	4	H3	Plug	1	1050097 ²⁾
1/2		13	3.3/8	1.21/32	0.3670	0.2750	7/16	4	H3	Plug	1	1050088 ²⁾
	9/16	18	3.19/32	1.21/32	0.4290	0.3220	1/2	4	H3	Plug	1	1050113 ²⁾
9/16		12	3.19/32	1.21/32	0.4290	0.3220	1/2	4	H3	Plug	1	1050106 ²⁾
	5/8	18	3.13/16	1.13/16	0.4800	0.3600	9/16	4	H3	Plug	1	1050128 ²⁾
5/8		11	3.13/16	1.13/16	0.4800	0.3600	9/16	4	H3	Plug	1	1050121 ²⁾
	3/4	16	4.1/4	2"	0.5900	0.4420	11/16	4	H3	Plug	1	1050149 ²⁾
3/4		10	4.1/4	2"	0.5900	0.4420	11/16	4	H3	Plug	1	1050142 ²⁾
	7/8	14	4.11/16	2.7/32	0.6970	0.5230	3/4	4	H4	Plug	1	1050163 ²⁾
7/8		9	4.11/16	2.7/32	0.6970	0.5230	3/4	4	H4	Plug	1	1050157 ²⁾
1"		8	5.1/8	2.1/2	0.8000	0.6000	13/16	4	H4	Plug	1	1050170 ²⁾

HAND TAPS

General Purpose

TN1500 Similar in design to the 1500 series but TiN coated for enhanced performance. The hard, smooth finish provides greater lubricity, increases tool life, improves thread finish, and allows higher tapping speeds. For through or blind hole tapping.



¹⁾ Male centers on thread end

²⁾ Female centers / f at ends

TN1500

UNC

UNF

ANSI

SE

HSS

1/4 - 7/8

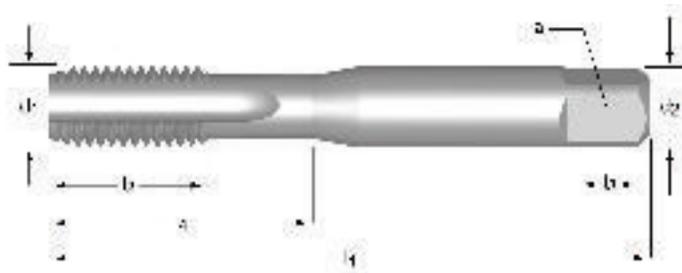
UNC	UNF	TPI	l ₁ Inch	l ₂ Inch	d ₂ Ø Inch	a Inch	l ₃ Inch	# of Flutes	Limits	Chamfer	Pack Qty	TN1500
	1/4	28	2.1/2	1.0000	0.2550	0.1910	5/16	4	H3	Plug	1	1060017 ¹⁾
1/4		20	2.1/2	1.0000	0.2550	0.1910	5/16	4	H3	Plug	1	1060006 ¹⁾
	5/16	24	2.23/32	1.1/8	0.3180	0.2380	3/8	4	H3	Plug	1	1060039 ¹⁾
5/16		18	2.23/32	1.1/8	0.3180	0.2380	3/8	4	H3	Plug	1	1060028 ¹⁾
	3/8	24	2.15/16	1.1/4	0.3810	0.2860	7/16	4	H3	Plug	1	1060061 ¹⁾
3/8		16	2.15/16	1.1/4	0.3810	0.2860	7/16	4	H3	Plug	1	1060050 ¹⁾
	7/16	20	3.5/32	1.7/16	0.3230	0.2420	13/32	4	H3	Plug	1	1060079 ²⁾
7/16		14	3.5/32	1.7/16	0.3230	0.2420	13/32	4	H3	Plug	1	1060070 ²⁾
	1/2	20	3.3/8	1.21/32	0.3670	0.2750	7/16	4	H3	Plug	1	1060097 ²⁾
1/2		13	3.3/8	1.21/32	0.3670	0.2750	7/16	4	H3	Plug	1	1060088 ²⁾
1/2		13	3.3/8	1.21/32	0.3670	0.2750	7/16	4	H3	Bottoming	1	1060092 ²⁾
5/8		11	3.13/16	1.13/16	0.4800	0.3600	9/16	4	H3	Plug	1	1060121 ²⁾
	5/8	18	3.13/16	1.13/16	0.4800	0.3600	9/16	4	H3	Bottoming	1	1060131 ²⁾
5/8		11	3.13/16	1.13/16	0.4800	0.3600	9/16	4	H3	Bottoming	1	1060123 ²⁾
	3/4	16	4.1/4	2"	0.5900	0.4420	11/16	4	H3	Bottoming	1	1060152 ²⁾
3/4		10	4.1/4	2"	0.5900	0.4420	11/16	4	H3	Bottoming	1	1060144 ²⁾
7/8		9	4.11/16	2.7/32	0.6970	0.5230	3/4	4	H4	Plug	1	1060157 ²⁾

General Purpose

E500 The most versatile taps for hand use or machine tapping in a wide variety of materials in through or blind hole applications. Available in 3 chamfer lengths - taper, plug, and semi-bottoming.

- Taper - 7-10 pitch chamfer length
- Plug - 3-5 pitch chamfer length
- Semi-Bottoming - 1-2 pitch chamfer length

Sets include 1 of each tap (Taper, Plug, and Bottoming)



E500

M

ISO 529

61



HSS



M1 - M56

Note: ISO shank and square dimensions will necessitate metric holders

Nominal d ₁	Pitch M	l ₁ mm	l ₂ mm	d ₂ Ø mm	a mm	l ₃ mm	# of Flutes	l ₄ mm	Pack Qty	Taper	Plug	Semi - Bottoming	Sets	
1	0.25	38	4.5	2.50	2.00	4	2	0.75	4.5	1	0160152	0160169	0122464	—
1.2	0.25	38	4.5	2.50	2.00	4	2	0.95	4.5	1	0160176	0160183	0122471	—
1.4	0.30	40	6	2.50	2.00	4	2	0.95	6	1	0160190	0160206	0122488	—
1.6	0.35	41	8	2.50	2.00	4	2	1.25	8	1	0155035	0139950	0093900	0155028
1.7	0.35	41	8	2.50	2.00	4	2	1.35	8	1	0155004	0093924	0093931	0154991
1.8	0.35	41	8	2.50	2.00	4	2	1.45	8	1	0154960	0093948	0093955	—
2	0.40	41	8	2.50	2.00	4	3	1.6	8	1	0094259	0094266	0094273	0154939
2	0.45	41	8	2.50	2.00	4	3	1.55	8	1	0160244	0160251	0160268	—
2.2	0.45	44.5	9.5	2.80	2.24	5	3	1.75	9.5	1	0154915	0094167	0094174	—
2.3	0.45	44.5	9.5	2.80	2.24	5	3	1.85	9.5	1	0154885	0094198	0094204	—
2.5	0.45	44.5	9.5	2.80	2.24	5	3	2.05	9.5	1	0154854	0094228	0094235	0154847
2.6	0.45	44.5	9.5	2.80	2.24	5	3	2.15	9.5	1	0156735	0156742	0122440	—
3	0.50	48	12.5	3.15	2.50	5	3	2.5	12.5	1	0154823	0094440	0094457	0094464
3	0.60	48	12.5	3.15	2.50	5	3	2.4	12.5	1	0159927	0159934	0159941	—
3.5	0.60	50	14	3.55	2.80	5	3	2.9	14	1	0094402	0094419	0094426	0154809
4	0.70	53	14	4.00	3.15	6	3	3.3	14	1	0154786	0094648	0094655	0094662
4	0.75	53	14	4.00	3.15	6	3	3.25	14	1	0160213	0160220	0160237	—
4.5	0.75	53	9.5	4.50	3.55	6	3	3.8	18	1	0154762	0094617	0094624	0154755
5	0.80	58	11	5.00	4.00	7	3	4.2	22	1	0154731	0094761	0094778	0154724
5	0.90	58	11	5.00	4.00	7	3	4.1	22	1	0159958	0159965	0159972	—
5.5	0.90	62	12	5.60	4.50	7	3	4.6	21	1	0159996	0160008	0160015	—
6	1.00	66	13	6.30	5.00	8	3	5	26	1	0094808	0094815	0094822	0154700
7	1.00	66	13	7.10	5.60	8	3	6	26	1	0154687	0139967	0094846	0094853
8	1.25	72	16	8.00	6.30	9	3	6.8	29	1	0154663	0094877	0094884	0094891
9	1.25	72	16	9.00	7.10	10	3	7.8	29	1	0154649	0152119	0094914	0154632
10	1.50	80	18	10.00	8.00	11	3	8.5	34	1	0153246	0093979	0093986	0154618
11	1.50	85	19	8.00	6.30	9	3	9.5		1	0154595	0094006	0094013	0154588
12	1.75	89	22	9.00	7.10	10	3	10.3		1	0154564	0094037	0094044	0094051
14	2.00	95	24	11.20	9.00	12	4	12		1	0152980	0094075	0094082	0154540
16	2.00	102	24	12.50	10.00	13	4	14		1	0154526	0094105	0094112	0154519
18	2.50	112	29	14.00	11.20	14	4	15.5		1	0154496	0094136	0094143	0154489
20	2.50	112	29	14.00	11.20	14	4	17.5		1	0154465	0150719	0094297	0154458

HAND TAPS



Nominal d ₁	Pitch M	l ₁ mm	l ₂ mm	d ₂ Ø mm	a mm	l ₃ mm	# of Flutes		l ₄ mm	Pack Qty	Taper	Plug	Semi - Bottoming	Sets
22	2.50	118	29	16.00	12.50	16	4	19.5		1	0154434	0094310	0094327	0154427
24	3.00	130	35	18.00	14.00	18	4	21		1	0154403	0094341	0094358	0154397
27	3.00	135	35	20.00	16.00	20	4	24		1	0154366	0094365	0094372	—
30	3.50	138	41	20.00	16.00	20	4	26.5		1	0154359	0094488	0094495	—
33	3.50	151	41	22.40	18.00	22	4	29.5		1	0154342	0152225	0094525	—
36	4.00	162	47	25.00	20.00	24	4	32		1	0154335	0094549	0094556	—
39	4.00	170	47	28.00	22.40	26	4	35		1	0154328	0152232	0094587	—
42	4.50	170	53	28.00	22.40	26	6	37.5		1	0154311	0152249	0094686	—
45	4.50	187	54	31.50	25.00	28	6	40.5		1	0154304	0152256	0094709	—
48	5.00	187	60	31.50	25.00	28	6	43		1	0154298	0152263	0094730	—
52	5.00	200	60	35.50	28.00	31	6	47		1	—	—	0094792	—
56	5.50	200	60	35.50	28.00	31	6	50.5		1	—	—	0122457	—

Note: ISO shank and square dimensions will necessitate metric holders

General Purpose

E513 The most versatile taps for hand use or machine tapping in a wide variety of materials in through or blind hole applications. Available in 3 chamfer lengths - taper, plug, and semi-bottoming.

Taper - 7-10 pitch chamfer length

Plug - 3-5 pitch chamfer length

Semi-Bottoming - 1-2 pitch chamfer length

3 pc.(No.6) sets include 1 of each tap (Taper, Plug and Bottoming)

2 pc.(No.7) sets include 1 of each tap (Plug and Bottoming)



Note: ISO shank and square dimensions will necessitate metric holders

Nominal d ₁	Pitch MF	l ₁ mm	l ₂ mm	d ₂ Ø mm	a mm	# of Flutes	l ₃ mm	l ₄ mm	Pack Qty	Taper	Plug	Semi - Bottoming	2 Pc Sets	3 Pc Sets
3	0.35	48	12.5	3.15	2.50	3	5	2.65	12.5	1	0160039	0160046	0096567	—
3.5	0.35	48	12.5	3.15	2.50	3	5	3.2	12.5	1	—	—	0343111	—
4	0.50	53	14	4.00	3.15	3	6	3.5	14	1	0156766	0152454	0096680	0155561
5	0.50	58	11	5.00	4.00	3	7	4.5	22	1	0156728	0096727	0096734	0096741
5	0.75	58	11	5.00	4.00	3	7	4.3	22	1	0157046	0156773	0123027	—
6	0.50	66	13	6.30	5.00	3	8	5.5	26	1	0156780	0156797	0123034	—
6	0.75	66	13	6.30	5.00	3	8	5.3	26	1	0156803	0152461	0096765	0096772
7	0.75	66	13	7.10	5.60	3	8	6.3	26	1	0160053	0096789	0096796	—
8	0.50	72	16	8.00	6.30	3	9	7.5	29	1	0160060	0160077	0123058	—
8	0.75	72	16	8.00	6.30	3	9	7.3	29	1	0157053	0152478	0096802	0096819
8	1.00	72	16	8.00	6.30	3	9	7	29	1	0157060	0152485	0096826	0155554
9	0.75	72	16	9.00	7.10	3	10	8.3	29	1	—	—	0343128	—
9	1.00	72	16	9.00	7.10	3	10	8	29	1	0159644	0155752	0096833	—
10	0.50	80	18	10.00	8.00	3	11	9.5	34	1	—	—	0343135	—
10	0.75	80	18	10.00	8.00	3	11	9.3	34	1	0160084	0160091	0123065	—
10	1.00	80	18	10.00	8.00	3	11	9	34	1	0157077	0152492	0096086	0155547
10	1.25	80	18	10.00	8.00	3	11	8.8	34	1	0157091	0152508	0096079	0155530
11	0.75	85	19	8.00	6.30	3	9	10.3	—	1	0160107	0160114	0123072	—
11	1.00	85	19	8.00	6.30	3	9	10	—	1	0159651	0096093	0096109	—
11	1.25	85	19	8.00	6.30	3	9	9.8	—	1	—	—	0343142	—
12	0.75	89	22	9.00	7.10	3	10	11.3	—	1	—	—	0343166	—
12	1.00	89	22	9.00	7.10	3	10	11	—	1	0157114	0152515	0096154	0155523
12	1.25	89	22	9.00	7.10	3	10	10.8	—	1	0157121	0152522	0096116	0096123
12	1.50	89	22	9.00	7.10	3	10	10.5	—	1	0157145	0096130	0096147	0155516
13	1.50	89	22	9.00	7.10	3	10	11.5	—	1	—	—	0343173	—
14	1.00	95	24	11.20	9.00	4	12	13	—	1	0156810	0152539	0096185	0155509
14	1.25	95	24	11.20	9.00	4	12	12.8	—	1	0156827	0152546	0096161	—
14	1.50	95	24	11.20	9.00	4	12	12.5	—	1	0156841	0152553	0096178	0155486
15	1.50	95	24	11.20	9.00	4	12	13.5	—	1	—	0096192	0096208	—
16	1.00	102	24	12.50	10.00	4	13	15	—	1	0156865	0152560	0096246	0096253
16	1.25	102	24	12.50	10.00	4	13	14.8	—	1	—	—	0343203	—
16	1.50	102	24	12.50	10.00	4	13	14.5	—	1	0156872	0152577	0096222	0096239

HAND TAPS

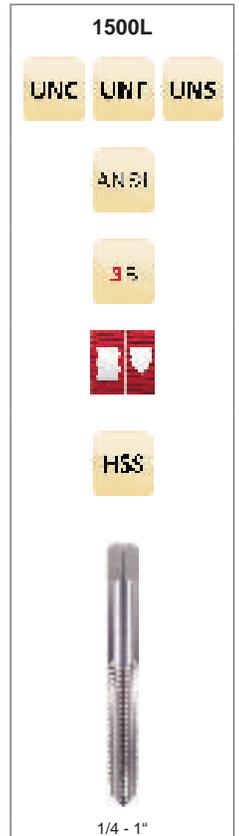
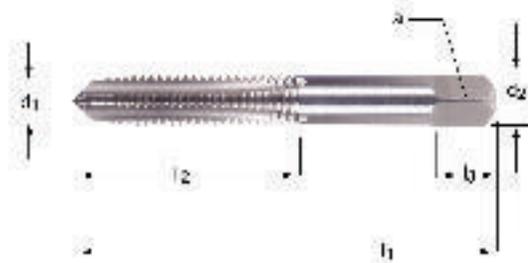


Nominal d ₁	Pitch MF	l ₁ mm	l ₂ mm	d ₂ ∅ mm	a mm	# of Flutes	l ₃ mm		l ₄ mm	Pack Qty	Taper	Plug	Semi - Bottoming	2 Pc Sets	3 Pc Sets
18	1.00	112	29	14.00	11.20	4	14	17		1	0156896	0096277	0096284	0096291	—
18	1.50	112	29	14.00	11.20	4	14	16.5		1	0156902	0152584	0096260	0155479	0156919
18	2.00	112	29	14.00	11.20	4	14	16		1	0156926	0096307	0096314	0096321	—
20	1.00	112	29	14.00	11.20	4	14	19		1	0156933	0096345	0096352	0096369	—
20	1.50	112	29	14.00	11.20	4	14	18.5		1	0156940	0152591	0096338	0155462	0156957
20	2.00	112	29	14.00	11.20	4	14	18		1	0156964	0096376	0096383	0155455	—
22	1.00	118	29	16.00	12.50	4	16	21		1	—	0096406	0096413	0155448	—
22	1.50	118	29	16.00	12.50	4	16	20.5		1	0156971	0152607	0096390	0155431	—
22	2.00	118	29	16.00	12.50	4	16	20		1	0156988	0096420	0096437	0096444	—
24	1.00	130	35	18.00	14.00	4	18	23		1	—	0096475	0096482	—	—
24	1.50	130	35	18.00	14.00	4	18	22.5		1	0156995	0152614	0096451	0096468	—
24	2.00	130	35	18.00	14.00	4	18	22		1	0157008	0096499	0096505	0155745	—
25	1.50	130	35	18.00	14.00	4	18	23.5		1	0157015	0152621	0096512	0150740	0157022
26	1.50	130	35	18.00	14.00	4	18	24.5		1	—	0096529	0096536	—	—
27	1.50	135	35	20.00	16.00	4	20	25.5		1	—	0155738	0123010	—	—
27	2.00	135	35	20.00	16.00	4	20	25		1	—	—	0123041	—	—
28	1.50	138	35	20.00	16.00	4	20	26.5		1	—	0096543	0096550	—	—
30	1.50	138	41	20.00	16.00	4	20	28.5		1	—	0096574	0096581	—	—
30	2.00	138	41	20.00	16.00	4	20	28		1	—	0155721	0123003	—	—
32	1.50	151	41	22.40	18.00	4	22	30.5		1	0157039	0155578	0096598	—	—
33	2.00	151	41	22.40	18.00	4	22	31		1	—	0096604	0096611	—	—
35	1.50	162	47	25.00	20.00	4	24	33.5		1	—	0096628	0096635	—	—
36	1.50	162	47	25.00	20.00	4	24	34.5		1	—	—	0343302	—	—
36	2.00	162	47	25.00	20.00	4	24	34		1	—	0152638	0096642	—	—
36	3.00	162	47	25.00	20.00	4	24	33		1	—	0096659	0096666	—	—
39	3.00	170	47	28.00	22.40	4	26	36		1	—	0152645	0096673	—	—
40	1.50	170	53	28.00	22.40	6	26	38.5		1	—	0155691	0096697	—	—
42	1.50	170	53	28.00	22.40	6	26	40.5		1	—	0155684	0096703	—	—
42	3.00	170	53	28.00	22.40	6	26	39		1	—	—	0343319	—	—
45	1.50	187	54	31.50	25.00	6	28	43.5		1	—	0155677	0096710	—	—
48	1.50	187	60	31.50	25.00	6	28	46.5		1	—	—	0343333	—	—
48	2.00	187	60	31.50	25.00	6	28	46		1	—	—	0343340	—	—
48	3.00	187	60	31.50	25.00	6	28	45		1	—	—	0343357	—	—
50	1.50	187	60	31.50	25.00	6	28	48.5		1	—	0155660	0096758	—	—

Note: ISO shank and square dimensions will necessitate metric holders

General Purpose, Left Hand

1500L Left Hand. Similar in design to the standard 1500 series but finished with left hand threads, which when viewed axially, wind in a counter-clockwise and receding direction. Available in plug chamfer. For through or blind hole applications.



			l_1	l_2	d_2	a	l_3	# of Flutes	Limits	Chamfer	Pack Qty	1500L
UNC	UNF	UNS	TPI	Inch	Inch	Inch	Inch					
	1/4	28	2.1/2	1"	0.2550	0.1910	5/16	4	H3	Plug	1	1011775
1/4		20	2.1/2	1"	0.2550	0.1910	5/16	4	H3	Plug	1	1011772
	5/16	24	2.23/32	1.1/8	0.3180	0.2380	3/8	4	H3	Plug	1	1011781
5/16		18	2.23/32	1.1/8	0.3180	0.2380	3/8	4	H3	Plug	1	1011778
	3/8	24	2.15/16	1.1/4	0.3810	0.2860	7/16	4	H3	Plug	1	1011787
3/8		16	2.15/16	1.1/4	0.3810	0.2860	7/16	4	H3	Plug	1	1011784
	7/16	20	3.5/32	1.7/16	0.3230	0.2420	13/32	4	H3	Plug	1	1011793
7/16		14	3.5/32	1.7/16	0.3230	0.2420	13/32	4	H3	Plug	1	1011790
	1/2	20	3.3/8	1.21/32	0.3670	0.2750	7/16	4	H3	Plug	1	1011799
1/2		13	3.3/8	1.21/32	0.3670	0.2750	7/16	4	H3	Plug	1	1011796
	9/16	18	3.19/32	1.21/32	0.4290	0.3220	1/2	4	H3	Plug	1	1011805
9/16		12	3.19/32	1.21/32	0.4290	0.3220	1/2	4	H3	Plug	1	1011802
	5/8	18	3.13/16	1.13/16	0.4800	0.3600	9/16	4	H3	Plug	1	1011811
5/8		11	3.13/16	1.13/16	0.4800	0.3600	9/16	4	H3	Plug	1	1011808
	3/4	16	4.1/4	2"	0.5900	0.4420	11/16	4	H3	Plug	1	1011823
3/4		10	4.1/4	2"	0.5900	0.4420	11/16	4	H3	Plug	1	1011820
	7/8	14	4.11/16	2.7/32	0.6970	0.5230	3/4	4	H4	Plug	1	1011829
7/8		9	4.11/16	2.7/32	0.6970	0.5230	3/4	4	H4	Plug	1	1011826
	1"	14	5.1/8	2.1/2	0.8000	0.6000	13/16	4	H4	Plug	1	1011838
1"		12	5.1/8	2.1/2	0.8000	0.6000	13/16	4	H4	Plug	1	1011835
	1"	8	5.1/8	2.1/2	0.8000	0.6000	13/16	4	H4	Plug	1	1011832

HAND TAPS



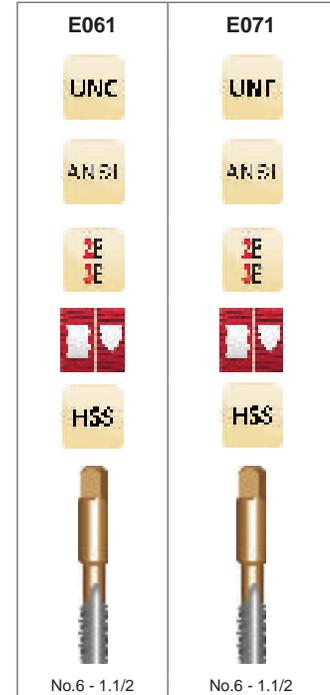
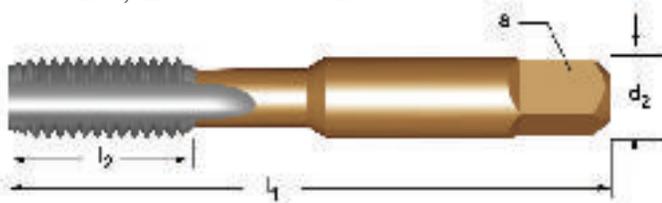
General Purpose

E061 The most versatile taps for hand use or machine tapping in a wide variety of materials in through or blind hole applications.
E071 Available in 3 chamfer lengths - taper, plug, and semi-bottoming.

