



shaping your dreams

OSG UK TAP Catalogue



Shaping your dreams

Tool material

 CARBIDE	Tungsten carbide
 HSS-Co	Hss Colbalt (Co8)
 XPM	High grade powder metallurgy

 HSSE	High vanadium HSS- EV3
 PM	Powder metallurgy
 HSS	HSS

Surface treatment

 TiN	Tin coating
 Ni	Nitride
 V	V (Composite multi layered) coating
 OX	Steam oxide
 WX	WX (TiAlN) coating
 CrN	CRN (chromium nitride) coating
 HR	Heat resistance / anti welding coating

Standard DIN

 DIN 2184-1	DIN 2184-1
 DIN 371	DIN 371
 DIN 5156	DIN 5156
 DIN 376	DIN 376
 DIN 374	DIN 374
 DIN 2182	DIN 2182
 DIN 2183	DIN 2183
 DIN 2184	DIN 2184

Helix angle

 30°	Displays flute helix angle
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Threading

 E/1,5	1.5 Pitch chamfer lead
 C/2,5	2.5 Pitch chamfer lead
 B/4	4 Pitch chamfer lead
 A/6	6 Pitch chamfer lead
 I[max]	8 Pitch chamfer lead

	For blind holes
	Threading depth $\geq 2 D$
	Through coolant
	For through holes

Shank

 SHRINK h7	Shank diameter tolerance
 SHRINK FIT	Suitable for Shrink Fit system

	Straight shank
	Reinforced shank

Tool tolerance

 ISO 2 6H	Tool tolerance
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shaping your dreams



Made in Britain. Trusted Worldwide. Precision Tap Manufacturing from Basildon, Essex.

OSG UK is proud to be one of the last remaining manufacturers with in-house tap production facilities in the United Kingdom.

Backed by decades of hands-on experience and the global expertise of the OSG Corporation, our UK team delivers high-performance taps with shorter lead times, consistent quality, and the flexibility only local manufacturing can offer.

From our Basildon site, we manufacture taps up to 3" diameter, in a wide range of standard and custom forms, using OSG's premium high-speed steels and industry-leading coating technologies designed to handle even the most challenging materials and applications.

Whether you're looking for fast turnaround, technical support, or a manufacturing partner who understands the UK market OSG UK is ready to deliver.

Contact us at uk_sales@osg-uk.com to learn more.

OSG UK Tap Factory

According to
DIN 40430

[illegible]

According to ISO

Dia	P	
8	1,5	6,60
9	2	7,20
10	2	8,20
11	3	8,25
12	3	9,25
14	3	11,25
16	4	12,25
18	4	14,25
20	4	16,25
22	5	17,25
24	5	19,25
26	5	21,25
28	5	23,25
30	6	24,25
32	6	26,25
34	6	28,25
36	6	30,25
38	7	31,50
40	7	33,50
42	7	35,50
44	7	37,50
46	8	38,50
48	8	40,50
50	8	42,50

**According to
DIN EN ISO 228**

[illegible]

According to BS 84

Dia	P	
16	60	1,20
32	48	1,90
18	40	2,50
52	32	3,10
36	24	3,60
72	24	4,50
14	20	5,00
56	18	6,50
38	16	7,90
76	14	9,20
12	12	10,50
96	12	12,00
58	11	13,40
34	10	16,40
78	9	19,25
1	8	22,00
1 18	7	24,75
1 14	7	27,50
1 38	6	30,00
1 12	6	33,50
1 58	5	35,50
1 34	5	39,00
1 78	4 12	41,50
2	4 12	44,50

According to BS 84

Dia	P	
3/16	32	4,00
7/32	28	4,60
1/4	26	5,30
5/16	22	6,80
3/8	20	8,30
7/16	18	9,70
1/2	16	11,00
9/16	16	12,70
5/8	14	14,00
3/4	12	16,80
7/8	12	19,80
1	10	22,70
1 1/8	9	25,50
1 1/4	9	28,50
1 3/8	8	31,50
1 1/2	8	34,50
1 5/8	8	38,00