Taper - 7-10 pitch chamfer length
 Plug - 3-5 pitch chamfer length
 Semi-Bottoming - 1-2 pitch chamfer length

Premium substrate with bronze oxide body and shank reduces rust and corrosion. Bright finish flutes improve chip flow in soft or non-ferrous materials.

E061 = UNC Sizes, E071 = UNF Sizes



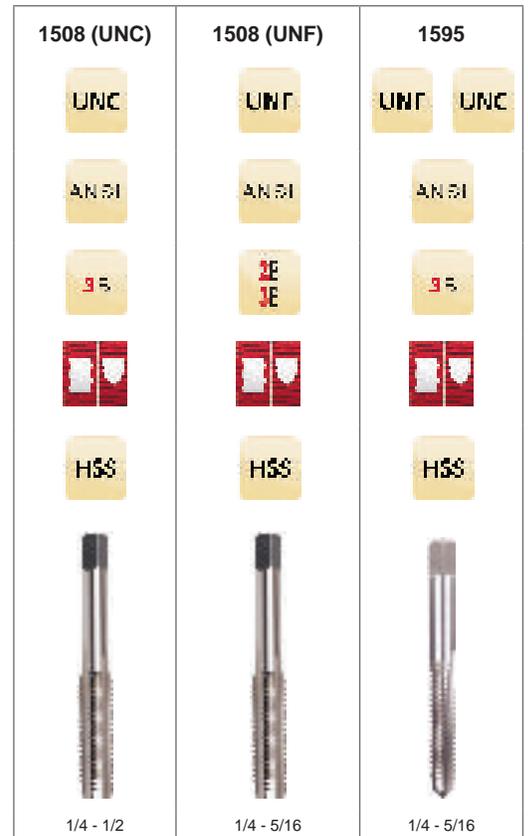
Nominal d ₁	TP UNC UNF	TPI UNC UNF	l ₁ Inch	l ₂ Inch	d ₂ Ø Inch /	a Inch	# of Flutes	Limits	Pitch Inch	l ₄ Inch	Pack Qty	Taper	Plug	Semi - Bottoming	Sets
6	32	2"	0.5800	0.1410	0.1100	3	H3	36	2.85	0.5800	1	0348291	0348307	0348314	0348321
6	40	2"	0.5800	0.1410	0.1100	3	H2	33	2.90	0.5800	1	0349427	0349434	0349441	0349458
8	32	2.1/8	0.6500	0.1680	0.1310	4	H3	29	3.50	0.6500	1	0348284	0348338	0348345	0348352
8	36	2.1/8	0.6500	0.1680	0.1310	4	H2	29	3.50	0.6500	1	0349465	0349472	0349489	0349496
10	24	2.3/8	0.7600	0.1940	0.1520	4	H3	25	3.90	0.7600	1	0348369	0348376	0348383	0348390
10	32	2.3/8	0.7600	0.1940	0.1520	4	H3	21	4.10	0.7600	1	0349502	0349519	0349526	0349533
12	24	2.3/8	0.8100	0.2200	0.1650	4	H3	16	4.50	0.8100	1	0348406	0348413	0348420	0348437
12	28	2.3/8	0.8100	0.2200	0.1650	4	H3	15	4.70	0.8100	1	0349540	0349557	0349564	0349571
1/4	20	2.1/2	0.6500	0.2550	0.1910	4	H3	7	5.10	1.0630	1	0348444	0348451	0348468	0348475
1/4	28	2.1/2	0.6500	0.2550	0.1910	4	H3	3	5.50	1.0630	1	0349588	0349595	0349601	0349618
5/16	18	2.23/32	0.7700	0.3180	0.2380	4	H3	F	6.60	1.2598	1	0348482	0348499	0348505	0348512
5/16	24	2.23/32	0.7700	0.3180	0.2380	4	H3	I	6.90	1.2598	1	0349625	0349632	0349649	0349656
3/8	16	2.15/16	0.8100	0.3810	0.2860	4	H3	5/16	8.00	1.3780	1	0348529	0348536	0348543	0348550
3/8	24	2.15/16	0.8100	0.3810	0.2860	4	H3	Q	8.50	1.3780	1	0349663	0349670	0349687	0349694
7/16	14	3.5/32	0.9055	0.3230	0.2420	4	H3	U	9.40		1	0348567	0348574	0348581	0348598
7/16	20	3.5/32	0.9055	0.3230	0.2420	4	H3	25/64	9.90		1	0349700	0349717	0349724	0349731
1/2	13	3.3/8	0.9055	0.3670	0.2750	4	H3	27/64	10.80		1	0348604	0348611	0348628	0348635
1/2	20	3.3/8	0.9055	0.3670	0.2750	4	H3	29/64	11.50		1	0349748	0349755	0349762	0349779
9/16	12	3.19/32	0.9843	0.4290	0.3220	4	H3	27/64	12.20		1	0351833	0348642	0348659	0348666
9/16	18	3.19/32	0.9843	0.4290	0.3220	4	H3	33/64	12.90		1	0349786	0349793	0349809	0349816
5/8	11	3.13/16	0.9843	0.4800	0.3600	4	H3	17/32	13.50		1	0348673	0348680	0348697	0348703
5/8	18	3.13/16	0.9843	0.4800	0.3600	4	H3	37/64	14.50		1	0349823	0349830	0349847	0349854
3/4	10	4.1/4	1.1811	0.5900	0.4420	4	H3	21/32	16.50		1	0348710	0348727	0348734	0348741
3/4	16	4.1/4	1.1811	0.5900	0.4420	4	H3	11/16	17.50		1	0349861	0349878	0349885	0351932
7/8	9	4.11/16	1.1811	0.6970	0.5230	4	H4	49/64	19.50		1	0348758	0348765	0348772	0348789
7/8	14	4.11/16	1.1811	0.6970	0.5230	4	H4	13/16	20.40		1	0349892	0349908	0349915	0349922
1"	8	5.1/8	1.4173	0.8000	0.6000	4	H4	7/8	22.25		1	0348796	¹⁾ 0348802	¹⁾ 0348819	¹⁾ 0348826
1"	12	5.1/8	1.4173	0.8000	0.6000	4	H4	59/64	23.25		1	0349939	¹⁾ 0349946	¹⁾ 0349953	¹⁾ 0349960
1"	14	5.1/8	1.4173	0.8000	0.6000	4	H4	59/64	23.25		1	0349977	¹⁾ 0349984	¹⁾ 0349991	¹⁾ 0350003
1.1/8	7	5.7/16	1.3976	0.8950	0.6710	4	H4	63/64	25.00		1	0388112	¹⁾ 0388129	¹⁾ 0388136	¹⁾ 0259719
1.1/8	12	5.7/16	1.3976	0.8950	0.6710	4	H4	1.3/64	26.50		1	0388235	¹⁾ 0388242	¹⁾ 0388259	—
1.1/4	7	5.3/4	1.6338	1.0210	0.7650	4	H4	1.7/64	28.00		1	0388143	¹⁾ 0388150	¹⁾ 0388167	¹⁾ 0259702
1.1/4	12	5.3/4	1.6338	1.0210	0.7650	6	H4	1.5/32	29.50		1	0388266	¹⁾ 0388273	¹⁾ 0388280	—
1.3/8	6	6.1/16	1.8700	1.1090	0.8300	4	H4	1.7/32	30.75		1	0388174	¹⁾ 0388181	¹⁾ 0388198	—
1.3/8	12	6.1/16	1.8700	1.1090	0.8300	6	H4	1.9/32	32.75		1	0388297	¹⁾ 0388303	¹⁾ 0388310	—
1.1/2	6	6.3/8	1.8700	1.2330	0.9520	4	H4	1.11/32	34.00		1	0388204	¹⁾ 0388211	¹⁾ 0388228	¹⁾ 0259696
1.1/2	12	6.3/8	1.8700	1.2330	0.9520	6	H4	1.27/64	36.00		1	0388327	¹⁾ 0388334	¹⁾ 0388341	—

General Purpose, Optional Flutes

1508 - *Optional 3 Flute*

1595 - *Optional 2 Flute*

Fewer flutes than standard, providing more space for chip evacuation and particularly when tapping holes greater than 1.5 tap diameters in depth. For through or blind hole applications.



		l_1	l_2	d_2	a	l_3	# of	Limits	Chamfer	Pack Qty	1508(UNC)	1508(UNF)	1595
UNC	UNF TPI	Inch	Inch	Inch	Inch	Inch	Flutes						
	1/4 28	2.1/2	1"	0.2550	0.1910	5/16	3	H3	Plug	1	—	1010223	—
	1/4 28	2.1/2	1"	0.2550	0.1910	5/16	2	H3	Plug	1	—	—	1010208
1/4	20	2.1/2	1"	0.2550	0.1910	5/16	3	H3	Plug	1	1010216	—	—
1/4	20	2.1/2	1"	0.2550	0.1910	5/16	2	H3	Plug	1	—	—	1010206
	1/4 28	2.1/2	1"	0.2550	0.1910	5/16	3	H3	Bottoming	1	—	—	—
	1/4 28	2.1/2	1"	0.2550	0.1910	5/16	2	H3	Bottoming	1	—	—	1010209
1/4	20	2.1/2	1"	0.2550	0.1910	5/16	3	H3	Bottoming	1	1010219	—	—
1/4	20	2.1/2	1"	0.2550	0.1910	5/16	2	H3	Bottoming	1	—	—	1010207
	5/16 24	2.23/32	1.1/8	0.3180	0.2380	3/8	3	H3	Plug	1	—	1010236	—
	5/16 18	2.23/32	1.1/8	0.3180	0.2380	3/8	3	H3	Plug	1	1010230	—	—
5/16	18	2.23/32	1.1/8	0.3180	0.2380	3/8	2	H3	Plug	1	—	—	1010210
	5/16 24	2.23/32	1.1/8	0.3180	0.2380	3/8	3	H3	Bottoming	1	—	1010237	—
5/16	18	2.23/32	1.1/8	0.3180	0.2380	3/8	3	H3	Bottoming	1	1010233	—	—
5/16	18	2.23/32	1.1/8	0.3180	0.2380	3/8	2	H3	Bottoming	1	—	—	1010211
	3/8 24	2.15/16	1.1/4	0.3810	0.2860	7/16	3	H3	Plug	1	—	1010246	—
3/8	16	2.15/16	1.1/4	0.3810	0.2860	7/16	3	H3	Plug	1	1010240	—	—
	3/8 24	2.15/16	1.1/4	0.3810	0.2860	7/16	3	H3	Bottoming	1	—	1010247	—
3/8	16	2.15/16	1.1/4	0.3810	0.2860	7/16	3	H3	Bottoming	1	1010243	—	—
	7/16 20	3.5/32	1.7/16	0.3230	0.2420	13/32	3	H3	Plug	1	—	1010250	—
7/16	14	3.5/32	1.7/16	0.3230	0.2420	13/32	3	H3	Plug	1	1010248	—	—
	1/2 20	3.3/8	1.21/32	0.3670	0.2750	7/16	3	H3	Plug	1	—	1010254	—
1/2	13	3.3/8	1.21/32	0.3670	0.2750	7/16	3	H3	Plug	1	1010252	—	—
1/2	13	3.3/8	1.21/32	0.3670	0.2750	7/16	3	H3	Bottoming	1	1010253	—	—

HAND TAPS



General Purpose

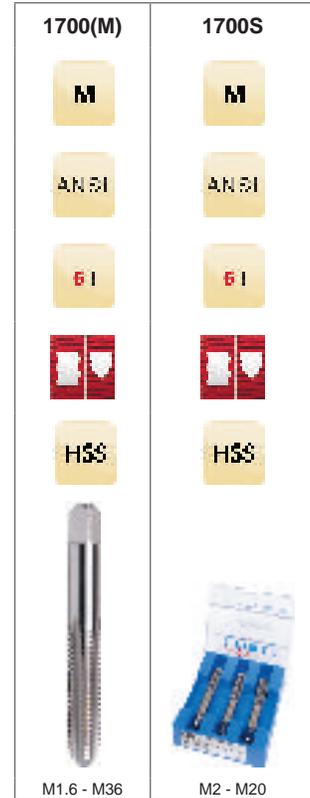
1700(M) The most versatile taps for hand use or machine tapping in a wide variety of materials in through or blind hole applications. Available in 3 chamfer lengths - taper, plug, and bottoming.

Taper - 7-10 pitch chamfer length

Plug - 3-5 pitch chamfer length

Bottoming - 1-2 pitch chamfer length

1700S Sets include 1 of each tap (Taper, Plug, and Bottoming).

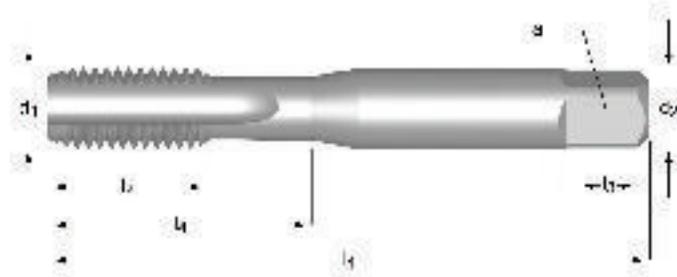


Nominal d ₁	Pitch M	l ₁ Inch	l ₂ Inch	d ₂ Ø Inch /	l ₃ Inch	a Inch	# of Flutes	Limits	Pack Qty	Taper	Plug	Bottoming	Sets
M1.6	0.35	1.5/8	5/16	0.1410	3/16	0.1100	2	D3	1	1012408	1012409	1012410	—
M1.8	0.35	1.11/16	3/8	0.1410	3/16	0.1100	2	D3	1	1012411	1012412	—	—
M2	0.40	1.3/4	7/16	0.1410	3/16	0.1100	3	D3	1	1012414	1012415	1012416	1012558
M2.3	0.40	1.3/4	7/16	0.1410	3/16	0.1100	3	D3	1	—	1012421	1012422	—
M2.5	0.45	1.13/16	1/2	0.1410	3/16	0.1100	3	D3	1	1012423	1012424	1012425	1012560
M2.6	0.45	1.13/16	1/2	0.1410	3/16	0.1100	3	D3	1	1012426	1012427	—	—
M3	0.50	1.15/16	5/8	0.1410	3/16	0.1100	3	D3	1	1012432	1012433	1012434	1012561
M3.5	0.60	2"	11/16	0.1410	3/16	0.1100	3	D4	1	1012435	1012436	1012437	1012562
M4	0.70	2.1/8	3/4	0.1680	1/4	0.1310	4	D4	1	1012441	1012442	1012443	1012563
M4.5	0.75	2.3/8	7/8	0.1940	1/4	0.1520	4	D4	1	1012444	1012445	—	—
M5	0.80	2.3/8	7/8	0.1940	1/4	0.1520	4	D4	1	1012453	1012454	1012455	1012564
M6	1.00	2.1/2	1"	0.2550	5/16	0.1910	4	D5	1	1012459	1012460	1012461	1012565
M7	1.00	2.23/32	1.1/8	0.3180	3/8	0.2380	4	D5	1	1012465	1012466	1012467	1012576
M8	1.00	2.23/32	1.1/8	0.3180	3/8	0.2380	4	D5	1	1012468	1012469	1012470	1012577
M8	1.25	2.23/32	1.1/8	0.3180	3/8	0.2380	4	D5	1	1012471	1012472	1012473	1012566
M9	1.25	2.15/16	1.1/4	0.3810	7/16	0.2860	4	D5	1	—	1012478	1012479	—
M10	1.25	2.15/16	1.1/4	0.3810	7/16	0.2860	4	D5	1	1012480	1012481	1012482	1012578
M10	1.50	2.15/16	1.1/4	0.3810	7/16	0.2860	4	D6	1	1012483	1012484	1012485	1012567
M11	1.50	3.5/32	1.7/16	0.3230	13/32	0.2420	4	D6	1	—	1012493	1012494	—
M12	1.25	3.3/8	1.21/32	0.3670	7/16	0.2750	4	D5	1	1012498	1012499	1012500	1012579
M12	1.75	3.3/8	1.21/32	0.3670	7/16	0.2750	4	D6	1	1012495	1012496	1012497	1012568
M14	1.50	3.19/32	1.21/32	0.4290	1/2	0.3220	4	D6	1	1012501	1012502	1012503	—
M14	2.00	3.19/32	1.21/32	0.4290	1/2	0.3220	4	D7	1	1012504	1012505	1012506	1012580
M16	1.50	3.13/16	1.13/16	0.4800	9/16	0.3600	4	D6	1	1012513	1012514	1012515	—
M16	2.00	3.13/16	1.13/16	0.4800	9/16	0.3600	4	D7	1	1012516	1012517	1012518	1012581
M18	1.50	4.1/32	1.13/16	0.5420	5/8	0.4060	4	D6	1	1012522	1012523	1012524	—
M18	2.50	4.1/32	1.13/16	0.5420	5/8	0.4060	4	D7	1	1012525	1012526	1012527	1012582
M20	1.50	4.15/32	2"	0.6520	11/16	0.4890	4	D6	1	1012534	1012535	1012536	—
M20	2.50	4.15/32	2"	0.6520	11/16	0.4890	4	D7	1	1012537	1012538	1012539	1012583
M22	1.50	4.11/16	2.7/32	0.6970	3/4	0.5230	4	D6	1	1012540	1012541	1012542	—
M22	2.50	4.11/16	2.7/32	0.6970	3/4	0.5230	4	D7	1	1012543	1012544	1012545	—
M24	2.00	4.29/32	2.7/32	0.7600	3/4	0.5700	4	D7	1	1012546	1012547	1012548	—
M24	3.00	4.29/32	2.7/32	0.7600	3/4	0.5700	4	D8	1	1012555	1012556	1012557	—
M30	3.50	5.7/16	2.9/16	1.0210	1"	0.7660	4	D9	1	1012570	1012571	1012572	—
M36	4.00	6.1/16	3"	1.2330	1.1/8	0.9250	4	D9	1	—	1012574	1012575	—

General Purpose, Left Hand

E501

Left Hand. Similar in design to the standard E500 series but finished with left hand threads, which when viewed axially, wind in a counter-clockwise and receding direction. Available in taper, plug, and semi-bottoming chamfer. For through or blind hole applications.



E501

M

ISO 529

61

HSS

M3 - M24

Nominal d ₁	Pitch M	l ₁ mm	l ₂ mm	d ₂ Ø mm	a mm	l ₃ mm	# of Flutes	↔	l ₄ mm	Limits	Pack Qty	Taper	Plug	Semi - Bottoming
3	0.50	48	12.5	3.15	2.50	5	3	2.5	12.5	D3	1	0159828	0095058	0095065
4	0.70	53	14	4.00	3.15	6	3	3.3	14	D4	1	0159835	0095072	0095089
5	0.80	58	11	5.00	4.00	7	3	4.2	22	D4	1	—	0095096	0095102
6	1.00	66	13	6.30	5.00	8	3	5	26	D5	1	0159859	0095119	0095126
8	1.25	72	16	8.00	6.30	9	3	6.8	29	D5	1	0159866	0095133	0095140
10	1.50	80	18	10.00	8.00	11	3	8.5	34	D6	1	0159873	0094938	0094945
12	1.75	89	22	9.00	7.10	10	3	10.3		D6	1	0159880	0094952	0094969
14	2.00	95	24	11.20	9.00	12	4	12		D7	1	0159897	0094976	0094983
16	2.00	102	24	12.50	10.00	13	4	14		D7	1	0159903	0094990	0095003
18	2.50	112	29	14.00	11.20	14	4	15.5		D7	1	—	—	0095010
20	2.50	112	29	14.00	11.20	14	4	17.5		D7	1	0159910	0095027	0095034
22	2.50	118	29	16.00	12.50	16	4	19.5		D7	1	—	—	0122495
24	3.00	130	35	18.00	14.00	18	4	21		D8	1	—	0152447	0095041

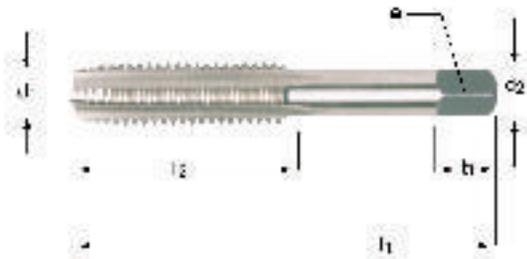
Note: ISO shank and square dimensions will necessitate metric holders

HAND TAPS

General Purpose, Oversize

1500OV(UNC)

0.005" oversize. Similar in design to the standard 1500 series, but with a pitch diameter which is 0.0050" to 0.0055" larger than the basic pitch diameter. Used primarily where a part will be plated or treated after tapping. Available as a standard with a plug chamfer. Oversize P.D. limits are equivalent to H11. For through or blind hole applications.



1500OV(UNC)

UNC

ANSI

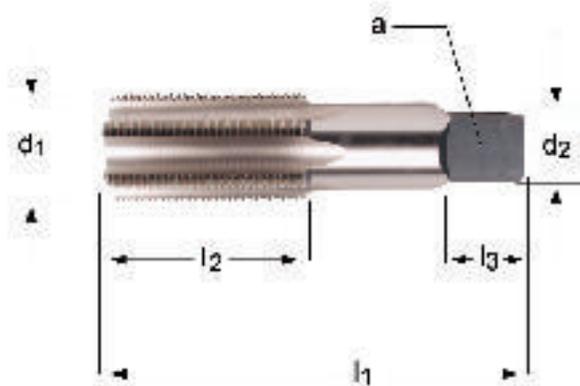
HSS

1/4 - 5/8

UNC	TPI	l_1 Inch	l_2 Inch	d_2 \emptyset Inch	a Inch	l_3 Inch	# of Flutes	Limits	Chamfer	Pack Qty	1500OV(UNC)
1/4	20	2.1/2	1.000	0.2550	0.1910	5/16	4	H11	Plug	1	1011748
5/16	18	2.23/32	1.1/8	0.3180	0.2380	3/8	4	H11	Plug	1	1011749
3/8	16	2.15/16	1.1/4	0.3810	0.2860	7/16	4	H11	Plug	1	1011750
1/2	13	3.3/8	1.21/32	0.3670	0.2750	7/16	4	H11	Plug	1	1011752
5/8	11	3.13/16	1.13/16	0.4800	0.3600	9/16	4	H11	Plug	1	1011753

General Purpose, 8-Pitch

1505 Proven performers for manufacturers of oil field equipment, large valves, electric utilities, power generation machinery, and general construction. For through or blind hole applications.



1505(UNS)

UNS

ANSI

Z53



HSS



1.1/8 - 2"

Nominal d_1	TPI UNS	l_1 Inch	l_2 Inch	d_2 \varnothing Inch /	a Inch	l_3 Inch	# of Flutes	Limits	Pack Qty	Taper	Plug	Bottoming
1.1/8	8	5.7/16	2.9/16	0.8960	0.6720	7/8	4	H5	1	1013310	1013311	1013312
1.1/4	8	5.3/4	2.9/16	1.0210	0.7660	1"	4	H5	1	1013313	1013314	1013315
1.3/8	8	6.1/16	3"	1.1080	0.8310	1.1/16	4	H5	1	1013316	1013317	1013318
1.1/2	8	6.3/8	3"	1.2330	0.9250	1.1/8	6	H5	1	1013319	1013320	1013321
1.5/8	8	6.11/16	3.3/16	1.3050	0.9780	1.1/8	6	H6	1	1013322	1013323	1013324
1.3/4	8	7"	3.3/16	1.4300	1.0720	1.1/4	6	H6	1	1013325	1013326	1013327
1.7/8	8	7.5/16	3.9/16	1.5190	1.1390	1.1/4	6	H6	1	1013328	1013329	1013330
2"	8	7.5/8	3.9/16	1.6440	1.2330	1.3/8	6	H6	1	1013331	1013332	1013333

HAND TAPS

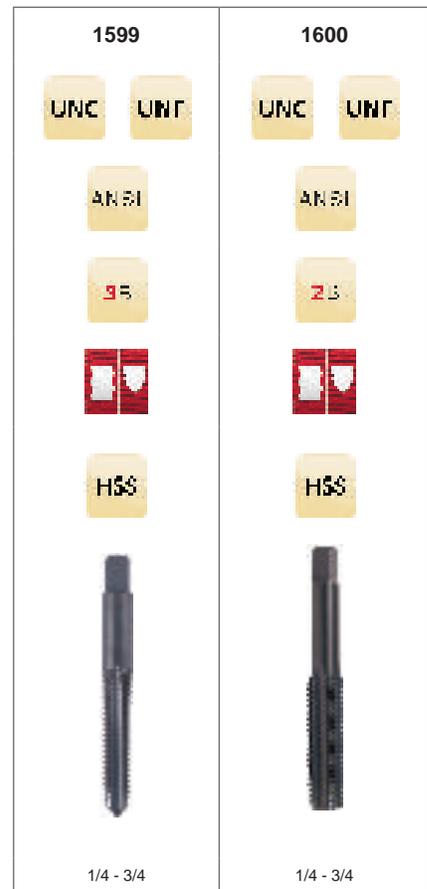
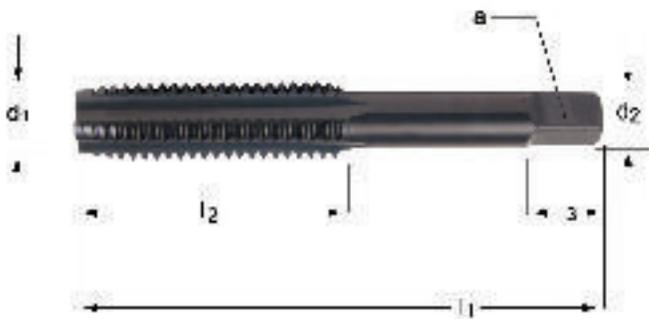


For Cast Iron

1599 Designed for through or blind hole tapping with a specific cutting geometry for gray cast irons and those materials producing broken, powdery chips. Also ideal for non-metallics, cast brass, and other brass materials producing broken powdery chips. Nitride and steam oxide coating reduces wear and chip welding in abrasive materials. For through or blind hole applications.

1600

1599 - H3
1600 - H5

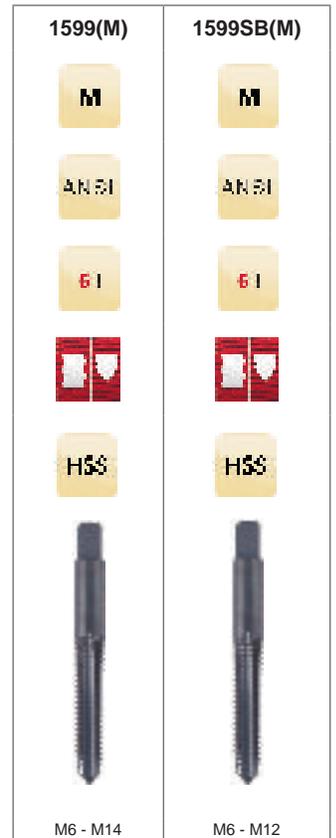


Nominal d ₁	TPI UNC	TPI UNF	l ₁ Inch	l ₂ Inch	d ₂ Ø Inch /	a Inch	l ₃ Inch	# of Flutes	Limits	Pack Qty	1599 Plug	1599 Bottoming	1600 Plug	1600 Bottoming
1/4	20		2.1/2	1"	0.2550	0.1910	5/16	4	H3	1	1010256	1010257	—	—
1/4	20		2.1/2	1"	0.2550	0.1910	5/16	4	H5	1	—	—	1011256	1011257
1/4		28	2.1/2	1"	0.2550	0.1910	5/16	4	H5	1	—	—	1011258	1011259
5/16	18		2.23/32	1.1/8	0.3180	0.2380	3/8	4	H3	1	1010260	1010261	—	—
5/16	18		2.23/32	1.1/8	0.3180	0.2380	3/8	4	H5	1	—	—	—	1011261
5/16		24	2.23/32	1.1/8	0.3180	0.2380	3/8	4	H3	1	—	1010263	—	—
5/16		24	2.23/32	1.1/8	0.3180	0.2380	3/8	4	H5	1	—	—	1011262	1011263
3/8	16		2.15/16	1.1/4	0.3810	0.2860	7/16	4	H3	1	1010264	1010265	—	—
3/8	16		2.15/16	1.1/4	0.3810	0.2860	7/16	4	H5	1	—	—	1011264	1011265
3/8		24	2.15/16	1.1/4	0.3810	0.2860	7/16	4	H3	1	1010266	1010267	—	—
3/8		24	2.15/16	1.1/4	0.3810	0.2860	7/16	4	H5	1	—	—	1011266	1011267
7/16	14		3.5/32	1.7/16	0.3230	0.2420	13/32	4	H5	1	—	—	1011268	1011269
7/16		20	3.5/32	1.7/16	0.3230	0.2420	13/32	4	H3	1	—	1010271	—	—
7/16		20	3.5/32	1.7/16	0.3230	0.2420	13/32	4	H5	1	—	—	1011270	1011271
1/2	13		3.3/8	1.21/32	0.3670	0.2750	7/16	4	H3	1	1010272	1010273	—	—
1/2	13		3.3/8	1.21/32	0.3670	0.2750	7/16	4	H5	1	—	—	—	1011273
1/2		20	3.3/8	1.21/32	0.3670	0.2750	7/16	4	H3	1	1010274	1010275	—	—
1/2		20	3.3/8	1.21/32	0.3670	0.2750	7/16	4	H5	1	—	—	1011274	1011275
9/16	12		3.19/32	1.21/32	0.4290	0.3220	1/2	4	H5	1	—	—	1011276	1011277
9/16		18	3.19/32	1.21/32	0.4290	0.3220	1/2	4	H3	1	—	1010279	—	—
9/16		18	3.19/32	1.21/32	0.4290	0.3220	1/2	4	H5	1	—	—	—	1011279
5/8	11		3.13/16	1.13/16	0.4800	0.3600	9/16	4	H3	1	1010280	1010281	—	—
5/8	11		3.13/16	1.13/16	0.4800	0.3600	9/16	4	H5	1	—	—	1011280	1011281
3/4	10		4.1/4	2"	0.5900	0.4420	11/16	4	H3	1	—	1010285	—	—
3/4	10		4.1/4	2"	0.5900	0.4420	11/16	4	H5	1	—	—	—	1011285
3/4		16	4.1/4	2"	0.5900	0.4420	11/16	4	H3	1	1010286	1010287	—	—
3/4		16	4.1/4	2"	0.5900	0.4420	11/16	4	H5	1	—	—	—	1011287

For Cast Iron

1599(M) Designed for through or blind hole tapping with a specific cutting geometry for gray cast irons and those materials producing broken chips. Also ideal for non-metallics, cast brass, and other brass materials producing broken powdery chips. Nitride and steam oxide coating reduces wear and chip welding in abrasive materials. For through or blind hole applications.

1599SB(M)

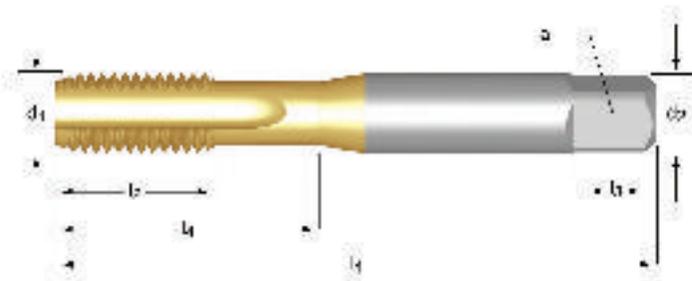


Nominal d_1	Pitch M	l_1 Inch	l_2 Inch	d_2 \emptyset Inch /	a Inch	l_3 Inch	# of Flutes	Limits	Pack Qty	1599M Plug	1599M Bottoming	1599SB Semi- Bottoming
M6	1.00	2.1/2	1"	0.2550	0.1910	5/16	4	D5	1	1012256	1012266	1012276
M8	1.25	2.23/32	1.1/8	0.3180	0.2380	3/8	4	D5	1	1012258	1012268	1012278
M10	1.50	2.15/16	1.1/4	0.3810	0.2860	7/16	4	D6	1	1012260	1012270	1012280
M12	1.75	3.3/8	1.21/32	0.3670	0.2750	7/16	4	D6	1	1012262	1012272	1012282
M14	1.25	3.19/32	1.21/32	0.4290	0.3220	1/2	4	D4	1	1010288	—	—

For Cast Iron, Semi-Bottoming

E504

Designed for through or blind hole tapping with a specific cutting geometry for gray cast irons and those materials producing broken chips. Also ideal for non-metallics, cast brass, and other brass materials producing broken powdery chips. TiN coating increases the surface hardness and improves tool life.



E504

M

ISO
529

61



HSS



M3 - M24

M	P mm	l ₁ mm	l ₂ mm	d ₂ Ø mm	a mm	l ₃ mm	# of Flutes		l ₄ mm	Limits	Pack Qty	E504
3	0.50	48	12.5	3.15	2.50	5	3	2.5	12.5	D3	1	0122563
4	0.70	53	14	4.00	3.15	6	3	3.3	14	D4	1	0122556
5	0.80	58	11	5.00	4.00	7	3	4.2	22	D4	1	0122501
6	1.00	66	13	6.30	5.00	8	3	5	26	D5	1	0122518
8	1.25	72	16	8.00	6.30	9	3	6.8	29	D5	1	0122525
10	1.50	80	18	10.00	8.00	11	3	8.5	34	D6	1	0122532

Note: ISO shank and square dimensions will necessitate metric holders

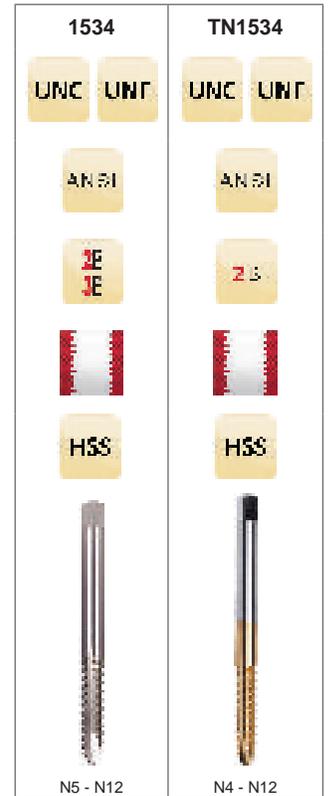
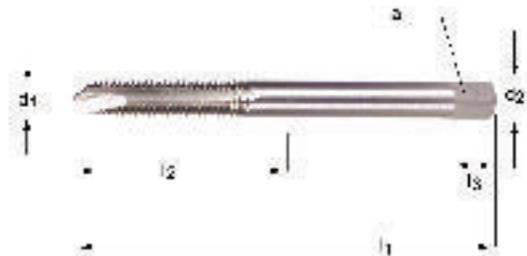
Relieved Style, Machine Screw Sizes

**1534
TN1534**

Spiral point taps are designed to solve the problem of tap breakage in through hole applications in a variety of materials. The angular flutes in the cutting face propel the chips ahead of the cutting zone, thus reducing loading and clogging in the flutes.

The 1534 style features eccentrically relieved threads with full pitch diameter relief. These taps are extremely free cutting, resulting in longer tool life. The use of rigid tapping equipment is highly recommended with this style of tap.

Bright finish - improves chip flow in soft or non-ferrous materials.
TiN Coating - increases surface hardness and improves tool life.



UNC		UNF		TPI	l ₁ Inch	l ₂ Inch	d ₂ Ø Inch	a Inch	l ₃ Inch	# of Flutes	Limits	Chamfer	Pack Qty	1534	TN1534
4		40	1.7/8	9/16	0.1410	0.1100	3/16	2	H2	Plug	1	—	1060805		
	5	44	1.15/16	5/8	0.1410	0.1100	3/16	2	H2	Plug	1	1012358	—		
5		40	1.15/16	5/8	0.1410	0.1100	3/16	2	H2	Plug	1	1012356	—		
	6	40	2"	11/16	0.1410	0.1100	3/16	2	H2	Plug	1	1012366	—		
6		32	2"	11/16	0.1410	0.1100	3/16	2	H1	Plug	1	1012359	—		
	6	32	2"	11/16	0.1410	0.1100	3/16	2	H2	Plug	1	1012360	—		
6		32	2"	11/16	0.1410	0.1100	3/16	2	H3	Plug	1	1012361	1062361		
	6	40	2"	11/16	0.1410	0.1100	3/16	2	H2	Bottoming	1	1012367	—		
6		32	2"	11/16	0.1410	0.1100	3/16	2	H2	Bottoming	1	1012363	—		
	8	36	2.1/8	3/4	0.1680	0.1310	1/4	2	H3	Bottoming	1	1012364	—		
8		32	2.1/8	3/4	0.1680	0.1310	1/4	2	H2	Plug	1	1012375	—		
	8	32	2.1/8	3/4	0.1680	0.1310	1/4	2	H1	Plug	1	1012368	—		
8		32	2.1/8	3/4	0.1680	0.1310	1/4	2	H2	Plug	1	1012369	—		
	8	32	2.1/8	3/4	0.1680	0.1310	1/4	2	H3	Plug	1	1012370	1062370		
8		32	2.1/8	3/4	0.1680	0.1310	1/4	2	H2	Bottoming	1	1012372	—		
	10	32	2.1/8	7/8	0.1680	0.1310	1/4	2	H3	Bottoming	1	1012373	—		
10		32	2.3/8	7/8	0.1940	0.1520	1/4	2	H1	Plug	1	1012381	—		
	10	32	2.3/8	7/8	0.1940	0.1520	1/4	2	H2	Plug	1	1012382	—		
10		32	2.3/8	7/8	0.1940	0.1520	1/4	2	H3	Plug	1	1012383	1062383		
	10	24	2.3/8	7/8	0.1940	0.1520	1/4	2	H2	Plug	1	1012377	—		
10		24	2.3/8	7/8	0.1940	0.1520	1/4	2	H3	Plug	1	1012378	1062378		
	10	32	2.3/8	7/8	0.1940	0.1520	1/4	2	H2	Bottoming	1	1012385	—		
10		32	2.3/8	7/8	0.1940	0.1520	1/4	2	H3	Bottoming	1	1012386	—		
	10	24	2.3/8	7/8	0.1940	0.1520	1/4	2	H2	Bottoming	1	1012379	—		
10		24	2.3/8	7/8	0.1940	0.1520	1/4	2	H3	Bottoming	1	1012380	—		
	12	28	2.3/8	15/16	0.2200	0.1650	9/32	2	H3	Plug	1	1012388	—		
12		24	2.3/8	15/16	0.2200	0.1650	9/32	2	H3	Plug	1	1012389	1062389		
	12	24	2.3/8	15/16	0.2200	0.1650	9/32	2	H3	Bottoming	1	1012699	—		

SPIRAL POINT TAPS



Relieved Style, Fractional Sizes

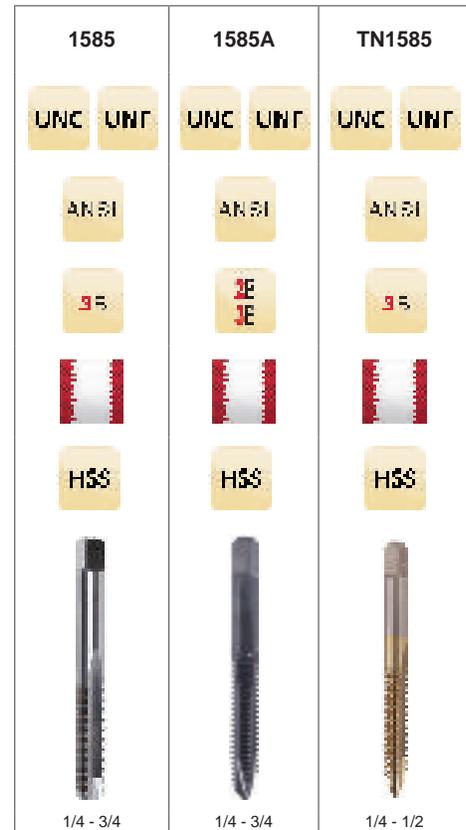
- 1585** Spiral point taps are designed to solve the problem of tap breakage in through hole applications in a variety of materials.
- 1585A** The angular flutes in the cutting face propel the chips ahead of the cutting zone, thus reducing loading and clogging in the flutes.
- TN1585**

The 1585 style features eccentrically relieved threads with full pitch diameter relief. These taps are extremely free cutting, resulting in longer tool life. The use of rigid tapping equipment is highly recommended with this style of tap.

Bright Finish - improves chip flow in soft or non-ferrous materials.

Steam Oxide - reduces wear and prevents chip welding in harder ferrous materials.