According to
DIN EN 10226-2

Dia	P	
76	28	6,55
8	28	8,60
1/4	19	11,50
38	19	15,00
12	14	18,50
58	14	20,50
34	14	24,00
1	11	30,25
1 1/4	11	39,00
1 1/2	11	45,00
2	11	56,50
2 1/2	11	72,20
3	11	85,00

According to
BS 949 part 2

Dia	P	
0	1	5,00
1	0,9	4,40
2	0,81	3,90
3	0,73	3,40
4	0,66	3,00
5	0,59	2,60
6	0,53	2,30
7	0,48	2,00
8	0,43	1,80
9	0,39	1,50
10	0,35	1,30
11	0,31	1,20
12	0,28	1,00
13	0,25	0,95
14	0,23	0,75

According to DIN EN 10226-2
taper 1/16

Dia	P			A	B min
		d1	D1		
16	28	6,30	6,49	8,31	10,00
18	28	8,30	8,50	8,31	10,10
20	19	11,00	11,35	12,37	15,00
22	19	14,50	14,85	12,77	15,40
24	14	18,10	18,49	16,83	20,50
26	14	23,50	23,98	18,13	21,80
1	11	29,60	30,11	21,42	26,00
1 1/2	11	38,10	38,78	23,72	28,30
2	11	44,00	44,67	23,72	28,30
2 1/2	11	55,60	56,48	28,02	32,60
3	11	71,10	72,00	31,32	37,10
4	11	83,60	84,71	34,42	40,20
5	11	101,60	102,81	37,52	45,30
6	11	119,60	120,81	40,62	50,40
8	11	151,60	152,81	46,72	55,50
10	11	183,60	184,81	52,82	60,60
12	11	215,60	216,81	58,92	65,70
14	11	247,60	248,81	65,02	70,80
16	11	279,60	280,81	71,12	75,90
18	11	311,60	312,81	77,22	81,00
20	11	343,60	344,81	83,32	86,10
22	11	375,60	376,81	89,42	91,20
24	11	407,60	408,81	95,52	96,30
26	11	439,60	440,81	101,62	101,40
28	11	471,60	472,81	107,72	106,50
30	11	503,60	504,81	113,82	111,60
32	11	535,60	536,81	119,92	116,70
34	11	567,60	568,81	126,02	121,80
36	11	599,60	600,81	132,12	126,90
38	11	631,60	632,81	138,22	132,00
40	11	663,60	664,81	144,32	137,10
42	11	695,60	696,81	150,42	142,20
44	11	727,60	728,81	156,52	147,30
46	11	759,60	760,81	162,62	152,40
48	11	791,60	792,81	168,72	157,50
50	11	823,60	824,81	174,82	162,60
52	11	855,60	856,81	180,92	167,70
54	11	887,60	888,81	187,02	172,80
56	11	919,60	920,81	193,12	177,90
58	11	951,60	952,81	199,22	183,00
60	11	983,60	984,81	205,32	188,10
62	11	1015,60	1016,81	211,42	193,20
64	11	1047,60	1048,81	217,52	198,30
66	11	1079,60	1080,81	223,62	203,40
68	11	1111,60	1112,81	229,72	208,50
70	11	1143,60	1144,81	235,82	213,60
72	11	1175,60	1176,81	241,92	218,70
74	11	1207,60	1208,81	248,02	223,80
76	11	1239,60	1240,81	254,12	228,90
78	11	1271,60	1272,81	260,22	234,00
80	11	1303,60	1304,81	266,32	239,10
82	11	1335,60	1336,81	272,42	244,20
84	11	1367,60	1368,81	278,52	249,30
86	11	1399,60	1400,81	284,62	254,40
88	11	1431,60	1432,81	290,72	259,50
90	11	1463,60	1464,81	296,82	264,60
92	11	1495,60	1496,81	302,92	269,70
94	11	1527,60	1528,81	309,02	274,80
96	11	1559,60	1560,81	315,12	279,90
98	11	1591,60	1592,81	321,22	285,00
100	11	1623,60	1624,81	327,32	290,10