TiN Coating - increases surface hardness and improves tool life.



		l_1	l_2	d_2	l_3	a	# of Flutes	Limits	Chamfer	Pack Qty	1585	1585A	TN1585	
UNC	UNF	TPI	Inch	Inch	Inch	Inch	Inch	Inch						
1/4	20	2.1/2	1"	0.2550	5/16	0.1910	2	H1	Plug	1	1010290	—	—	
1/4	20	2.1/2	1"	0.2550	5/16	0.1910	2	H2	Plug	1	1010291	—	—	
1/4	20	2.1/2	1"	0.2550	5/16	0.1910	2	H3	Plug	1	1010292	1050292	1060292	
1/4	20	2.1/2	1"	0.2550	5/16	0.1910	3	H3	Plug	1	1010295	—	1060295	
1/4	20	2.1/2	1"	0.2550	5/16	0.1910	3	H5	Plug	1	1010296	—	1060296	
1/4	20	2.1/2	1"	0.2550	5/16	0.1910	2	H5	Plug	1	1010293	—	1060293	
1/4	20	2.1/2	1"	0.2550	5/16	0.1910	2	H3	Bottoming	1	1010294	—	—	
	1/4	28	2.1/2	1"	0.2550	5/16	0.1910	2	H2	Plug	1	1010298	—	—
	1/4	28	2.1/2	1"	0.2550	5/16	0.1910	3	H2	Plug	1	1010302	—	—
	1/4	28	2.1/2	1"	0.2550	5/16	0.1910	2	H3	Plug	1	1010299	1050299	1060299
	1/4	28	2.1/2	1"	0.2550	5/16	0.1910	2	H4	Plug	1	1010300	—	—
	1/4	28	2.1/2	1"	0.2550	5/16	0.1910	3	H4	Plug	1	1010303	—	—
	1/4	28	2.1/2	1"	0.2550	5/16	0.1910	2	H3	Bottoming	1	1010301	—	—
5/16	18	2.23/32	1.1/8	0.3180	3/8	0.2380	2	H1	Plug	1	1010304	—	—	
5/16	18	2.23/32	1.1/8	0.3180	3/8	0.2380	2	H2	Plug	1	1010305	—	—	
5/16	18	2.23/32	1.1/8	0.3180	3/8	0.2380	2	H3	Plug	1	1010306	1050306	1060306	
5/16	18	2.23/32	1.1/8	0.3180	3/8	0.2380	3	H3	Plug	1	1010309	—	1060309	
5/16	18	2.23/32	1.1/8	0.3180	3/8	0.2380	3	H5	Plug	1	1010310	—	1060310	
5/16	18	2.23/32	1.1/8	0.3180	3/8	0.2380	2	H5	Plug	1	1010307	—	—	
5/16	18	2.23/32	1.1/8	0.3180	3/8	0.2380	2	H3	Bottoming	1	1010308	—	—	
	5/16	24	2.23/32	1.1/8	0.3180	3/8	0.2380	3	H2	Plug	1	1010316	—	—
	5/16	24	2.23/32	1.1/8	0.3180	3/8	0.2380	2	H3	Plug	1	1010313	1050313	1060313
	5/16	24	2.23/32	1.1/8	0.3180	3/8	0.2380	3	H4	Plug	1	1010317	—	—
	5/16	24	2.23/32	1.1/8	0.3180	3/8	0.2380	2	H3	Bottoming	1	1010315	—	—
3/8	16	2.15/16	1.1/4	0.3810	7/16	0.2860	3	H1	Plug	1	1010318	—	—	
3/8	16	2.15/16	1.1/4	0.3810	7/16	0.2860	3	H3	Plug	1	1010320	1050320	1060320	
3/8	16	2.15/16	1.1/4	0.3810	7/16	0.2860	3	H2	Plug	1	1010319	—	—	
3/8	16	2.15/16	1.1/4	0.3810	7/16	0.2860	3	H5	Plug	1	1010321	—	1060321	
	3/8	24	2.15/16	1.1/4	0.3810	7/16	0.2860	3	H3	Plug	1	1010324	1050324	1060324
	3/8	24	2.15/16	1.1/4	0.3810	7/16	0.2860	3	H4	Plug	1	1010325	—	—

SPIRAL POINT TAPS

UNC	UNF	TPI	l_1 Inch	l_2 Inch	d_2 \emptyset Inch	l_3 Inch	a Inch	# of Flutes	Limits	Chamfer	Pack Qty	1585	1585A	TN1585
7/16		14	3.5/32	1.7/16	0.3230	13/32	0.2420	3	H2	Plug	1	1010327	—	—
7/16		14	3.5/32	1.7/16	0.3230	13/32	0.2420	3	H3	Plug	1	1010328	1050328	1060328
7/16		14	3.5/32	1.7/16	0.3230	13/32	0.2420	3	H5	Plug	1	1010329	—	—
	7/16	20	3.5/32	1.7/16	0.3230	13/32	0.2420	3	H2	Plug	1	1010331	—	—
	7/16	20	3.5/32	1.7/16	0.3230	13/32	0.2420	3	H3	Plug	1	1010332	1050332	1060332
1/2		13	3.3/8	1.21/32	0.3670	7/16	0.2750	3	H1	Plug	1	1010334	—	—
1/2		13	3.3/8	1.21/32	0.3670	7/16	0.2750	3	H2	Plug	1	1010335	—	—
1/2		13	3.3/8	1.21/32	0.3670	7/16	0.2750	3	H3	Plug	1	1010336	1050336	1060336
1/2		13	3.3/8	1.21/32	0.3670	7/16	0.2750	3	H5	Plug	1	1010337	—	—
	1/2	20	3.3/8	1.21/32	0.3670	7/16	0.2750	3	H1	Plug	1	1010338	—	—
	1/2	20	3.3/8	1.21/32	0.3670	7/16	0.2750	3	H2	Plug	1	1010339	—	—
	1/2	20	3.3/8	1.21/32	0.3670	7/16	0.2750	3	H3	Plug	1	1010340	1050340	1060340
	1/2	20	3.3/8	1.21/32	0.3670	7/16	0.2750	3	H5	Plug	1	1010341	—	—
5/8		11	3.13/16	1.13/16	0.4800	9/16	0.3600	3	H3	Plug	1	1010342	1050342	—
5/8		11	3.13/16	1.13/16	0.4800	9/16	0.3600	3	H5	Plug	1	1010343	—	—
	5/8	18	3.13/16	1.13/16	0.4800	9/16	0.3600	3	H3	Plug	1	1012774	—	—
3/4		10	4.1/2	2"	0.5900	11/16	0.4420	3	H3	Plug	1	—	1050344	—
3/4		10	4.1/4	2"	0.5900	11/16	0.4420	3	H3	Plug	1	1010344	—	—
3/4		10	4.1/4	2"	0.5900	11/16	0.4420	3	H5	Plug	1	1010345	—	—
	3/4	16	4.1/2	2"	0.5900	11/16	0.4420	3	H3	Plug	1	—	1052775	—
	3/4	16	4.1/4	2"	0.5900	11/16	0.4420	3	H3	Plug	1	1012775	—	—

SPIRAL POINT TAPS

Relieved Style, Machine Screw Sizes

1634

Premium Cobalt substrate. Designed for tough jobs in high temperature alloys, stainless steel, cast iron, abrasive non-ferrous materials and other similar materials. Due to their premium steel content and special design, this range will effectively increase productivity through longer tool life. Ideally suited for through hole tapping.



1634(UNF)

UNC UNF

ANSI

HSS

HSS-E

N4 - N10

UNC	UNF	TPI	l_1 Inch	l_2 Inch	d_2 Ø Inch	a Inch	l_3 Inch	# of Flutes	Limits	Chamfer	Pack Qty	1634
4		40	1.7/8	9/16	0.1410	0.1100	3/16	2	H2	Plug	1	1011102
6		32	2"	11/16	0.1410	0.1100	3/16	2	H2	Plug	1	1011104
8		32	2.1/8	3/4	0.1680	0.1310	1/4	2	H2	Plug	1	1011105
	10	32	2.3/8	7/8	0.1940	0.1520	1/4	2	H2	Plug	1	1011106

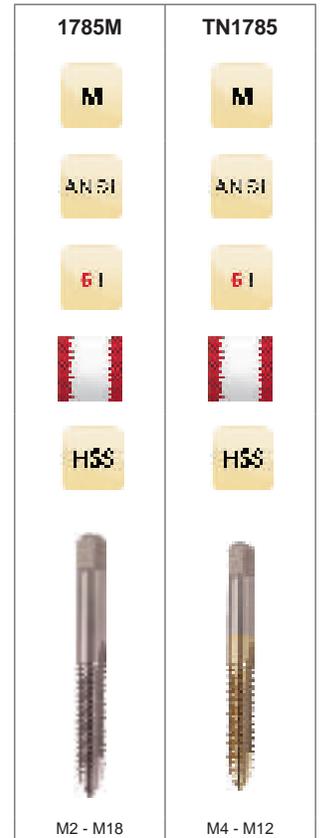
Relieved Style, Metric

1785M TN1785

Spiral point taps are designed to solve the problem of tap breakage in through hole applications in a variety of materials. The angular flutes in the cutting face propel the chips ahead of the cutting zone, thus reducing loading and clogging in the flutes.

The 1785M style features eccentrically relieved threads with full pitch diameter relief. These taps are extremely free cutting, resulting in longer tool life. The use of rigid tapping equipment is highly recommended with this style of tap.

Bright Finish - improves chip flow in soft or non-ferrous materials.
TiN Coating - increases surface hardness and improves tool life.



M	P mm	l ₁ Inch	l ₂ Inch	d ₂ Ø Inch	l ₃ Inch	a Inch	# of Flutes	Limits	Chamfer	Pack Qty	1785M	TN1785
M2	0.40	1.3/4	7/16	0.1410	3/16	0.1100	2	D3	Plug	1	1012659	—
M2.5	0.45	1.13/16	1/2	0.1410	3/16	0.1100	2	D3	Plug	1	1012662	—
M3	0.50	1.15/16	5/8	0.1410	3/16	0.1100	2	D3	Plug	1	1012664	—
M3.5	0.60	2"	11/16	0.1410	3/16	0.1100	2	D4	Plug	1	1012666	—
M4	0.70	2.1/8	3/4	0.1680	1/4	0.1310	2	D4	Plug	1	—	1062668
M4	0.70	2.1/8	3/4	0.1680	1/4	0.1310	2	D4	Plug	1	1012668	—
M4.5	0.75	2.3/8	7/8	0.1940	1/4	0.1520	2	D4	Plug	1	1012669	—
M5	0.80	2.3/8	7/8	0.1940	1/4	0.1520	2	D4	Plug	1	—	1062672
M5	0.80	2.3/8	7/8	0.1940	1/4	0.1520	2	D4	Plug	1	1012672	—
M6	1.00	2.1/2	1"	0.2550	5/16	0.1910	2	D5	Plug	1	—	1062674
M6	1.00	2.1/2	1"	0.2550	5/16	0.1910	2	D5	Plug	1	1012674	—
M7	1.00	2.23/32	1.1/8	0.3180	3/8	0.2380	2	D5	Plug	1	1012676	—
M8	1.25	2.23/32	1.1/8	0.3180	3/8	0.2380	2	D5	Plug	1	—	1062678
M8	1.25	2.23/32	1.1/8	0.3180	3/8	0.2380	2	D5	Plug	1	1012678	—
M9	1.25	2.15/16	1.1/4	0.3810	7/16	0.2860	3	D5	Plug	1	1012680	—
M10	1.50	2.15/16	1.1/4	0.3810	7/16	0.2860	3	D6	Plug	1	—	1062682
M10	1.50	2.15/16	1.1/4	0.3810	7/16	0.2860	3	D6	Plug	1	1012682	—
M11	1.50	3.5/32	1.7/16	0.3230	13/32	0.2420	3	D6	Plug	1	1012685	—
M12	1.75	3.3/8	1.21/32	0.3670	7/16	0.2750	3	D6	Plug	1	—	1062686
M12	1.75	3.3/8	1.21/32	0.3670	7/16	0.2750	3	D6	Plug	1	1012686	—
M14	2.00	3.19/32	1.21/32	0.4290	1/2	0.3220	3	D7	Plug	1	1012689	—
M16	2.00	3.13/16	1.13/16	0.4800	9/16	0.3600	3	D7	Plug	1	1012693	—
M18	2.50	4.1/32	1.13/16	0.5420	5/8	0.4060	3	D7	Plug	1	1012696	—

SPIRAL POINT TAPS

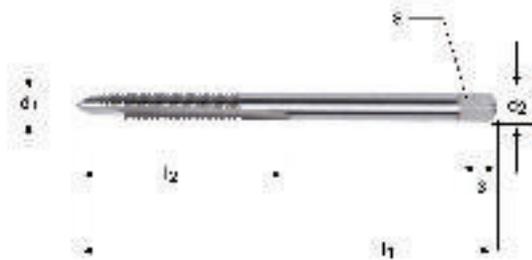


Non-Relieved Style, Machine Screw Sizes

1534NR

Feature concentric threads with no pitch diameter relief. These taps are particularly recommended for applications requiring close gauging fits and in older equipment that is not sufficiently rigid to accommodate the free cutting action of the 1534/1585 series. For through hole applications.

Sizes in bold font indicate the most commonly used flute and 'H' limit for that size.



No.0 - No.12

UNC	UNF	UNS	TPI	l_1 Inch	l_2 Inch	d_2 Ø Inch	a Inch	l_3 Inch	# of Flutes	Limits	Chamfer	Pack Qty	1534NR
	0		80	1.5/8	5/16	0.1410	0.1100	3/16	2	H1	Plug	1	1010775
	0		80	1.5/8	5/16	0.1410	0.1100	3/16	2	H2	Plug	1	1010776
	0		80	1.5/8	5/16	0.1410	0.1100	3/16	2	H2	Bottoming	1	1010778
	1		72	1.11/16	3/8	0.1410	0.1100	3/16	2	H1	Plug	1	1010783
	1		72	1.11/16	3/8	0.1410	0.1100	3/16	2	H2	Plug	1	1010784
1			64	1.11/16	3/8	0.1410	0.1100	3/16	2	H1	Plug	1	1010779
1			64	1.11/16	3/8	0.1410	0.1100	3/16	2	H2	Plug	1	1010780
	2		64	1.3/4	7/16	0.1410	0.1100	3/16	2	H1	Plug	1	1010791
	2		64	1.3/4	7/16	0.1410	0.1100	3/16	2	H2	Plug	1	1010792
2			56	1.3/4	7/16	0.1410	0.1100	3/16	2	H1	Plug	1	1010787
2			56	1.3/4	7/16	0.1410	0.1100	3/16	2	H2	Plug	1	1010788
2			56	1.3/4	7/16	0.1410	0.1100	3/16	2	H2	Bottoming	1	1010790
	3		56	1.13/16	1/2	0.1410	0.1100	3/16	2	H1	Plug	1	1010799
	3		56	1.13/16	1/2	0.1410	0.1100	3/16	2	H2	Plug	1	1010800
3			48	1.13/16	1/2	0.1410	0.1100	3/16	2	H2	Plug	1	1010796
3			48	1.13/16	1/2	0.1410	0.1100	3/16	2	H2	Bottoming	1	1010798
		4	36	1.7/8	9/16	0.1410	0.1100	3/16	2	H2	Plug	1	1010803
	4		48	1.7/8	9/16	0.1410	0.1100	3/16	2	H2	Plug	1	1010809
4			40	1.7/8	9/16	0.1410	0.1100	3/16	2	H1	Plug	1	1010804
4			40	1.7/8	9/16	0.1410	0.1100	3/16	2	H2	Plug	1	1010805
	4		48	1.7/8	9/16	0.1410	0.1100	3/16	2	H2	Bottoming	1	1010811
4			40	1.7/8	9/16	0.1410	0.1100	3/16	2	H2	Bottoming	1	1010807
	5		44	1.15/16	5/8	0.1410	0.1100	3/16	2	H2	Plug	1	1010817
5			40	1.15/16	5/8	0.1410	0.1100	3/16	2	H2	Plug	1	1010813
5			40	1.15/16	5/8	0.1410	0.1100	3/16	2	H2	Bottoming	1	1010815
	6		40	2"	11/16	0.1410	0.1100	3/16	2	H2	Plug	1	1010825
6			32	2"	11/16	0.1410	0.1100	3/16	2	H1	Plug	1	1010818
6			32	2"	11/16	0.1410	0.1100	3/16	2	H2	Plug	1	1010819
6			32	2"	11/16	0.1410	0.1100	3/16	2	H3	Plug	1	1010820
	6		40	2"	11/16	0.1410	0.1100	3/16	2	H2	Bottoming	1	1010827
6			32	2"	11/16	0.1410	0.1100	3/16	2	H2	Bottoming	1	1010822
6			32	2"	11/16	0.1410	0.1100	3/16	2	H3	Bottoming	1	1010823

SPIRAL POINT TAPS

UNC	UNF	UNS	TPI	l ₁ Inch	l ₂ Inch	d ₂ Ø Inch	a Inch	l ₃ Inch	# of Flutes	Limits	Chamfer	Pack Qty	1534NR
	8		36	2.1/8	3/4	0.1680	0.1310	1/4	2	H2	Plug	1	1010835
8			32	2.1/8	3/4	0.1680	0.1310	1/4	2	H1	Plug	1	1010828
8			32	2.1/8	3/4	0.1680	0.1310	1/4	2	H2	Plug	1	1010829
8			32	2.1/8	3/4	0.1680	0.1310	1/4	2	H3	Plug	1	1010830
8			32	2.1/8	3/4	0.1680	0.1310	1/4	2	H2	Bottoming	1	1010832
8			32	2.1/8	3/4	0.1680	0.1310	1/4	2	H3	Bottoming	1	1010833
	10		32	2.3/8	7/8	0.1940	0.1520	1/4	2	H1	Plug	1	1010843
	10		32	2.3/8	7/8	0.1940	0.1520	1/4	2	H2	Plug	1	1010844
	10		32	2.3/8	7/8	0.1940	0.1520	1/4	2	H3	Plug	1	1010845
	10		32	2.3/8	7/8	0.1940	0.1520	1/4	2	H2	Bottoming	1	1010847
	10		32	2.3/8	7/8	0.1940	0.1520	1/4	2	H3	Bottoming	1	1010848
10			24	2.3/8	7/8	0.1940	0.1520	1/4	2	H1	Plug	1	1010837
10			24	2.3/8	7/8	0.1940	0.1520	1/4	2	H2	Plug	1	1010838
10			24	2.3/8	7/8	0.1940	0.1520	1/4	2	H3	Plug	1	1010839
10			24	2.3/8	7/8	0.1940	0.1520	1/4	2	H2	Bottoming	1	1010841
10			24	2.3/8	7/8	0.1940	0.1520	1/4	2	H3	Bottoming	1	1010842
	12		28	2.3/8	15/16	0.2200	0.1650	9/32	2	H3	Plug	1	1010853
12			24	2.3/8	15/16	0.2200	0.1650	9/32	2	H3	Plug	1	1011071
12			24	2.3/8	15/16	0.2200	0.1650	9/32	2	H3	Bottoming	1	1011072

SPIRAL POINT TAPS



Non-Relieved Style, Fractional Sizes

1585NR

Feature concentric threads with no pitch diameter relief. These taps are particularly recommended for applications requiring close gauging fits and in older equipment that is not sufficiently rigid to accommodate the free cutting action of the regular 1534/1585 series. For through hole applications. Sizes in bold font indicate the most commonly used flute and 'H' limit for that size.



1585NR

UNC UNF

ANSI

H1 H2 H3 H5



HSS

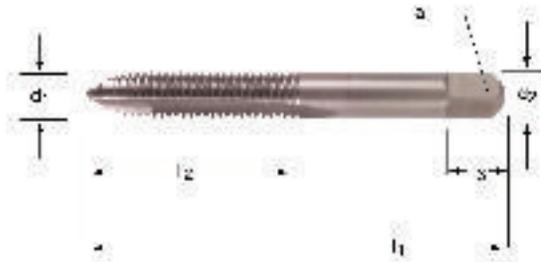


1/4 - 3/4

Nominal d ₁	TPI UNC	TPI UNF	l ₁ Inch	l ₂ Inch	d ₂ Ø Inch /	a Inch	l ₃ Inch	# of Flutes	Limits	Pack Qty	Plug	Bottoming
1/4	20		2.1/2	1"	0.2550	0.1910	5/16	2	H1	1	1012813	—
1/4	20		2.1/2	1"	0.2550	0.1910	5/16	2	H2	1	1012814	—
1/4	20		2.1/2	1"	0.2550	0.1910	5/16	2	H3	1	1012815	1012817
1/4	20		2.1/2	1"	0.2550	0.1910	5/16	2	H5	1	1012816	—
1/4	20		2.1/2	1"	0.2550	0.1910	5/16	3	H3	1	1012818	—
1/4		28	2.1/2	1"	0.2550	0.1910	5/16	2	H1	1	1012820	—
1/4		28	2.1/2	1"	0.2550	0.1910	5/16	2	H2	1	1012821	—
1/4		28	2.1/2	1"	0.2550	0.1910	5/16	2	H3	1	1012822	1012824
5/16	18		2.23/32	1.1/8	0.3180	0.2380	3/8	2	H2	1	1012828	—
5/16	18		2.23/32	1.1/8	0.3180	0.2380	3/8	2	H3	1	1012829	47197820
5/16	18		2.23/32	1.1/8	0.3180	0.2380	3/8	2	H5	1	1012830	—
5/16	18		2.23/32	1.1/8	0.3180	0.2380	3/8	3	H3	1	1012832	1012831
5/16		24	2.23/32	1.1/8	0.3180	0.2380	3/8	2	H3	1	1012836	—
3/8	16		2.15/16	1.1/4	0.3810	0.2860	7/16	3	H2	1	1012842	—
3/8	16		2.15/16	1.1/4	0.3810	0.2860	7/16	3	H3	1	1012843	—
3/8	16		2.15/16	1.1/4	0.3810	0.2860	7/16	3	H5	1	1012844	—
3/8		24	2.15/16	1.1/4	0.3810	0.2860	7/16	3	H3	1	1012847	—
7/16	14		3.5/32	1.7/16	0.3230	0.2420	13/32	3	H2	1	1012849	—
7/16	14		3.5/32	1.7/16	0.3230	0.2420	13/32	3	H3	1	1012850	—
7/16	14		3.5/32	1.7/16	0.3230	0.2420	13/32	3	H5	1	1012851	—
7/16		20	3.5/32	1.7/16	0.3230	0.2420	13/32	3	H3	1	1012853	—
1/2	13		3.3/8	1.21/32	0.3670	0.2750	7/16	3	H2	1	1012856	—
1/2	13		3.3/8	1.21/32	0.3670	0.2750	7/16	3	H3	1	1012857	—
1/2	13		3.3/8	1.21/32	0.3670	0.2750	7/16	3	H5	1	1012858	—
1/2		20	3.3/8	1.21/32	0.3670	0.2750	7/16	3	H3	1	1012861	—
5/8	11		3.13/16	1.13/16	0.4800	0.3600	9/16	3	H3	1	1012863	—
5/8	11		3.13/16	1.13/16	0.4800	0.3600	9/16	3	H5	1	1012864	—
5/8		18	3.13/16	1.13/16	0.4800	0.3600	9/16	3	H3	1	1012867	—
3/4	10		4.1/2	2"	0.5900	0.4420	11/16	3	H3	1	1012865	—
3/4	10		4.1/2	2"	0.5900	0.4420	11/16	3	H5	1	1012866	—
3/4		16	4.1/2	2"	0.5900	0.4420	11/16	3	H3	1	1012868	—

Non-Relieved, Metric Sizes

1785NR Feature concentric threads with no pitch diameter relief. These taps are particularly recommended for applications requiring close gauging fits and in older equipment that is not sufficiently rigid to accommodate the free cutting action of the regular 1785 series. For through hole applications.