M

According to DIN 13 and
DIN-ISO 965-1

Dia	P						
		6 HX		6 GX		7 GX	
		Min.	Max.	Min.	Max.	Min.	Max.
1	0,25	0,87	0,89	-	-	-	-
1,2	0,25	1,07	1,09	-	-	-	-
1,4	0,3	1,244	1,263	-	-	-	-
2	0,4	1,82	1,84	1,85	1,88	-	-
2,2	0,45	2,01	2,04	2,02	2,06	-	-
2,5	0,45	2,31	2,34	2,32	2,36	-	-
3	0,5	2,77	2,81	2,79	2,84	2,81	2,85
3,5	0,6	3,23	3,27	3,24	3,30	-	-
4	0,7	3,66	3,72	3,69	3,73	3,71	3,77
5	0,8	4,61	4,68	4,65	4,71	4,66	4,73
6	1	5,51	5,59	5,55	5,63	5,56	5,64
8	1,25	7,37	7,55	7,40	7,47	7,42	7,50
10	1,5	9,24	9,33	9,26	9,35	9,30	9,39
12	1,75	11,10	11,20	11,14	11,24	11,17	11,28
14	2	12,96	13,08	13,00	13,12	13,04	13,16
16	2	14,96	15,08	15,00	15,12	15,04	15,16
18	2,5	16,66	16,81				
20	2,5	18,66	18,81				
22	2,5	20,66	20,81				
24	3	22,39	22,56				
27	3	25,39	25,56				
30	3,5	28,09	28,28				
33	3,5	31,09	31,28				
36	4	33,80	34,01				
39	4	36,80	37,01				
42	4,5	39,52	39,73				
45	4,5	42,52	42,73				

MF

According to DIN 13 and
DIN-ISO 965-1

Dia	P		
		6 HX	
		Min.	Max.
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
8	1	7,50	7,56
10	1	9,50	9,56
10	1,25	9,35	9,43
12	1	11,50	11,56
12	1,25	11,35	11,43
12	1,5	11,21	11,30
14	1,5	13,25	13,34
16	1,5	15,25	15,34
18	1,5	17,25	17,34
20	1,5	19,25	19,34

EG M

According to DIN 8140

Dia	P	
2	0,4	2,10
2,5	0,45	2,60
3	0,5	3,10
4	0,7	4,20
5	0,8	5,20
6	1	6,30
8	1,25	8,40
10	1,5	10,50

EG UNC

Dia	P	
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
Nr. 4	40	3,00
Nr. 6	32	3,70
Nr. 8	32	4,40

EG UNF

Dia	P	
-	-	-
-	-	-
Nr. 10	32	5,00
14	28	6,60
18	24	8,20
24	24	9,80
30	20	11,50
36	20	13,10

SPIRAL POINT	NAME	SPECIFICATION	Material	Coating	Metric	MJ	Metric Fine	UNC	UNJC	UNF	UNJF	BSW	BSF	BA	G (BSP)	NPT	RC (BSPT)
					THREAD DESIGNATION / PAGE NUMBER												
	POT	DIN Standard, Spiral Point General applications	HSSE		14		15								16		
	POT-DIN 352	DIN Standard, Spiral Point General applications	HSSE		17												
	TIN-POT	DIN Standard, Spiral Point General applications	HSSE	TiN	18												
	TICN-POT	DIN Standard, Spiral Point General applications	HSSE	V	19												
	CC-POT	DIN Standard, Spiral Point, for stainless steels and carbon steels tapping with water soluble coolant	HSSE	CrN	20		21										
	CC-LT-POT	Long series, Spiral Point, for stainless steels and carbon steels tapping with water soluble coolant	HSSE	CrN	22												
	AL-POT	DIN Standard, Spiral Point For aluminium and aluminium alloys	HSSE		23												
	CPM-POT	DIN Standard, Spiral Point For steel ≤ 900 N/mm2 & cast iron	PM		24												
	H-POT	DIN Standard, Spiral Point, for stainless steels and alloy steels from 25~45 HRC	PM	OX	25		26		27		28						
	1066-POT	ISO-529, Spiral Point General applications	HSSE	OX	29			30		31		32	33	34	35	36	37
	1066-TIN-POT	ISO-529, Spiral Point General applications	HSSE	TiN	38												
	1066-POT-PLUS	ISO-529, Spiral Point For steels 25-45 HRC	PM	V	39			40		41				42			
	LS-POT	ISO-2283, Spiral Point Long Shank General applications	HSSE		43												

Low Carbon steel	Medium carbon steel	High Carbon steels	Alloy steel	Hardened steel				Stainless steel	Tool steel	Cast steel	Cast steel	Ductile cast iron	Copper	Brass	Brass casting	Bronze	Aluminium rolled	Aluminium alloy casting	Magnesium alloy	Zinc alloy casting	Titanium alloy	Nickel alloy	Bakelite / Phenol	Vinyl / Nylon
C 0.25%	C 0.25% ~ 0.45%	C 0.45% <	SCM	25~35 HRC	35~45 HRC	45~52 HRC	52~65 HRC	SUS	SKD	SKD	SC	GG	GGG	Bs	BsC	PB	Al	AC ADC	MC	ZDC	Ti	Ni		
○	○	○	○	○							○	○	○	○	○	○	○	○	○	○				
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○	○	○	○	○							○	○	○	○	○	○	○	○	○	○				

SPIRAL FLUTE	NAME	SPECIFICATION	Material	Coating	Metric													
					MJ	Metric Fine	UNC	UNJC	UNF	UNJF	BSW	BSF	BA	G (BSP)	NPT	RC (BSPT)	THREAD DESIGNATION / PAGE NUMBER	
	VA-SFT-6G	DIN Standard, Spiral Flute, for stainless steels and alloy steels	HSSE	OX	44													
	VA-SFT (FORM E)	DIN Standard, Spiral Flute, for stainless steels and alloy steels	HSSE	OX	45													
	SFT	DIN Standard, Spiral Flute, For general applications	HSSE		46	47								48				
	SFT	DIN Standard, Spiral Flute, For general applications	HSSE		49													
	WM-SFT	DIN Standard, Spiral Flute, For mild steel	HSSE	OX	50													
	TIN-SFT	DIN Standard, Spiral Flute, For general applications	HSSE	TiN	51													
	TICN-SFT	DIN Standard, Spiral Flute, For general applications	HSSE	V	52													
	SUS-SFT	DIN Standard, Spiral Flute, for deep hole tapping in stainless steels with water soluble coolant	HSSE	OX	53	54												
	CC-SFT	DIN Standard, Spiral Flute, for stainless steels and carbon steels tapping up to 2XD with water soluble coolant	HSSE	CrN	55	56	57		58									
	CC-SFT-SPT	DIN Standard, Spiral Flute, for general applications	HSSE	CrN									59					
	CC-LT-SFT	Long series, Spiral flute, for stainless steels and carbon steels tapping up to 2XD with water soluble coolant	HSSE	CrN	60													
	CC-NEO-SFT	DIN Standard, Variable lead Spiral Flute, for stainless and carbon steels tapping up to 2XD with water soluble coolant	HSSE	TiN	61	62												
	AL-SFT	DIN Standard, Spiral Flute, For aluminium and aluminium alloys	HSSE		63	64												
	SH-SFT	DIN Standard, Spiral Flute, For alloyed steel $\geq 1100\text{N/mm}^2$	HSSE		65								66					
	CPM-SFT	DIN Standard, Spiral Flute For steel $\geq 900\text{ N/mm}^2$ & cast iron	HSSE	OX	67													
	1066-SFT	ISO-529 Spiral Flute General applications	HSSE	OX	68		69		70		71	72	73	74	75	76		
	1066-TIN-SFT	ISO-529, Thread Spiral Flute General applications	HSSE	TiN	77													
	1066-SFT-PLUS	ISO-529, Spiral Flute For steels 25-45 HRC	HSSE	OX	78		79		80				81					
	PET-SFT	DIN Standard, Spiral Flute, for heat resistant steels (oil and energy industry)	HSSE	OX											82			
	LS-SFT	ISO-2283, Spiral Flute Long Shank General applications	HSSE		83													