1785NR

M

ANSI

61



HSS



M1.6 - M20

M	P mm	l ₁ Inch	l ₂ Inch	l ₃ Inch	d ₂ Ø Inch	a Inch	# of Flutes	Limits	Chamfer	Pack Qty	1785NR
1.6	0.35	1.5/8	5/16	0.1410	0.1100	3/16	2	D3	Plug	1	1012890
2	0.40	1.3/4	7/16	0.1410	0.1100	3/16	2	D3	Plug	1	1012891
2.5	0.45	1.13/16	1/2	0.1410	0.1100	3/16	2	D3	Plug	1	1012893
3	0.50	1.15/16	5/8	0.1410	0.1100	3/16	2	D3	Plug	1	1012896
3.5	0.60	2"	11/16	0.1410	0.1100	3/16	2	D4	Plug	1	1012897
4	0.70	2.1/8	3/4	0.1680	0.1310	1/4	2	D4	Plug	1	1012898
4.5	0.75	2.3/8	7/8	0.1940	0.1520	1/4	2	D4	Plug	1	1012899
5	0.80	2.3/8	7/8	0.1940	0.1520	1/4	2	D4	Plug	1	1012900
6	1.00	2.1/2	1"	0.2550	0.1910	5/16	2	D5	Plug	1	1012901
7	1.00	2.23/32	1.1/8	0.3180	0.2380	3/8	2	D5	Plug	1	1012902
8	1.25	2.23/32	1.1/8	0.3180	0.2380	3/8	2	D5	Plug	1	1012903
10	1.50	2.15/16	1.1/4	0.3810	0.2860	7/16	3	D6	Plug	1	1012904
12	1.75	3.3/8	1.21/32	0.3670	0.2750	7/16	3	D6	Plug	1	1012905
14	2.00	3.19/32	1.21/32	0.4290	0.3220	1/2	3	D7	Plug	1	1012906
16	2.00	3.13/16	1.13/16	0.4800	0.3600	9/16	3	D7	Plug	1	1012907
20	2.50	4.15/32	2"	0.6520	0.4890	11/16	3	D7	Plug	1	1012909

SPIRAL POINT TAPS

Extension / Non-Relieved Style

1534NE Similar in design and thread geometries to the standard 1534NR series, but with a longer shank length. Bright finish improves chip flow in soft or non-ferrous materials. For through hole applications.



1534NE(UNC)

UNC UNF

ANSI

35



HSS



No.4 - 1/2

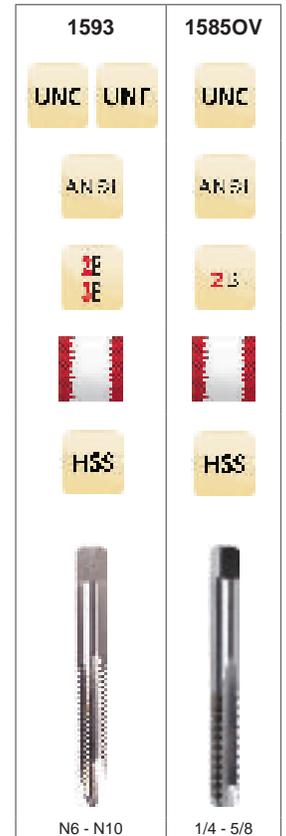
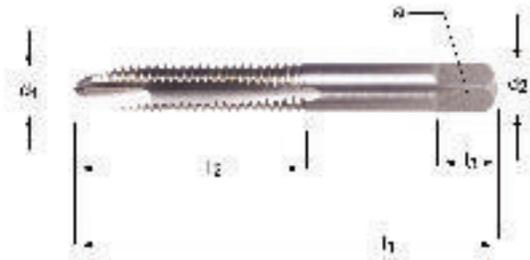
UNC	UNF	TPI	l ₁ Inch	l ₂ Inch	d ₂ Ø Inch	a Inch	l ₃ Inch	# of Flutes	Limits	Pack Qty	Chamfer	1534NE
4		40	4"	9/16	0.1410	0.1100	3/16	2	H2	1	Plug	1020002
6		32	4"	11/16	0.1410	0.1100	3/16	2	H3	1	Plug	1020004
6		32	6"	11/16	0.1410	0.1100	3/16	2	H3	1	Plug	1020006
8		32	4"	3/4	0.1680	0.1310	1/4	2	H3	1	Plug	1020008
8		32	6"	3/4	0.1680	0.1310	1/4	2	H3	1	Plug	1020010
	10	32	4"	7/8	0.1940	0.1520	1/4	2	H3	1	Plug	1020016
	10	32	6"	7/8	0.1940	0.1520	1/4	2	H3	1	Plug	1020018
10		24	4"	7/8	0.1940	0.1520	1/4	2	H3	1	Plug	1020012
10		24	6"	7/8	0.1940	0.1520	1/4	2	H3	1	Plug	1020014
	1/4	28	4"	1"	0.2550	0.1910	5/16	2	H3	1	Plug	1020024
	1/4	28	6"	1"	0.2550	0.1910	5/16	2	H3	1	Plug	1020026
1/4		20	4"	1"	0.2550	0.1910	5/16	2	H3	1	Plug	1020020
1/4		20	6"	1"	0.2550	0.1910	5/16	2	H3	1	Plug	1020022
	5/16	24	4"	1.1/8	0.3180	0.2380	3/8	2	H3	1	Plug	1020032
	5/16	24	6"	1.1/8	0.3180	0.2380	3/8	2	H3	1	Plug	1020034
5/16		18	4"	1.1/8	0.3180	0.2380	3/8	2	H3	1	Plug	1020028
5/16		18	6"	1.1/8	0.3180	0.2380	3/8	2	H3	1	Plug	1020030
	3/8	24	4"	1.1/4	0.3810	0.2860	7/16	3	H3	1	Plug	1020040
	3/8	24	6"	1.1/4	0.3810	0.2860	7/16	3	H3	1	Plug	1020042
3/8		16	4"	1.1/4	0.3810	0.2860	7/16	3	H3	1	Plug	1020036
3/8		16	6"	1.1/4	0.3810	0.2860	7/16	3	H3	1	Plug	1020038
	7/16	20	6"	1.7/16	0.3230	0.2420	13/32	3	H3	1	Plug	1020046
7/16		14	6"	1.7/16	0.3230	0.2420	13/32	3	H3	1	Plug	1020044
	1/2	20	6"	1.21/32	0.3670	0.2750	7/16	3	H3	1	Plug	1020050
1/2		13	6"	1.21/32	0.3670	0.2750	7/16	3	H3	1	Plug	1020048

Overize / Relieved Style

1593 Similar in design to the standard 1534/1585 series
1585OV but with a pitch diameter larger than the basic pitch diameter. Used primarily where a part will be plated or treated after tapping. For through hole applications.

1593: 0.003" - 0.0035" Overize

1585OV: 0.005" Overize



UNC		UNF	TPI	l_1 Inch	l_2 Inch	d_2 Ø Inch	a Inch	l_3 Inch	# of Flutes	Limits	Chamfer	Pack Qty	1593	1585OV
6			32	2"	11/16	0.1410	0.1100	3/16	2	H7	Plug	1	1010877	—
8			32	2.1/8	3/4	0.1680	0.1310	1/4	2	H7	Plug	1	1010879	—
		10	32	2.3/8	7/8	0.1940	0.1520	1/4	2	H7	Plug	1	1010883	—
10			24	2.3/8	7/8	0.1940	0.1520	1/4	2	H7	Plug	1	1010881	—
1/4			20	2.1/2	1"	0.2550	0.1910	5/16	2	H11	Plug	1	—	1011754
5/16			18	2.23/32	1.1/8	0.3180	0.2380	3/8	2	H11	Plug	1	—	1011755
3/8			16	2.15/16	1.1/4	0.3810	0.2860	7/16	3	H11	Plug	1	—	1011756
7/16			14	3.5/32	1.7/16	0.3230	0.2420	13/32	3	H11	Plug	1	—	1011757
1/2			13	3.3/8	1.21/32	0.3670	0.2750	7/16	3	H11	Plug	1	—	1011758
5/8			11	3.13/16	1.13/16	0.4800	0.3600	9/16	3	H11	Plug	1	—	1011759

SPIRAL FLUTE TAPS

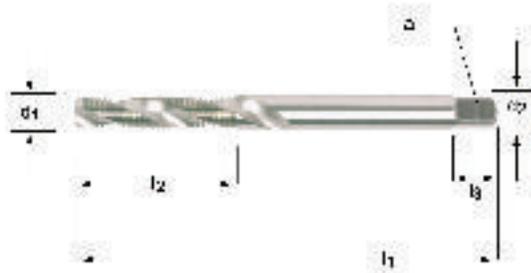


Regular Spiral 30°

1582 - Machine Screw Sizes

1586 - Fractional Sizes

Generally used where chip disposal is a problem. The spiral flute design effectively draws chips out of the hole. Recommended for use when tapping blind or through holes in a variety of materials. Excellent choice for non-ferrous applications.



1582 / 1586

UNC UNF

ANSI

35



HSS



No.4 - 1/2

Nominal d ₁	TPI UNC	TPI UNF	l ₁ Inch	l ₂ Inch	d ₂ Ø Inch /	a Inch	l ₃ Inch	# of Flutes	Limits	Pack Qty	Plug	Bottoming
4	40		1.7/8	9/16	0.1410	0.1100	3/16	2	H2	1	1010905	1010906
6	32		2"	11/16	0.1410	0.1100	3/16	2	H3	1	1010909	1010910
8	32		2.1/8	3/4	0.1680	0.1310	1/4	2	H3	1	1010913	1010914
10	24		2.3/8	7/8	0.1940	0.1520	1/4	2	H3	1	1010915	1010916
10		32	2.3/8	7/8	0.1940	0.1520	1/4	2	H3	1	1010917	1010918
1/4	20		2.1/2	1"	0.2550	0.1910	5/16	2	H3	1	1010346	1010347
1/4	20		2.1/2	1"	0.2550	0.1910	5/16	3	H3	1	1010348	1010349
1/4		28	2.1/2	1"	0.2550	0.1910	5/16	2	H3	1	1010350	1010351
1/4		28	2.1/2	1"	0.2550	0.1910	5/16	3	H3	1	1010352	1010353
5/16	18		2.23/32	1.1/8	0.3180	0.2380	3/8	3	H3	1	1010354	1010355
5/16		24	2.23/32	1.1/8	0.3180	0.2380	3/8	3	H3	1	1010356	1010357
3/8	16		2.15/16	1.1/4	0.3810	0.2860	7/16	3	H3	1	1010358	1010359
3/8		24	2.15/16	1.1/4	0.3810	0.2860	7/16	3	H3	1	1010360	1010361
7/16	14		3.5/32	1.7/16	0.3230	0.2420	13/32	3	H3	1	1010362	1010363
1/2	13		3.3/8	1.21/32	0.3670	0.2750	7/16	3	H3	1	1010366	1010367
1/2		20	3.3/8	1.21/32	0.3670	0.2750	7/16	3	H3	1	1010368	1010369

High Spiral Helicut 52°

1587 - Machine Screw Sizes

1588 - Fractional Sizes

Similar to the regular spiral flute design of 1582/1586 except that the faster spiral improves the chip drawing action and permits the bridging of larger gaps inside a hole. For blind or through hole applications. Excellent choice for non-ferrous applications.



1587 / 1588

UNC UNF

AN 51

JE
JE



HSS



N4 - 1/2

Nominal d ₁	TPI UNC	TPI UNF	l ₁ Inch	l ₂ Inch	d ₂ ∅ Inch /	a Inch	l ₃ Inch	# of Flutes	Limits	Pack Qty	Plug	Bottoming
4	40		1.7/8	9/16	0.1410	0.1100	3/16	2	H2	1	1010887	1010888
6	32		2"	11/16	0.1410	0.1100	3/16	2	H3	1	1010891	1010892
8	32		2.1/8	3/4	0.1680	0.1310	1/4	3	H3	1	1010895	1010896
10	24		2.3/8	7/8	0.1940	0.1520	1/4	3	H3	1	1010897	1010898
10		32	2.3/8	7/8	0.1940	0.1520	1/4	3	H3	1	1010899	1010900
1/4	20		2.1/2	1.000	0.2550	0.1910	5/16	3	H3	1	1010398	1010399
1/4		28	2.1/2	1.000	0.2550	0.1910	5/16	3	H3	1	1010400	1010401
5/16	18		2.23/32	1.1/8	0.3180	0.2380	3/8	3	H3	1	1010402	1010403
5/16		24	2.23/32	1.1/8	0.3180	0.2380	3/8	3	H3	1	1010404	1010405
3/8	16		2.15/16	1.1/4	0.3810	0.2860	7/16	3	H3	1	1010406	1010407
3/8		24	2.15/16	1.1/4	0.3810	0.2860	7/16	3	H3	1	1010408	1010409
7/16	14		3.5/32	1.7/16	0.3230	0.2420	13/32	3	H3	1	1010410	1010411
7/16		20	3.5/32	1.7/16	0.3230	0.2420	13/32	3	H3	1	1010412	1010413
1/2	13		3.3/8	1.21/32	0.3670	0.2750	7/16	3	H3	1	1010414	1010415
1/2		20	3.3/8	1.21/32	0.3670	0.2750	7/16	3	H3	1	1010416	1010417

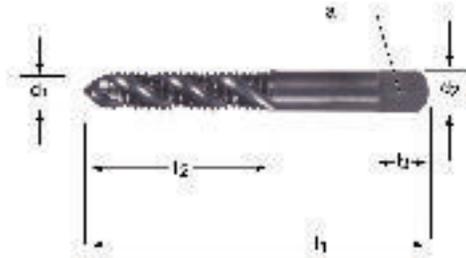
SPIRAL FLUTE TAPS

Heavy Duty Spiral 40°

1590 - Machine Screw Sizes

1591 - Fractional Sizes

A slower helix angle, larger core diameter, three flutes and wider throat dimensions than the regular 1587/1588 series. Designed for tough blind or through hole tapping. Chip ejection is more efficient and problems such as chipping and breakage are largely eliminated. A steam oxide finish makes this tap ideal for use in ferrous materials and higher strength alloys.



1590 / 1591

UNC UNF

ANF1

SE



HSS



N6 - 1/2

Nominal d ₁	TPI UNC	TPI UNF	l ₁ Inch	l ₂ Inch	d ₂ ∅ Inch /	a Inch	l ₃ Inch	# of Flutes	Limits	Pack Qty	Plug	Bottoming
6	32		2"	11/16	0.1410	0.1100	3/16	2	H3	1	1010937	1010938
6		40	2"	11/16	0.1410	0.1100	3/16	2	H3	1	—	1010940
10	24		2.3/8	7/8	0.1940	0.1520	1/4	3	H3	1	1010945	1010946
10		32	2.3/8	7/8	0.1940	0.1520	1/4	3	H3	1	1010947	1010948
1/4	20		2.1/2	1"	0.2550	0.1910	5/16	3	H3	1	1010953	1010954
1/4		28	2.1/2	1"	0.2550	0.1910	5/16	3	H3	1	1010955	1010956
5/16	18		2.23/32	1.1/8	0.3180	0.2380	3/8	3	H3	1	1010957	1010958
3/8	16		2.5/16	1.1.4	0.3810	0.2860	7/16	3	H3	1	1010961	1010962
7/16	14		3.5/32	1.7/16	0.3230	0.2420	13/32	3	H3	1	1010965	1010966
1/2	13		3.3/8	1.21/32	0.3670	0.2750	7/16	3	H3	1	1010969	1010970

High Spiral Helicut 52°, Metric

1788(M) Similar to the regular spiral flute design of 1582/1586 except that the faster spiral improves the chip drawing action and permits the bridging of larger gaps inside a hole. For blind or through hole applications. Excellent choice for non-ferrous applications.



1788(M)

M

ANSI

61



HSS



M3 - M12

Nominal d ₁	Pitch M	l ₁ Inch	l ₂ Inch	d ₂ Ø Inch /	a Inch	l ₃ Inch	No. of Flutes	Limits	Pack Qty	Plug	Bottoming
M3	0.50	1.15/16	5/8	0.1410	0.1100	3/16	2	D3	1	1012920	1012940
M4	0.70	2.1/8	3/4	0.1680	0.1310	1/4	3	D4	1	1012923	1012943
M5	0.80	2.3/8	7/8	0.1940	0.1520	1/4	3	D4	1	1012925	1012945
M6	1.00	2.1/2	1"	0.2550	0.1910	5/16	3	D5	1	1012926	1012946
M8	1.25	2.23/32	1.1/8	0.3180	0.2380	3/8	3	D5	1	1012928	1012948
M10	1.50	2.15/16	1.1/4	0.3810	0.2860	7/16	3	D6	1	1012930	1012950
M12	1.75	3.3/8	1.21/32	0.3670	0.2750	7/16	3	D6	1	1012932	1012952

THREAD FORMING TAPS

Rol-Rite / Spiral Lobe

1580 The Rol-Rite style has a spiral lobe pattern and no oil or lubrication grooves. It is designed for general purpose applications and is particularly suited for through holes in thin sections and for interrupted holes. For through or blind hole applications.



1580

UNC UNF

AN-51

2E
JE

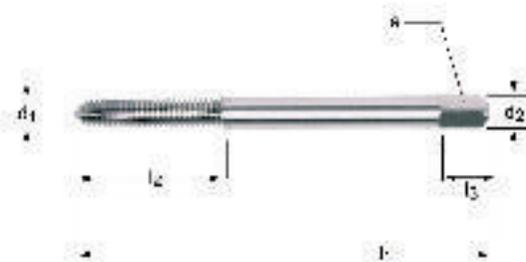
HSS

N2 - 3/8

Nominal d ₁	TPI UNC	TPI UNF	l ₁ Inch	l ₂ Inch	d ₂ Ø Inch /	a Inch	l ₃ Inch	Limits	Pack Qty	Plug	Bottoming
2	56		1.3/4	7/16	0.1410	0.1100	3/16	H2	1	—	1310004
2	56		1.3/4	7/16	0.1410	0.1100	3/16	H3	1	—	1310005
4	40		1.7/8	9/16	0.1410	0.1100	3/16	H3	1	1310012	1310014
4	40		1.7/8	9/16	0.1410	0.1100	3/16	H5	1	—	1310015
5	40		1.15/16	5/8	0.1410	0.1100	3/16	H3	1	—	1310022
6	32		2"	11/16	0.1410	0.1100	3/16	H3	1	1310028	1310031
6	32		2"	11/16	0.1410	0.1100	3/16	H5	1	1310029	—
8	32		2.1/8	3/4	0.1680	0.1310	1/4	H3	1	1310038	1310041
8	32		2.1/8	3/4	0.1680	0.1310	1/4	H5	1	1310039	1310042
10	24		2.3/8	7/8	0.1940	0.1520	1/4	H4	1	1310048	1310051
10		32	2.3/8	7/8	0.1940	0.1520	1/4	H4	1	—	1310057
10		32	2.3/8	7/8	0.1940	0.1520	1/4	H6	1	1310055	1310058
1/4	20		2.1/2	1"	0.2550	0.1910	5/16	H4	1	1310068	1310071
1/4	20		2.1/2	1"	0.2550	0.1910	5/16	H6	1	1310069	—
1/4		28	2.1/2	1"	0.2550	0.1910	5/16	H4	1	1310074	1310076
5/16	18		2.23/32	1.1/8	0.3180	0.2380	7/16	H5	1	1310078	1310080
5/16	18		2.23/32	1.1/8	0.3180	0.2380	7/16	H7	1	—	1310081
5/16		24	2.23/32	1.1/8	0.3180	0.2380	7/16	H5	1	1310082	—
3/8	16		2.15/16	1.1/4	0.3810	0.2860	1/2	H5	1	1310086	1310088
3/8		24	2.15/16	1.1/4	0.3810	0.2860	1/2	H5	1	—	1310092

Rol-Rite, Spiral Lobe

1580(M) The Rol-Rite style has a spiral lobe pattern and no oil or lubrication grooves. It is designed for general purpose applications and is particularly suited for through holes in thin sections and for interrupted holes.