Low Carbon steel	Medium carbon steel	High Carbon steels	Alloy steel	Hardened steel				Stainless steel	Tool steel	Cast steel	Cast steel	Ductile cast iron	Copper	Brass	Brass casting	Bronze	Aluminium rolled	Aluminium alloy casting	Magnesium alloy	Zinc alloy casting	Titanium alloy	Nickel alloy	Bakelite / Phenol	Vinyl / Nylon
C-0.25%	C0.25%~0.45%	C0.45%<	SCM	25~35 HRC	35~45 HRC	45~52 HRC	52~65 HRC	SUS	SKD	SKD	SC	GG	GGG	Bs	BsC	PB	Al	AC ADC	MC	ZDC	Ti	Ni		
⊙	⊙	⊙	⊙					⊙	⊙	⊙			⊙											⊙
⊙	⊙	⊙	⊙					⊙	⊙	⊙			⊙											⊙
⊙	⊙	⊙	⊙	⊙							⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙				
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		⊙	⊙	⊙	⊙				⊙	⊙														
			⊙		⊙	⊙				⊙			⊙											
⊙	⊙	⊙	⊙	⊙							⊙		⊙											

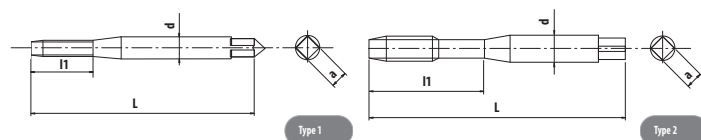
⊙ Excellent ⊙ Good

			Material	Coating	Metric	MJ	Metric Fine	UNC	UNJC	UNF	UNJF	BSW	BSF	BA	G (BSP)	NPT	RC (BSPT)	
FLUTELESS/ROLL TAP	NAME	SPECIFICATION			THREAD DESIGNATION / PAGE NUMBER													
	1066-NRT-PLUS	ISO-529 Fluteless. General applications	HSSE	TiN	84													
STRAIGHT FLUTE	NAME	SPECIFICATION			THREAD DESIGNATION / PAGE NUMBER													
	1066-HT	ISO-529, Straight Flute General applications	HSSE		85			86		87		88	89	90				
	1066-HT-SET	ISO-529, Straight Flute General applications	HSSE		91													
	1066-TIN-HT	ISO-529, Thread Straight Flute General applications	HSSE	TiN	92													
	LS-HT	ISO-2283, Straight Flute Long Shank General applications	HSSE		93			94		95		96	97		98			
	NT	BS-949:1951, Straight Flute Nut General applications	HSSE		99			100		101		102	103	104	105			
(M) SYNCHRO	NAME	SPECIFICATION			THREAD DESIGNATION / PAGE NUMBER													
	US-AL-RFT	OSG Standard, developed for CNC machines equipped with rigid tapping, lefthand spiral righthand cutting, ultra high speed tapping	HSSE		106													
	US-AL-SFT	OSG Standard, developed for CNC machines equipped with rigid tapping, for ultra speed tapping in aluminium	HSSE		106													
	HS-RFT-TIN	OSG Standard, developed for CNC machines equipped with rigid tapping, lefthand spiral righthand cutting, ultra high speed tapping	HSSE	TiN	107													
	HS-SFT-TIN	OSG Standard, developed for CNC machines equipped with rigid tapping for ultra high speed tapping	HSSE	TiN	107													
	US-AL-NRT	OSG Standard, Fluteless developed for CNC machines with rigid tapping, for ultra speed tapping in aluminium	HSS-Co	V	108													

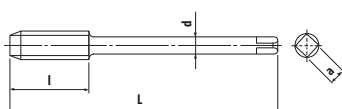
Low Carbon steel	Medium carbon steel	High Carbon steels	Alloy steel	Hardened steel				Stainless steel	Tool steel	Cast steel	Cast steel	Ductile cast iron	Copper	Brass	Brass casting	Bronze	Aluminium rolled	Aluminium alloy casting	Magnesium alloy	Zinc alloy casting	Titanium alloy	Nickel alloy	Bakelite / Phenol	Vinyl / Nylon
C 0.25%	C 0.25% ~ 0.45%	C 0.45% <	SCM	25~35 HRC	35~45 HRC	45~52 HRC	52~65 HRC	SUS	SKD	SKD	SC	GG	GGG	Bs	BsC	PB	Al	AC ADC	MC	ZDC	Ti	Ni		
⊙	⊙	○	○					⊙					⊙	⊙	⊙		⊙	⊙		○				
C 0.25%	C 0.25% ~ 0.45%	C 0.45% <	SCM	25~35 HRC	35~45 HRC	45~52 HRC	52~65 HRC	SUS	SKD	SKD	SC	GG	GGG	Bs	BsC	PB	Al	AC ADC	MC	ZDC	Ti	Ni		
○	○	○	○	○						○	○	○		○	○	○	○	○	○	○				
○	○	○	○	○						○	○	○		○	○	○	○	○	○	○				
○	○	○	○	○						○	○	○		○	○	○	○	○	○	○				
○	○	○	○	○						○	○	○		○	○	○	○	○	○	○				
○	○	○	○	○						○	○	○		○	○	○	○	○	○	○				
C 0.25%	C 0.25% ~ 0.45%	C 0.45% <	SCM	25~35 HRC	35~45 HRC	45~52 HRC	52~65 HRC	SUS	SKD	SKD	SC	GG	GGG	Bs	BsC	PB	Al	AC ADC	MC	ZDC	Ti	Ni		
																		⊙	⊙	○	○			
																		⊙	⊙	○	○			
⊙	⊙	○	○	○				○		○			○	○	○		○	⊙		○				○
⊙	⊙	○	○	○				○		○			○	○	○		○	⊙		○				○
																	⊙	⊙	○	○				

Taps

- | | |
|---------------------|--|
| ■ Specification | DIN Standard, Spiral Point
General applications |
| ■ Chamfer Length | 4 Threads |
| ■ Material | High Vanadium HSSE, Greater wear resistance |
| ■ Surface Treatment | None |



EDP	M	P	L	I1	d	a	ZΔ	Type
60712560	2	0,4	45	8	2,8	2,1	2	1
60713360	2,5	0,45	50	9	2,8	2,1	2	1
60713860	3	0,5	56	18	3,5	2,7	3	2
60714060	3,5	0,6	56	20	4	3	3	2
60714460	4	0,7	63	21	4,5	3,4	3	2
60714960	5	0,8	70	25	6	4,9	3	2
60715560	6	1	80	30	6	4,9	3	2
60716160	8	1,25	90	35	8	6,2	3	2
60716960	10	1,5	100	39	10	8	3	2

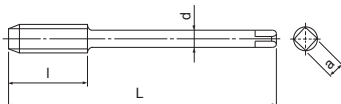


M	HSSE	ISO 2 6H	 B/4			DIN 376
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[illegible] Z_{Δ} = Number of flutes