1580(M)

M

ANSI

61



HSS



M3 - M12

Nominal d_1	Pitch M	l_1 Inch	l_2 Inch	d_2 \emptyset Inch /	a Inch	l_3 Inch	Limits	Pack Qty	Plug	Bottoming
M3	0.50	1.15/16	5/8	0.1410	0.1100	3/16	D5	1	1310400	1310401
M4	0.70	2.1/8	3/4	0.1680	0.1310	1/4	D6	1	1310402	1310403
M5	0.80	2.3/8	7/8	0.1940	0.1520	1/4	D7	1	1310404	1310405
M6	1.00	2.1/2	1"	0.2550	0.1910	5/16	D8	1	1310406	1310407
M8	1.25	2.23/32	1.1/8	0.3180	0.2380	3/8	D9	1	1310408	1310409
M10	1.50	2.15/16	1.1/4	0.3810	0.2860	7/16	D10	1	1310410	1310411
M12	1.75	3.3/8	1.21/32	0.3670	0.2750	7/16	D11	1	1310412	1310413

THREAD FORMING TAPS

Rol-Form / Lube Grooves

3300 The Rol-Form style has 2-4 grooves (depending on size) extending the full length of thread to assure lubrication in the forming zone and to eliminate build up of the hydraulic pressure in blind holes. They are particularly suited to blind holes in thin walled die castings.



3300

UNC

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NO - 1/2

Nominal d ₁	TPI UNC	TPI UNF	l ₁ Inch	l ₂ Inch	d ₂ Ø Inch /	a Inch	l ₃ Inch	Limits	Pack Qty	Plug	Bottoming
0		80	1.5/8	5/16	0.1410	0.1100	3/16	H2	1	—	1310110
1	64		1.11/16	3/8	0.1410	0.1100	3/16	H2	1	—	1310111
1		72	1.11/16	3/8	0.1410	0.1100	3/16	H2	1	—	1310112
2	56		1.3/4	7/16	0.1410	0.1100	3/16	H2	1	—	1310113
2	56		1.3/4	7/16	0.1410	0.1100	3/16	H3	1	—	1310114
4	40		1.7/8	9/16	0.1410	0.1100	3/16	H3	1	1310121	1310123
4	40		1.7/8	9/16	0.1410	0.1100	3/16	H5	1	1310122	—
5	40		1.15/16	5/8	0.1410	0.1100	3/16	H3	1	—	1310131
5	40		1.15/16	5/8	0.1410	0.1100	3/16	H5	1	—	1310132
6	32		2"	11/16	0.1410	0.1100	3/16	H3	1	1310137	1310140
6	32		2"	11/16	0.1410	0.1100	3/16	H5	1	1310138	1310141
8	32		2.1/8	3/4	0.1680	0.1310	1/4	H3	1	1310147	1310150
8	32		2.1/8	3/4	0.1680	0.1310	1/4	H5	1	1310148	1310151
10	24		2.3/8	7/8	0.1940	0.1520	1/4	H4	1	1310157	1310160
10	24		2.3/8	7/8	0.1940	0.1520	1/4	H6	1	1310158	1310161
10		32	2.3/8	7/8	0.1940	0.1520	1/4	H4	1	1310163	1310166
10		32	2.3/8	7/8	0.1940	0.1520	1/4	H6	1	1310164	1310167
12	24		2.3/8	15/16	0.2200	0.1650	9/32	H4	1	1310169	—
1/4	20		2.1/2	1"	0.2550	0.1910	5/16	H4	1	1310177	1310180
1/4	20		2.1/2	1"	0.2550	0.1910	5/16	H6	1	1310178	1310181
1/4		28	2.1/2	1"	0.2550	0.1910	5/16	H4	1	1310183	1310185
5/16	18		2.23/32	1.1/8	0.3180	0.2380	7/16	H5	1	1310187	1310189
5/16	18		2.23/32	1.1/8	0.3180	0.2380	7/16	H7	1	1310188	1310190
3/8	16		2.15/16	1.1/4	0.3810	0.2860	1/2	H5	1	1310195	1310197
3/8	16		2.15/16	1.1/4	0.3810	0.2860	1/2	H7	1	1310196	1310198
3/8		24	2.15/16	1.1/4	0.3810	0.2860	1/2	H7	1	1310200	1310202
1/2	13		3.3/8	1.21/32	0.3670	0.2750	23/32	H5	1	1310211	—

Rol-Form, Lube Grooves

3300(M)

The Rol-Form style has 1-2 lube grooves (depending on size) extending the full length of thread to assure lubrication in the forming zone and to eliminate build up of the hydraulic pressure in blind holes. They are particularly suited to blind holes in thin walled die castings.



3300(M)



M3 - M10

Nominal d ₁	Pitch M	l ₁ Inch	l ₂ Inch	d ₂ ∅ Inch /	a Inch	l ₃ Inch	Limits	Grooves	Pack Qty	Plug	Bottoming
M3	0.50	1.15/16	5/8	0.1410	0.1100	3/16	D5	1	1	1310500	1310501
M4	0.70	2.1/8	3/4	0.1680	0.1310	1/4	D6	1	1	1310502	1310503
M5	0.80	2.3/8	7/8	0.1940	0.1520	1/4	D7	1	1	1310504	1310505
M6	1.00	2.1/2	1"	0.2550	0.1910	5/16	D8	2	1	1310506	1310507
M8	1.25	2.23/32	1.1/8	0.3180	0.2380	3/8	D9	2	1	1310508	1310509
M10	1.50	2.15/16	1.1/4	0.3810	0.2860	7/16	D10	2	1	1310510	1310511

THREAD FORMING TAPS

Extension Rol-Form / Lube Grooves

3306E Similar in design and thread geometries to the standard 3300 series but with longer shank lengths than standard.



3306E(UNF)

UNC UNF

ANSI

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N4 - 5/16

UNC	UNF	TPI	l_1 Inch	l_2 Inch	d_2 Ø Inch	a Inch	l_3 Inch	Limits	Chamfer	Pack Qty	3306E
4		40	4"	9/16	0.1410	0.1100	3/16	H3	Bottoming	1	1321002
4		40	4"	9/16	0.1410	0.1100	3/16	H5	Bottoming	1	1321004
6		32	4"	11/16	0.1410	0.1100	3/16	H3	Bottoming	1	1321006
8		32	4"	3/4	0.1680	0.1310	1/4	H3	Bottoming	1	1321014
	10	32	4"	7/8	0.1940	0.1520	1/4	H4	Bottoming	1	1321030
10		24	4"	7/8	0.1940	0.1520	1/4	H4	Bottoming	1	1321022
1/4		20	4"	1"	0.2550	0.1910	5/16	H4	Bottoming	1	1321038
5/16		18	4"	1.1/8	0.3180	0.2380	3/8	H5	Bottoming	1	1321062

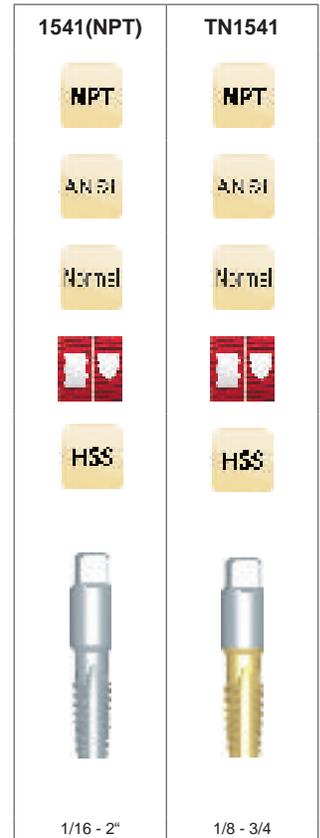
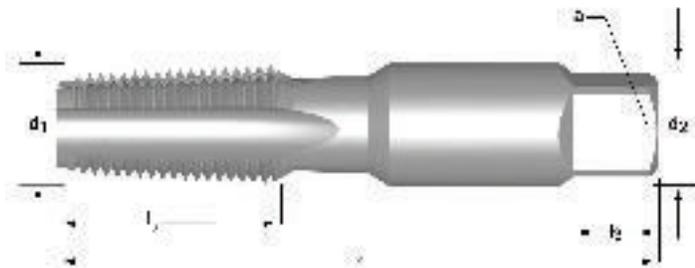
General Purpose, Medium Hook, NPT

1541 Straight Flute. Medium hook for multi-material tapping. Generally used for pipe fittings and couplings in most ferrous and non-ferrous materials. The nominal size of a pipe tap is that of the pipe fitting to be tapped and not the actual size of the tap. NPT threads require the use of a 'sealant' such as teflon tape or pipe compound to ensure a tight joint.

TN1541

TiN coating increases surface hardness and improves tool life.

Made to Metal Cutting Tool Institute Standards, table 311

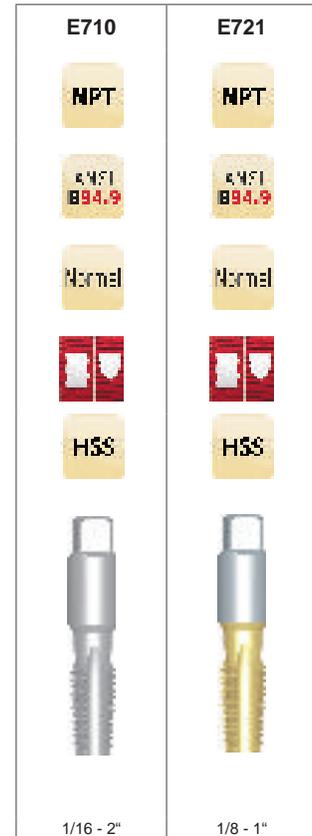
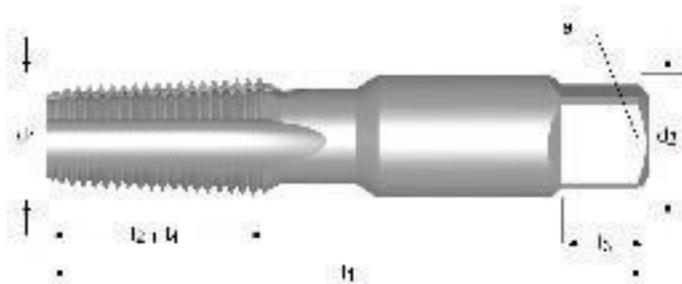


Nominal d_1	TPI	l_1	l_2	d_2	a	l_3	# of Flutes	Pack Qty	1541	TN1541
		Inch	Inch	Inch /	Inch	Inch			1541	TN1541
1/16	27	2.1/8	11/16	0.3130	0.2340	3/8	4	1	1010518	—
1/8	27	2.1/8	3/4	0.3130	0.2340	3/8	4	1	1010528	—
1/8	27	2.1/8	3/4	0.4380	0.3280	3/8	4	1	1010519	1060519
1/4	18	2.7/16	1.1/16	0.5630	0.4210	7/16	4	1	1010520	1060520
3/8	18	2.9/16	1.1/16	0.7000	0.5310	1/2	4	1	1010521	1060521
1/2	14	3.1/8	1.3/8	0.6880	0.5150	5/8	4	1	1010522	1060522
3/4	14	3.1/4	1.3/8	0.9060	0.6790	11/16	5	1	1010523	1060523
1"	11.5	3.3/4	1.3/4	1.1250	0.8430	13/16	5	1	1010524	—
1.1/4	11.5	4"	1.3/4	1.3130	0.9840	15/16	5	1	1010525	—
1.1/2	11.5	4.1/4	1.3/4	1.5000	1.1250	1"	7	1	1010526	—
2"	11.5	4.1/2	1.3/4	1.8750	1.4060	1.1/8	7	1	1010527	—

General Purpose, Medium Hook, NPT

- E710** Straight Flute. Medium hook for multi-material tapping.
- E721** Generally used for pipe fittings and couplings in most ferrous and non-ferrous materials. The nominal size of a pipe tap is that of the pipe fitting to be tapped and not the actual size of the tap. NPT threads require the use of a 'sealant' such as teflon tape or pipe compound to ensure a tight joint.

TiN coating increases surface hardness and improves tool life.

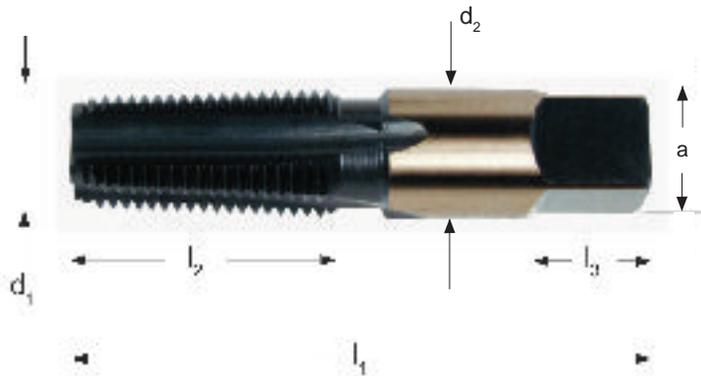


Nominal d ₁	TPI	l ₁ mm	l ₂ mm	d ₂ Ø mm	a mm	l ₃ mm	# of Flutes	l ₄ mm	Pack Qty	E710	E721	
1/16	27	65	17	7.9	5.9	8	6.3	4	11.7	1	0159491	—
1/8	27	70	19	11.1	8.3	10	8.5	4	11.9	1	0099889	0161463
1/8	27	70	19	11.1	8.3	10	8.5	4	11.9	Set of 2	0210314 ¹⁾	—
1/4	18	75	27	14.3	10.7	11	11	4	17.6	1	0099872	0161470
1/4	18	75	27	14.3	10.7	11	11	4	17.6	Set of 2	0210321 ¹⁾	—
3/8	18	80	27	17.8	13.5	13	14.5	4	19.5	1	0099919	0161487
3/8	18	80	27	17.8	13.5	13	14.5	4	19.5	Set of 2	0210338 ¹⁾	—
1/2	14	100	35	17.5	13.1	16	18	4	22.7	1	0099865	0161494
1/2	14	100	35	17.5	13.1	16	18	4	22.7	Set of 2	0210345 ¹⁾	—
3/4	14	105	35	23.0	17.2	17	23	5	24.4	1	0099902	0161500
3/4	14	105	35	23.0	17.2	17	23	5	24.4	Set of 2	0210352 ¹⁾	—
1"	11.5	115	43	28.6	21.4	21	29	5	29.4	1	0099834	0161517
1.1/4	11.5	125	43	33.3	25.0	24	38	5	27.7	1	0099858	—
1.1/2	11.5	135	43	38.1	28.6	25	44	7	28.9	1	0099841	—
2"	11.5	145	43	47.6	35.7	29	56	7	26.6	1	0099896	—

¹⁾ Sets (No. 7) include: 1pc. semi-bottoming + 1pc. semi-bottoming (truncated)

General Purpose / Work-Rite, NPT

6541 Straight Flute. Medium hook for multi-material tapping. Generally used for pipe fittings and couplings in most ferrous and non-ferrous materials. The nominal size of a pipe tap is that of the pipe fitting to be tapped and not the actual size of the tap. NPT threads require the use of a 'sealant' such as teflon tape or pipe compound to ensure a tight joint.



6541

NPT

NPT 894.9

Normal

1/8 - 2"

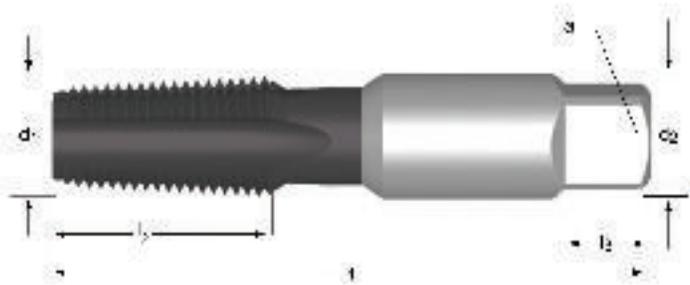
NPT	TPI	l_1 Inch	l_2 Inch	d_2 Ø Inch	a Inch	l_3 Inch	# of Flutes	Pack Qty	6541
1/8	27	2.1/8	3/4	0.4380	0.3280	3/8	4	1	8110601
1/4	18	2.7/16	1.1/16	0.5630	0.4210	7/16	4	1	8110602
3/8	18	2.9/16	1.1/16	0.7000	0.5310	1/2	4	1	8110603
1/2	14	3.1/8	1.3/8	0.6880	0.5150	5/8	4	1	8110604
3/4	14	3.1/4	1.3/8	0.9060	0.6790	11/16	5	1	8110605
1"	11.5	3.3/4	1.3/4	1.1250	0.8430	13/16	5	1	8110606
1.1/4	11.5	4"	1.3/4	1.3130	0.9840	15/16	5	1	8110607
1.1/2	11.5	4.1/4	1.3/4	1.5000	1.1250	1	7	1	8110608
2"	11.5	4.1/2	1.3/4	1.8750	1.4060	1.1/8	7	1	8110609

PIPE TAPS

Low Rake for Cast Iron, NPT

1544

Straight Flute. Low rake heavy-duty for cast iron and heat treated alloy steels. Nitride surface treatment reduces wear and chip welding. Manufactured with a cutting geometry specifically for gray cast irons producing broken chips. The design makes these taps also appropriate for non-metallics, cast brass and other brass materials producing broken, powdery chips.



1544

NPT

1544

Normal

HSS

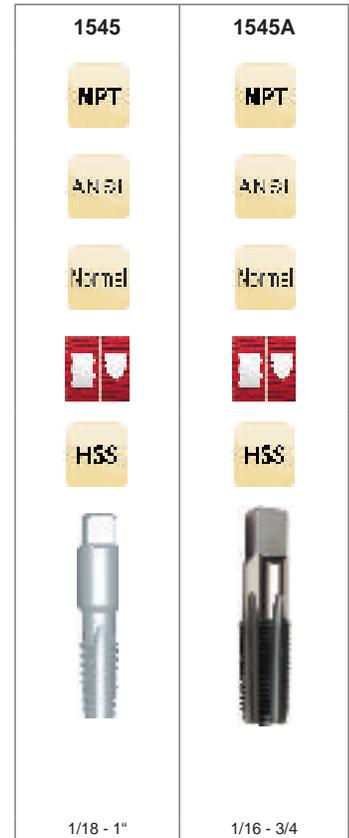
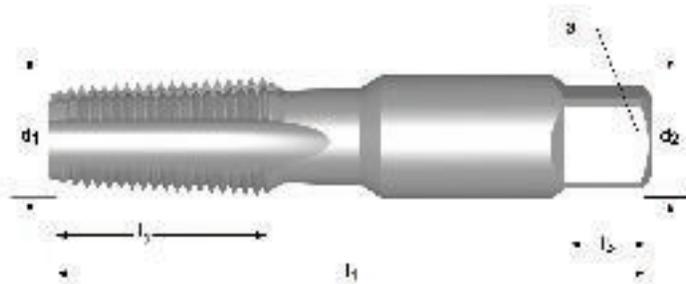
1/16 - 1.1/4

NPT	TPI	l_1 Inch	l_2 Inch	d_2 Ø Inch	a Inch	l_3 Inch	# of Flutes	Pack Qty	1544
1/16	27	2.1/8	11/16	0.3130	0.2340	3/8	4	1	1011760
1/8	27	2.1/8	3/4	0.4380	0.3280	3/8	4	1	1011761
1/4	18	2.7/16	1.1/16	0.5630	0.4210	7/16	4	1	1011762
3/8	18	2.9/16	1.1/16	0.7000	0.5310	1/2	4	1	1011763
1/2	14	3.1/8	1.3/8	0.6880	0.5150	5/8	4	1	1011764
3/4	14	3.1/4	1.3/8	0.9060	0.6790	11/16	5	1	1011765
1"	11.5	3.3/4	1.3/4	1.1250	0.8430	13/16	5	1	1011766
1.1/4	11.5	4"	1.3/4	1.3130	0.9840	15/16	5	1	1011767

High Hook, NPT

1545 Designed with a high hook and deep flutes to handle the tough curly chips of free cutting materials such as low carbon and leaded steels, boiler plate, aluminum and die castings.

1545A Identical to the 1545 series but with steam oxide surface treatment to prevent galling and chipping.



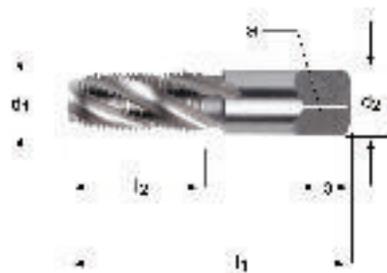
		l_1	l_2	d_2	a	l_3	# of Flutes	Pack Qty	1545	1545A
NPT	TPI	Inch	Inch	Inch	Inch	Inch				
1/16	27	2.1/8	11/16	0.3130	0.2340	3/8	4	1	—	1052869
1/8	27	2.1/8	3/4	0.3130	0.2340	3/8	4	1	1012879	—
1/8	27	2.1/8	3/4	0.4380	0.3280	3/8	4	1	1012870	1052870
1/4	18	2.7/16	1.1/16	0.5630	0.4210	7/16	4	1	1012871	1052871
3/8	18	2.9/16	1.1/16	0.7000	0.5310	1/2	4	1	1012872	1052872
1/2	14	3.1/8	1.3/8	0.6880	0.5150	5/8	4	1	1012873	1052873
3/4	14	3.1/4	1.3/8	0.9060	0.6790	11/16	5	1	1012874	1052874
1"	11.5	3.3/4	1.3/4	1.1250	0.8430	13/16	5	1	1012875	—

PIPE TAPS

Spiral Flute, 30°, NPT

1548

Designed with a medium hook. Most effective when used in applications that produce, long, stringy chips. The spiral flute design effectively draws the chips from the hole being tapped.



1548

NPT

ANSI

Normal



HSS



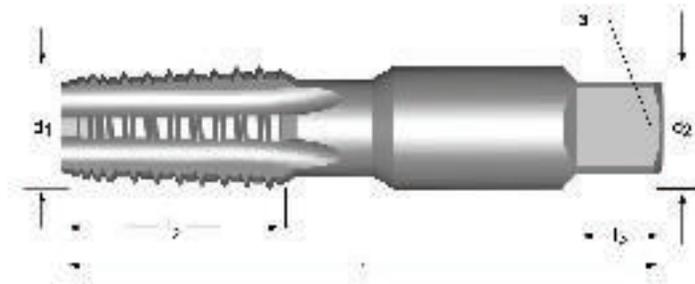
1/16 - 1"

		l_1	l_2	d_2	a	l_3	# of Flutes	Pack Qty	1548
NPT	TPI	Inch	Inch	Ø Inch	Inch	Inch			
1/16	27	2.1/8	11/16	0.3130	0.2340	3/8	4	1	1010920
1/8	27	2.1/8	3/4	0.3130	0.2340	3/8	4	1	1010924
1/8	27	2.1/8	3/4	0.4380	0.3280	3/8	4	1	1010922
1/4	18	2.7/16	1.1/16	0.5630	0.4210	7/16	4	1	1010926
3/8	18	2.9/16	1.1/16	0.7000	0.5310	1/2	4	1	1010928
1/2	14	3.1/8	1.3/8	0.6880	0.5150	5/8	4	1	1010930
3/4	14	3.1/4	1.3/8	0.9060	0.6790	11/16	5	1	1010932
1"	11.5	3.3/4	1.3/4	1.1250	0.8430	13/16	5	1	1010934

Interrupted Thread, NPT

1568

Interrupted thread design for chip evacuation. Removal of every other thread allows more coolant deeper into the hole. Helps to eliminate torn threads and re-cutting of chips. Ideal for use in soft, ductile materials or those producing long, continuous chips.



1568

NPT

AN&I

Normal



HSS

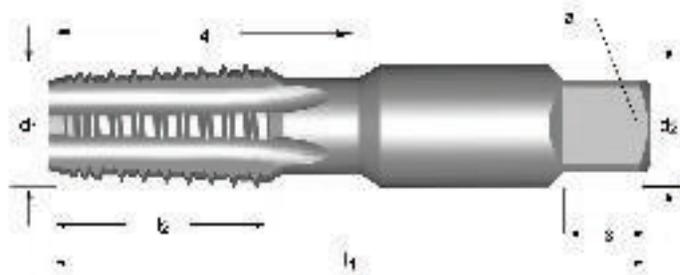


1/8 - 1.1/2

NPT	TPI	l_1 Inch	l_2 Inch	d_2 Ø Inch	a Inch	l_3 Inch	# of Flutes	Pack Qty	1568
1/8	27	2.1/8	3/4	0.3130	0.2340	3/8	5	1	1010560
1/8	27	2.1/8	3/4	0.4380	0.3280	3/8	5	1	1010551
1/4	18	2.7/16	1.1/16	0.5630	0.4210	7/16	5	1	1010552
3/8	18	2.9/16	1.1/16	0.7000	0.5310	1/2	5	1	1010553
1/2	14	3.1/8	1.3/8	0.6880	0.5150	5/8	5	1	1010554
3/4	14	3.1/4	1.3/8	0.9060	0.6790	11/16	5	1	1010555
1"	11.5	3.3/4	1.3/4	1.1250	0.8430	13/16	5	1	1010556
1.1/4	11.5	4"	1.3/4	1.3130	0.9840	15/16	5	1	1010557
1.1/2	11.5	4.1/4	1.3/4	1.5000	1.1250	1"	7	1	1010558

Interrupted Thread, NPT

E711 Interrupted thread design for chip evacuation. Removal of every other thread allows more coolant deeper into the hole. Helps to eliminate torn threads and re-cutting of chips. Ideal for use in soft, ductile materials or those producing long, continuous chips.



E711

NPT

E711
B94.9

Normal



HSS



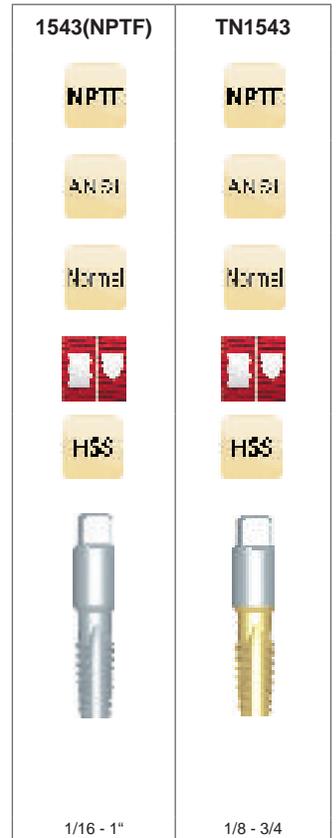
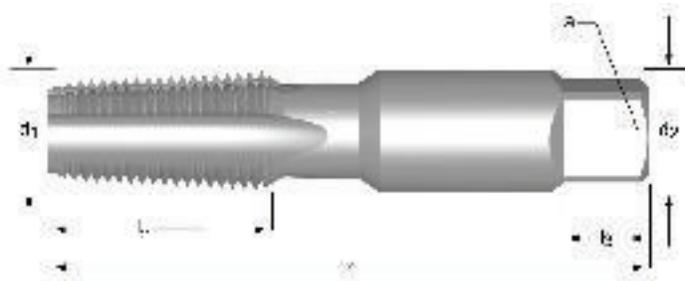
1/8 - 1.1/2

NPT	TPI	d ₁ nom mm	l ₁ mm	l ₂ mm	l ₄ mm	d ₂ Ø mm	a mm	l ₃ mm	# of Flutes	Pack Qty	E711	
1/8	27	10.29	70	19	309	11.1	8.3	10	5	8.5	1	0099957
1/4	18	13.72	75	27	44.6	14.3	10.7	11	5	11.0	1	0099940
3/8	18	17.15	80	27	46.5	17.8	13.5	13	5	14.5	1	0099971
1/2	14	21.33	100	35	57.7	17.5	13.1	16	5	18.0	1	0099933
3/4	14	26.67	105	35	59.4	23.0	17.2	17	5	23.0	1	0099964
1"	11.5	33.40	115	43	72.4	28.6	21.4	21	5	29.0	1	0099926
1.1/2	11.5	48.26	135	43	71.9	38.1	28.6	25	7	44.0	1	0124079

Dryseal, NPTF, Medium Hook

1543 Similar in design to the 1541 series but manufactured to Dryseal American National Standard Taper Pipe Thread (NPTF) specifications. Used where a leak proof pressure tight joint is required without the use of a sealing compound.

TN1543 TiN coated option increases surface hardness and improves tool life.



		l_1	l_2	d_2	a	l_3	# of Flutes	Pack Qty	1543(NPTF)	TN1543
NPTF	TPI	Inch	Inch	Inch	Inch	Inch			1543(NPTF)	TN1543
1/16	27	2.1/8	11/16	0.3130	0.2340	3/8	4	1	1010529	—
1/8	27	2.1/8	3/4	0.4380	0.3280	3/8	4	1	—	1060530
1/8	27	2.1/8	3/4	0.3130	0.2340	3/8	4	1	1010539	—
1/8	27	2.1/8	3/4	0.4380	0.3280	3/8	4	1	1010530	—
1/4	18	2.7/16	1.1/16	0.5630	0.4210	7/16	4	1	—	1060531
1/4	18	2.7/16	1.1/16	0.5630	0.4210	7/16	4	1	1010531	—
3/8	18	2.9/16	1.1/16	0.7000	0.5310	1/2	4	1	—	1060532
3/8	18	2.9/16	1.1/16	0.7000	0.5310	1/2	4	1	1010532	—
1/2	14	3.1/8	1.3/8	0.6880	0.5150	5/8	4	1	—	1060533
1/2	14	3.1/8	1.3/8	0.6880	0.5150	5/8	4	1	1010533	—
3/4	14	3.1/4	1.3/8	0.9060	0.6790	11/16	5	1	—	1060534
3/4	14	3.1/4	1.3/8	0.9060	0.6790	11/16	5	1	1010534	—
1"	11.5	3.3/4	1.3/4	1.1250	0.8430	13/16	5	1	1010535	—

PIPE TAPS

Spiral Flute, Dryseal, NPTF

1549

Spiral Flute 30°. Medium hook for evacuation of long, stringy chips. Similar in design to the 1548 series but manufactured to Dryseal American National Standard Taper Pipe Thread (NPTF) specifications. Used where a leak proof pressure tight joint is required without the use of a sealing compound.



1549

NPTF

ANSI

Normal

HSS



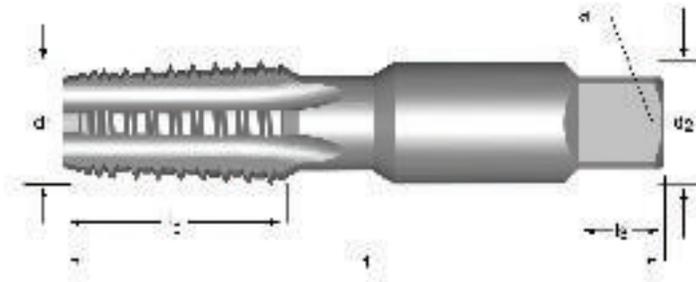
1/16 - 3/4

NPTF	TPI	l_1 Inch	l_2 Inch	d_2 Ø Inch	a Inch	l_3 Inch	# of Flutes	Pack Qty	1549
1/16	27	2.1/8	11/16	0.3130	0.2340	3/8	4	1	1010921
1/8	27	2.1/8	3/4	0.3130	0.2340	3/8	4	1	1010925
1/8	27	2.1/8	3/4	0.4380	0.3280	3/8	4	1	1010923
1/4	18	2.7/16	1.1/16	0.5630	0.4210	7/16	4	1	1010927
3/8	18	2.9/16	1.1/16	0.7000	0.5310	1/2	4	1	1010929
1/2	14	3.1/8	1.3/8	0.6880	0.5150	5/8	4	1	1010931
3/4	14	3.1/4	1.3/8	0.9060	0.6790	11/16	5	1	1010933

Interrupted Thread, Dryseal, NPTF

1567 Interrupted thread design for chip evacuation. Removal of every other thread allows more coolant deeper into the hole. Helps to eliminate torn threads and re-cutting of chips.

Similar in design to the 1568 series but manufactured to Dryseal American National Standard Taper Pipe Thread (NPTF) specifications. Used where a leak proof pressure tight joint is required without the use of a sealing compound.



1567

NPTF

AN 51

Normal

HSS

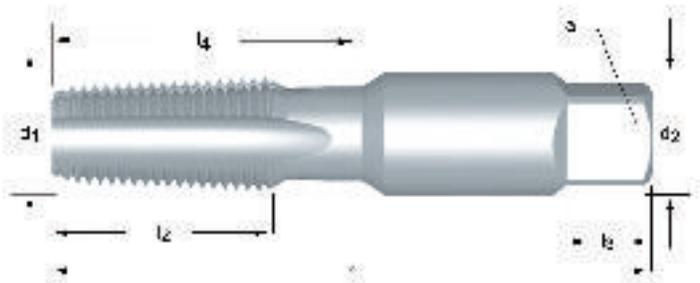


1/8 - 1"

NPTF	TPI	l_1 Inch	l_2 Inch	d_2 Ø Inch	a Inch	l_3 Inch	# of Flutes	Pack Qty	1567
1/8	27	2.1/8	3/4	0.3130	0.2340	3/8	5	1	1010570
1/8	27	2.1/8	3/4	0.4380	0.3280	3/8	5	1	1010561
1/4	18	2.7/16	1.1/16	0.5630	0.4210	7/16	5	1	1010562
3/8	18	2.9/16	1.1/16	0.7000	0.5310	1/2	5	1	1010563
1/2	14	3.1/8	1.3/8	0.6880	0.5150	5/8	5	1	1010564
3/4	14	3.1/4	1.3/8	0.9060	0.6790	11/16	5	1	1010565
1"	11.5	3.3/4	1.3/4	1.1250	0.8430	13/16	5	1	1010566

General Purpose, Medium Hook, Dryseal, NPTF

E712 Medium hook for multi-material tapping. Similar in design to the E710 series but manufactured to Dryseal American National Standard Taper Pipe Thread (NPTF) specifications. Used where a leak proof pressure tight joint is required without the use of a sealing compound.



E712

NPTF

894.9

Normal



HSS



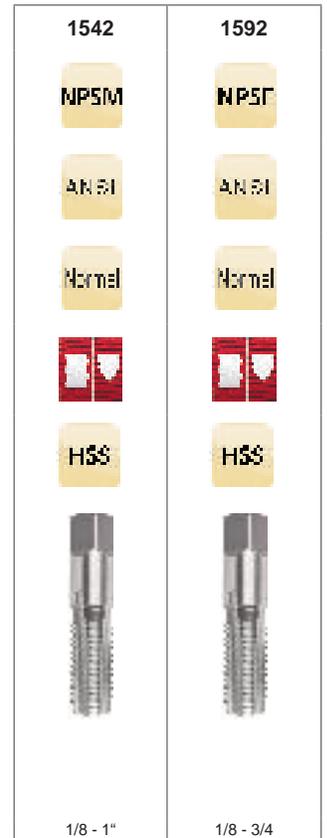
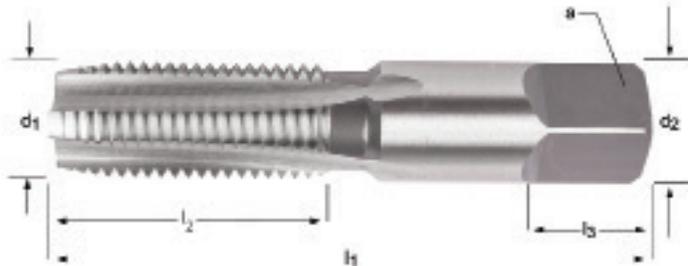
1/16 - 1.1/4

NPTF	TPI	d ₁ nom mm	l ₁ mm	l ₂ mm	l ₄ mm	d ₂ Ø mm	a mm	l ₃ mm	# of Flutes		Pack Qty	E712
1/16	27	7.94	65	17	11.7	8.1	6.0	8	4	6.20	1	0100004
1/8	27	10.29	70	19	11.9	11.1	8.3	10	4	8.40	1	0100035
1/4	18	13.72	75	27	17.6	14.3	10.7	11	4	10.90	1	0100028
3/8	18	17.15	80	27	19.5	17.8	13.5	13	4	14.25	1	0100059
1/2	14	21.34	100	35	22.7	17.5	13.1	16	4	17.75	1	0100011
3/4	14	26.67	105	35	24.4	23.0	17.2	17	5	23.00	1	0100042
1"	11.5	33.40	115	43	29.4	28.6	21.4	21	5	29.00	1	0099988
1.1/4	11.5	42.16	125	43	27.7	33.4	24.9	23	5	37.75	1	0099995

Straight Pipe Taps, NPS & NPSF

1542 NPSM (Mechanical) - Suitable for tapping holes for low pressure work, and then assemble with either taper threaded or straight threaded pipe or fitting and secure a tight joint with lubricant or sealer.

1592 NPSF (Dryseal) - Similar in design to the 1542 series but manufactured to Dryseal American National Standard Pipe Thread NPSF specifications. Intended for low pressure work where a sealer is not used such as fuel and oil lines. When assembling with a dryseal taper-threaded part there will not be any clearance between the crest and roof of the threads.



Nominal d ₁	TPI	l ₁ Inch	l ₂ Inch	d ₂ Ø Inch /	a Inch	l ₃ Inch	# of Flutes	Pack Qty	1542	1592
1/8	27	2.1/8	3/4	0.3130	0.2340	3/8	4	1	1010587	1010592
1/8	27	2.1/8	3/4	0.4380	0.3280	3/8	4	1	1010581	1010588
1/4	18	2.7/16	1.1/16	0.5630	0.4210	7/16	4	1	1010582	1010589
3/8	18	2.9/16	1.1/16	0.7000	0.5310	1/2	4	1	1010583	1010590
1/2	14	3.1/8	1.3/8	0.6880	0.5150	5/8	4	1	1010584	1010591
3/4	14	3.1/4	1.3/8	0.9060	0.6790	11/16	5	1	1010585	1011070
1"	11.5	3.3/4	1.3/4	1.1250	0.8430	13/16	5	1	1010586	—

Taper Pipe Taps, British Standard

E550 Similar to the E710 but manufactured to British Standard Taper Pipe Thread specification (BSPT).



E550

Rc

ISO 2204

Normal

HSS

1/8 - 2"

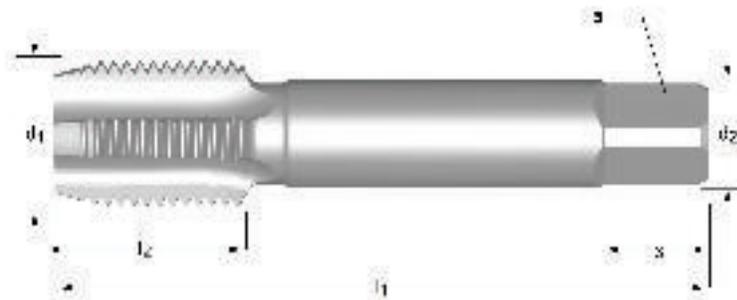
Rc	TPI	d ₁ nom mm	l ₁ mm	l ₂ mm	d ₂ Ø mm	a mm	l ₃ mm	# of Flutes	Flute Width	Pack Qty	E550
1/8	28	9.728	59	15	8.0	6.3	9	3	8.4	1	0099490
1/8	28	9.728	59	15	8.0	6.3	9	3	8.4	Set of 2	0159408 ¹⁾
1/4	19	13.157	67	19	10.0	8.0	11	3	11.2	1	0099483
1/4	19	13.157	67	19	10.0	8.0	11	3	11.2	Set of 2	0159422 ¹⁾
3/8	19	16.662	75	21	12.5	10.0	13	3	14.75	1	0099520
3/8	19	16.662	75	21	12.5	10.0	13	3	14.75	Set of 2	0159446 ¹⁾
1/2	14	20.955	87	26	16.0	12.5	16	5	18.25	1	0099476
1/2	14	20.955	87	26	16.0	12.5	16	5	18.25	Set of 2	0159460 ¹⁾
3/4	14	26.441	96	28	20.0	16.0	20	5	23.75	1	0099513
3/4	14	26.441	96	28	20.0	16.0	20	5	23.75	Set of 2	0159484 ¹⁾
1"	11	33.249	109	33	25.0	20.0	24	5	30	1	0099445
1.1/4	11	41.910	119	36	31.5	25.0	28	5	38.5	1	0099469
1.1/2	11	47.803	125	37	35.5	28.0	31	7	44.5	1	0099452
2"	11	59.614	140	41	40.0	31.5	34	7	56	1	0099506

Note: ISO shank and square dimensions will necessitate metric holders

¹⁾ Sets (No. 7) include: 1pc. semi-bot oming + 1 pc. semi-bot oming (truncated)

Straight Pipe Taps, British Standard

E547 Similar to the NPS pipe taps, but manufactured to British Standard Parallel Pipe Thread specifications (BSPP).



E547

1/8 - 2"

Nominal d ₁	TPI	l ₁ mm	l ₂ mm	d ₂ ∅ mm	a mm	l ₃ mm	# of Flutes		Pack Qty	Taper	Plug	Bottoming
1/8	28	59	15	8.0	8.0	9	4	8.8	1	0157169	0157176	0099285
1/4	19	67	19	10.0	8.0	11	4	11.8	1	0157190	0157206	0099278
3/8	19	75	21	12.5	10.0	13	4	15.25	1	0157220	0157237	0099315
1/2	14	87	26	16.0	12.5	16	4	19	1	0157251	0157268	0099261
5/8	14	91	26	18.0	14.0	18	4	21	1	0157282	0099322	0099339
3/4	14	96	28	20.0	16.0	20	4	24.5	1	0157299	0150757	0099308
7/8	14	102	29	22.4	18.0	22	4	28.25	1	0157305	0099353	0099360
1"	11	109	33	25.0	20.0	24	4	30.75	1	0157312	0157329	0099254
1.1/4	11	119	36	31.5	25.0	28	6	39.5	1	0157336	0099216	0099223
1.1/2	11	125	37	35.5	28.0	31	6	45	1	0157343	0099193	0099209
2"	11	140	41	40.0	31.5	34	6	57	1	0157367	0157374	0099292

Note: ISO shank and square dimensions will necessitate metric holders

SPECIAL PURPOSE TAPS

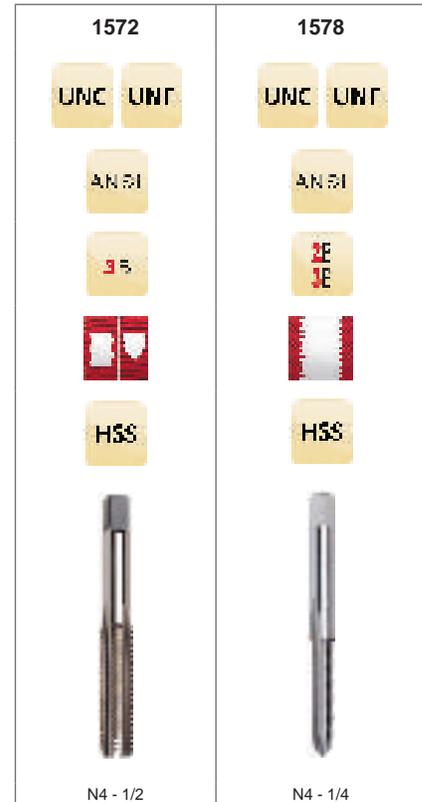


Screw Thread Insert, STI

1572 - Straight flute, hand tap

1578 - Spiral point, machine tap

Designed for use in aluminum, magnesium, and other non-ferrous materials where taps of this type are most commonly used. Taps suitable for other materials can be furnished on request. STI taps are dimensionally oversized and utilize a larger tap drill size so that the thread they produce will accept a helical coil wire screw thread insert of the same nominal size and pitch. For a particular size and pitch the lower H-Limit number is suggested for class 2B and 3B threads, while the higher H-Limit is suggested for class 2B.



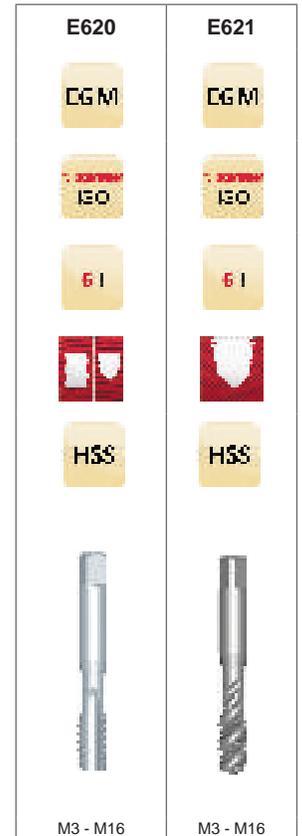
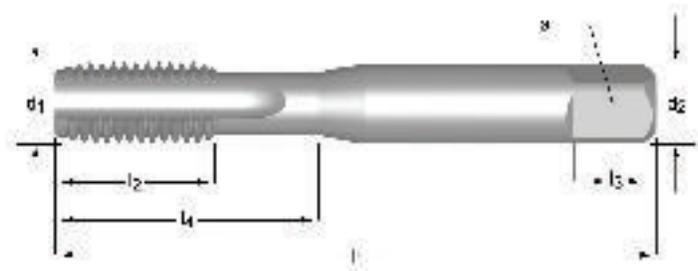
Nominal d ₁	TPI UNC	TPI UNF	l ₁ Inch	l ₂ Inch	d ₂ Ø Inch /	a Inch	l ₃ Inch	# of Flutes	Limits	Pack Qty	1572 - Plug	1572 Bottoming	1578 - Plug
4	40		2"	11/16	0.1410	0.1100	3/16	2	H2	1	—	—	1010491
4	40		2"	11/16	0.1410	0.1100	3/16	3	H2	1	1010419	1010421	—
6	32		2.3/8	7/8	0.1940	0.1520	1/4	2	H2	1	—	—	1010494
6	32		2.3/8	7/8	0.1940	0.1520	1/4	2	H3	1	—	—	1010495
6	32		2.3/8	7/8	0.1940	0.1520	1/4	3	H3	1	1010427	1010429	—
8	32		2.3/8	15/16	0.2200	0.1650	9/32	2	H2	1	—	—	1010498
8	32		2.3/8	15/16	0.2200	0.1650	9/32	2	H3	1	—	—	1010499
8	32		2.3/8	15/16	0.2200	0.1650	9/32	3	H3	1	1010435	1010437	—
10	24		2.1/2	1"	0.2550	0.1910	5/16	3	H2	1	1010438	1010440	—
10		32	2.1/2	1"	0.2550	0.1910	9/32	2	H2	1	—	—	1010502
10		32	2.1/2	1"	0.2550	0.1910	5/16	3	H2	1	1010442	1010444	—
10		32	2.1/2	1"	0.2550	0.1910	5/16	3	H3	1	1010443	1010445	—
1/4	20		2.23/32	1.1/8	0.3180	0.2380	5/16	2	H2	1	—	—	1010506
1/4	20		2.23/32	1.1/8	0.3180	0.2380	5/16	2	H3	1	—	—	1010507
1/4	20		2.23/32	1.1/8	0.3180	0.2380	3/8	3	H3	1	1010451	1010453	—
1/4		28	2.23/32	1.1/8	0.3180	0.2380	5/16	2	H2	1	—	—	1010508
1/4		28	2.23/32	1.1/8	0.3180	0.2380	5/16	2	H3	1	—	—	1010509
1/4		28	2.23/32	1.1/8	0.3180	0.2380	3/8	2	H2	1	—	1010456	—
5/16	18		2.15/16	1.1/4	0.3810	0.2860	7/16	4	H3	1	1010458	—	—
3/8	16		3.3/8	1.21/32	0.3670	0.2750	7/16	4	H3	1	1010466	1010468	—
7/16	14		3.19/32	1.21/32	0.4290	0.3220	1/2	4	H3	1	1010474	—	—
7/16		20	3.3/8	1.21/32	0.3670	0.2750	7/16	4	H3	1	—	—	—
1/2	13		3.13/16	1.13/16	0.4800	0.3600	9/16	4	H3	1	1010482	—	—
1/2		20	3.19/32	1.21/32	0.4290	0.3220	1/2	4	H3	1	—	—	—

Screw Thread Insert, STI, Semi-Bottoming

E620 - Straight flute

E621 - Spiral flute

Designed for use in aluminum, magnesium, and other non-ferrous materials where taps of this type are most commonly used. Taps suitable for other materials can be furnished on request. STI taps are dimensionally oversized and utilize a larger tap drill size so that the thread they produce will accept a helical coil wire screw thread insert of the same nominal size and pitch.



Nominal d ₁	P mm	l ₁ mm	l ₂ mm	d ₂ Ø mm	a mm	l ₃ mm	# of Flutes	Flute width mm	l ₄ mm	Pack Qty	E620	E621
3	0.50	53	14	4.00	3.15	6	3	3.2	14	1	0384824	0384916
4	0.70	58	11	5.00	4.00	7	3	4.2	20	1	0384831	0384923
5	0.80	66	13	6.30	5.00	8	3	5.2	26	1	0384848	0384930
6	1.00	72	16	8.00	6.30	9	3	6.3	29	1	0384855	—
6	1.00	72	16	8.00	6.30	9	3	6.3	31	1	—	0384947
8	1.25	80	18	10.00	8.00	11	3	8.4	32	1	0384862	—
8	1.25	80	18	10.00	8.00	11	3	8.4	34	1	—	0384954
10	1.50	89	22	9.00	7.10	10	3	10.5		1	0384879	0384961
12	1.75	95	24	11.20	9.00	12	4	12.5		1	0384886	—
12	1.75	95	24	11.20	9.00	12	3	12.5		1	—	0384978
14	2.00	112	29	14.00	11.20	14	4	14.5		1	0384893	—
14	2.00	112	29	14.00	11.20	14	3	14.5		1	—	0384985
16	2.00	112	29	14.00	11.20	14	4	16.5		1	0384909	—
16	2.00	112	29	14.00	11.20	14	3	16.5		1	—	0384992

SPECIAL PURPOSE TAPS

Nut Style

U1511 For small production runs in conventional tapping machines. They have a relatively long shank smaller than the minor diameter to permit accumulation of several nuts after tapping. Available in taper style, 7-10 thread chamfer.



U1511

UNC

ANSI

35



HSS



1/4 - 1/2

UNC	TPI	l_1 Inch	l_2 Inch	d_2 \emptyset Inch	a Inch	l_3 Inch	# of Flutes	Limits	Chamfer	Pack Qty	U1511
1/4	20	5"	1.5/8	0.1850	0.1390	9/16	4	H3	Taper	1	1010375
5/16	18	5.1/2	1.13/16	0.2400	0.1800	5/8	4	H3	Taper	1	1010376
3/8	16	6"	2"	0.2940	0.2200	11/16	4	H3	Taper	1	1010377
1/2	13	7"	2.1/2	0.4000	0.3000	7/8	4	H3	Taper	1	1010378

Pulley Style

1519 These taps have the same major diameters and pitch diameters as standard fractional size taps, but with extended shanks for reaching locations inaccessible to regular hand taps. Although originally designed for tapping pulley holes, the long shank permits tapping other long reach applications.



1519

UNC

ANSI

35



HSS



1/4 - 3/4

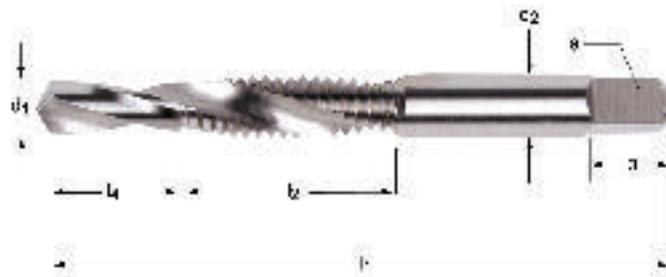
UNC	TPI	l_1 Inch	l_2 Inch	d_2 Ø Inch	a Inch	l_3 Inch	# of Flutes	Limits	Chamfer	Pack Qty	1519
1/4	20	6"	1.000	0.2550	0.1910	5/16	4	H3	Plug	1	1010379
1/4	20	8"	1.000	0.2550	0.1910	5/16	4	H3	Plug	1	1010380
5/16	18	6"	1.1/8	0.3180	0.2380	3/8	4	H3	Plug	1	1010381
5/16	18	8"	1.1/8	0.3180	0.2380	3/8	4	H3	Plug	1	1010382
3/8	16	6"	1.1/4	0.3810	0.2860	7/16	4	H3	Plug	1	1010383
3/8	16	8"	1.1/4	0.3810	0.2860	7/16	4	H3	Plug	1	1010384
3/8	16	10"	1.1/4	0.3810	0.2860	7/16	4	H3	Plug	1	1010385
1/2	13	6"	1.21/32	0.5070	0.3800	9/16	4	H3	Plug	1	1010388
1/2	13	8"	1.21/32	0.5070	0.3800	9/16	4	H3	Plug	1	1010389
1/2	13	10"	1.21/32	0.5070	0.3800	9/16	4	H3	Plug	1	1010390
5/8	11	6"	1.13/16	0.6330	0.4750	11/16	4	H3	Plug	1	1010392
5/8	11	8"	1.13/16	0.6330	0.4750	11/16	4	H3	Plug	1	1010393
5/8	11	10"	1.13/16	0.6330	0.4750	11/16	4	H3	Plug	1	1010394
3/4	10	10"	2.000	0.7590	0.5690	3/4	4	H3	Plug	1	1010396

SPECIAL PURPOSE TAPS

Combination Drill & Tap

1994 Spiral Flute 15°. Drills and taps in a single pass, reducing cycle time. Commonly used in multi-spindle operations with reversing capacity. Designed to provide 65% thread engagement and a 2B class of fit.

Bright finish improves chip flow in soft or non-ferrous materials.



1994(UNF)

UNC UNF

ANSI

2B



HSS



No.4 - 1/2

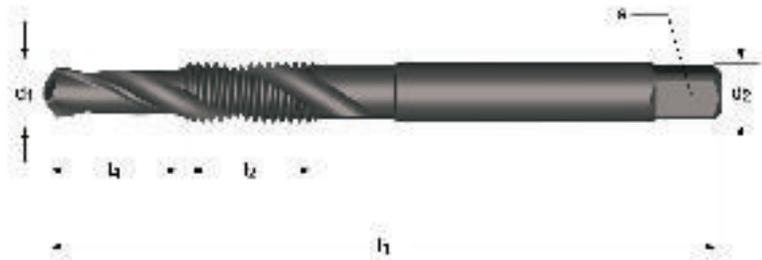
UNC	UNF	TPI	d ₁ Ø Inch	l ₁ Inch	l ₂ Inch	d ₂ Ø Inch	a Inch	l ₃ Inch	l ₄ Inch	# of Flutes	Pack Qty	1994
4		40	0.0890	1.7/8	3/8	0.1410	0.1100	3/16	1/4	2	1	1110010
5		40	0.1015	1.15/16	13/32	0.1410	0.1100	3/16	9/32	2	1	1110020
6		32	0.1110	2"	7/16	0.1410	0.1100	3/16	5/16	2	1	1110030
8		32	0.1360	2.1/8	1/2	0.1680	0.1310	1/4	3/8	2	1	1110040
10		24	0.1540	2.3/8	5/8	0.1940	0.1520	1/4	13/32	2	1	1110050
	10	32	0.1610	2.3/8	5/8	0.1940	0.1520	1/4	13/32	2	1	1110054
12		24	0.1800	2.3/8	21/32	0.2200	0.1650	9/32	15/32	2	1	1110060
	12	28	0.1850	2.3/8	21/32	0.2200	0.1650	9/32	15/32	2	1	1110064
1/4		20	0.2055	2.1/2	25/32	0.2550	0.1910	5/16	17/32	2	1	1110080
	1/4	28	0.2188	2.1/2	25/32	0.2550	0.1910	5/16	17/32	2	1	1110084
5/16		18	0.2660	2.27/32	15/16	0.3180	0.2380	3/8	11/16	2	1	1110090
	5/16	24	0.2770	2.27/32	15/16	0.3180	0.2380	3/8	11/16	2	1	1110094
3/8		16	0.3230	3.3/8	1.1/16	0.3810	0.2860	7/16	13/16	2	1	1110100
	3/8	24	0.3390	3.3/8	1.1/16	0.3810	0.2860	7/16	13/16	2	1	1110104
7/16		14	0.3770	3.3/4	1.1/4	0.3230	0.2420	13/32	1"	2	1	1110110
	7/16	20	0.3937	3.3/4	1.1/4	0.3230	0.2420	13/32	1"	2	1	1110114
1/2		13	0.4331	4.1/16	1.3/8	0.3670	0.2750	7/16	1.1/8	2	1	1110120
	1/2	20	0.4531	4.1/16	1.3/8	0.3670	0.2750	7/16	1.1/8	2	1	1110124

Combination Drill & Tap

E651 Spiral Flute 30°. Drills and taps in a single pass, reducing cycle time. Commonly used in multi-spindle operations with reversing capacity. Designed to provide 65% thread engagement and a 2B class of f t.

E654

Steam oxide finish reduces wear and chip welding in harder ferrous materials.



E651 / E654

UNC UNF



HSS



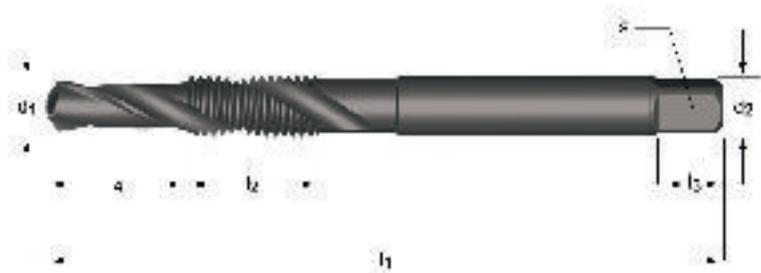
No.6 - 5/8

UNC	UNF	TPI	d ₁ nom mm	l ₁ mm	l ₂ mm	l ₄ mm	d ₂ Ø mm	a mm	# of Flutes	Pack Qty	E651 / E654
6		32	2.85	56.9	12	6.0	3.50	2.90	2	1	0388907
8		32	3.50	64.0	12	8.0	4.50	3.55	2	1	0273272
	8	36	3.50	64.0	13	8.0	4.50	3.55	2	1	0339053
10		24	3.90	72.0	15	10.0	5.00	4.00	2	1	0273197
	10	32	4.10	72.0	16	10.0	5.00	4.00	2	1	0338971
12		24	4.50	77.0	15	11.0	5.60	4.50	2	1	0273210
	12	28	4.70	77.0	17	11.0	5.60	4.50	2	1	0338995
1/4		20	5.10	83.0	17	13.0	6.30	5.00	2	1	0273227
	1/4	28	5.50	83.0	19	13.0	6.30	5.00	2	1	0339008
5/16		18	6.60	94.0	21	16.0	8.00	6.30	2	1	0273241
	5/16	24	6.90	94.0	22	16.0	8.00	6.30	2	1	0339022
3/8		16	8.00	104.0	23	19.0	10.00	8.00	2	1	0273234
	3/8	24	8.50	104.0	24	19.0	10.00	8.00	2	2	0339015
7/16		14	9.40	107.0	25	22.0	8.00	6.30	2	1	0273265
	7/16	20	9.90	107.0	25	22.0	8.00	6.30	2	1	0339046
1/2		13	10.80	114.0	29	25.0	9.00	7.10	2	1	0273203
	1/2	20	11.50	114.0	29	25.0	9.00	7.10	2	1	0338988
9/16		12	12.20	124.0	29	28.0	11.20	9.00	2	1	0273289
	9/16	18	12.90	124.0	30	28.0	11.20	9.00	2	1	0339060
5/8		11	13.50	134.0	31	32.5	12.50	10.00	2	1	0273258
	5/8	18	14.50	134.0	32	32.0	12.50	10.00	2	1	0339039

Combination Drill & Tap

E650 Spiral Flute 30°. Drills and taps in a single pass, reducing cycle time. Commonly used in multi-spindle operations with reversing capacity. Designed to provide 65% thread engagement and a 2B class of fit.

Steam oxide finish reduces wear and chip welding in harder ferrous materials.



E650

M

EO

FI



HSS



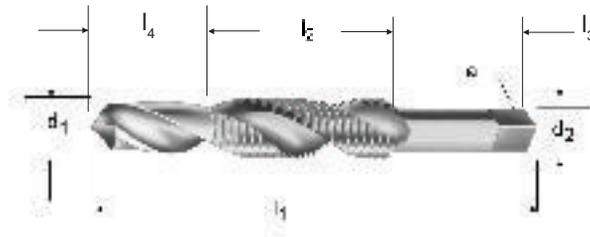
M3 - M16

M	P mm	d ₁ Ø mm	l ₁ mm	l ₂ mm	l ₄ mm	d ₂ Ø mm	a mm	l ₃ mm	# of Flutes	Pack Qty	E650
3	0.50	2.5	56	10	6	3.15	2.5	5.0	2	1	0167861
4	0.70	3.3	65	12	8	4.0	3.15	6.0	2	1	0127551
5	0.80	4.2	69	15	10	5.0	4.00	7.0	2	1	0127568
6	1.00	5.0	84	18	12	6.3	5.00	8.0	2	1	0127575
8	1.25	6.8	96	21	16	8.0	6.30	9.0	2	1	0127582
10	1.50	8.5	108	22	20	10.0	8.00	11.0	2	1	0127513
12	1.75	10.2	113	29	24	9.0	7.10	10.0	2	1	0127520
14	2.00	12.0	123	30	28	11.2	9.00	12.0	2	1	0127537
16	2.00	14.0	134	32	32	12.5	10.00	13.0	2	1	0127544

Combination Drill & Tap, NPT Pipe Threads

E653 Spiral Flute 27°. Drills and taps in a single pass, reducing cycle time. Commonly used in multi-spindle operations with reversing capacity.

Bright finish improves chip flow in soft or non-ferrous materials.



E653

NPT

AN&S

Normal

HSS

1/8 - 1"

NPT	TPI	d ₁ nom Inch	l ₁ Inch	l ₂ Inch	l ₃ Inch	l ₄ Inch	d ₂ ∅ Inch	a Inch	# of Flutes	Pack Qty	E653
1/8	27	0.3346	2.7/8	3/4	3/8	3/4	0.4370	0.3280	2	1	0297285
1/4	18	0.4331	3.5/16	1.1/16	7/16	7/8	0.5620	0.4210	2	1	0297278
3/8	18	0.5709	3.1/2	1.1/16	1/2	15/16	0.7000	0.5310	2	1	0297308
1/2	14	0.7087	4.3/8	1.3/8	5/8	1.1/4	0.6870	0.5150	2	1	0297261
3/4	14	0.9055	4.9/16	1.3/8	11/16	1.5/16	0.9060	0.6790	2	1	0297292
1"	11.5	1.1417	5.3/8	1.3/4	13/16	1.5/8	1.1250	0.8430	2	1	0297247

Tap Wrench, T-Handle

1215 T-Handle tap wrenches have a sliding handle and chuck. Designed for hand tapping in tight places and can also be used with any tool that can be turned by hand.



Tap Wrench #	Hand Reamer Capacity Inch	Hand Reamer Capacity mm	Hand Tap Capacity Inch	Hand Tap Capacity mm	Pack Qty	1215
T0	1/8 - 3/16	M3 - M5	1/16 - 5/32	M1 - M4	1	1810372
T1	3/16 - 5/16	M4 - M7	3/16 - 7/16	M4 - M10	1	1810373
T2	1/4 - 15/32	M6 - M14	1/4 - 9/16	M6 - M14	1	1810374

Tap Wrench, Straight Handle

3850 Straight handle tap wrenches are ideal for hand tapping. The straight handle design provides greater leverage, particularly suited for use with larger diameters. Simple to operate. Hardened steel jaws are opened and closed by simply twisting one hand which is knurled for side gripping.



3850



No.8 - No.14

Number	Hand Reamer Capacity Inch	Hand Reamer Capacity mm	Hand Tap Capacity Inch	Hand Tap Capacity mm	l_1 Length	Pack Qty	3850
8	1/8 - 5/16	M3 - M8	1/16 - 5/16	M1 - M8	7"	1	1810017
9	3/16 - 3/8	M5 - M9	3/16 - 1/2	M4 - M12	10.1/2"	1	1810018
10	1/4 - 9/16	M6 - M14	1/4 - 3/4	M3 - M8	15"	1	1810019
11	3/8 - 3/4	M9 - M19	3/8 - 1"	M10 - M25	20"	1	1810020
12	3/8 - 7/8	M9 - M22	3/8 - 1.1/8	M10 - M27	25.5/8"	1	1810021
14	5/8 - 1.1/2	M16 - M39	7/8 - 1.7/8	M22 - M42	40.1/2"	1	1810022

MISCELLANEOUS

Tap & Drill Combination Sets

229CSET 18 piece tap (styles 1500 and 1528) with corresponding drills (styles R10P & R18P). Metal index.



229CSET



Set

Set	Style	Pieces per Set	UNC Tap Sizes	Tap Drill Sizes	Pack Qty	229CSET
229C	1500,1528 Taps; R10P,R15P,R18P Drills	18	6-32,8-32,10-24,10-32,1/4-20,5/16-18,3/8-16,7/16-14,1/2-13	#36,#29,#25,#21,#7,F,5/16,U,27/64	1	4111502