Applications												
C≤0.2%	0.25<C≤0.4%	C≥0.45%	SCM	25~35 HRC	35~45 HRC	45~52 HRC	52~62 HRC	SUS	SKD	SC	GG	GGG
 12~20 m/min	 8~12 m/min	 7~12 m/min	 8~12 m/min							 8~12 m/min		 8~12 m/min
Cu	BS	BsC	PB	Al	AC,ADC	MC	ZDC	Ti	Ni	Plast.	Vinyl	
 10~15 m/min	 15~25 m/min	 15~25 m/min	 10~20 m/min	 15~25 m/min	 15~20 m/min	 10~15 m/min	 10~15 m/min				 8~16 m/min	

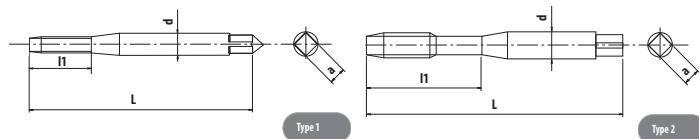
■ Specification	DIN Standard, Spiral Point, for general applications
■ Chamfer Length	4 Threads
■ Material	High Vanadium HSSE, Greater wear resistance
■ Surface Treatment	None

[illegible]

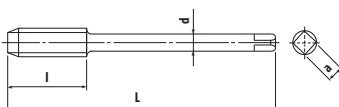
Applications												
C≤0.2%	0.25<C≤0.4%	C≥0.45%	SCM	25~35 HRC	35~45 HRC	45~52 HRC	52~62 HRC	SUS	SKD	SC	GG	GGG
 12~20 m/min	 8~12 m/min	 7~12 m/min	 8~12 m/min							 8~12 m/min		 8~12 m/min
Cu	BS	BsC	PB	Al	AC,ADC	MC	ZDC	Ti	Ni	Plast.	Vinyl	
 10~15 m/min	 15~25 m/min	 15~25 m/min	 10~20 m/min	 15~25 m/min	 15~20 m/min	 10~15 m/min	 10~15 m/min				 8~16 m/min	

Taps

- Specification DIN Standard, Spiral Point For general applications
- Chamfer Length 4 Threads
- Material High Vanadium HSSE, Greater wear resistance
- Surface Treatment TiN Coating



EDP	M	P	L	l1	d	a	ZΔ	Type
6071256001	2	0,4	45	8	2,8	2,1	2	1
6071336001	2,5	0,45	50	9	2,8	2,1	2	1
6071386001	3	0,5	56	18	3,5	2,7	3	2
6071406001	3,5	0,6	56	20	4	3	3	2
6071446001	4	0,7	63	21	4,5	3,4	3	2
6071496001	5	0,8	70	25	6	4,9	3	2
6071556001	6	1	80	30	6	4,9	3	2
6071616001	8	1,25	90	35	8	6,2	3	2
6071696001	10	1,5	100	39	10	8	3	2



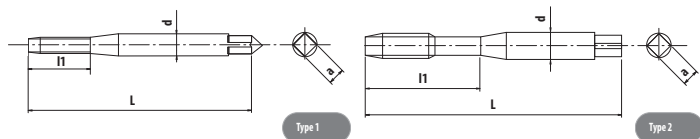
EDP	M	P	L	l	d	a	ZΔ
6081386001	3	0,5	56	11	2,2	-	3
6081446001	4	0,7	63	13	2,8	2,1	3
6081496001	5	0,8	70	16	3,5	2,7	3
6081556001	6	1	80	19	4,5	3,4	3
6081616001	8	1,25	90	22	6	4,9	3
6081696001	10	1,5	100	24	7	5,5	3
6081796001	12	1,75	110	28	9	7	3
6081916001	14	2	110	30	11	9	3
6082026001	16	2	110	32	12	9	3
6082146001	18	2,5	125	34	14	11	3
6082286001	20	2,5	140	34	16	12	3
6082386001	22	2,5	140	34	18	14,5	3
6082476001	24	3	160	38	18	14,5	3
6082626001	27	3	160	38	20	16	4
6082716001	30	3,5	180	45	22	18	4

ZΔ= Number of flutes

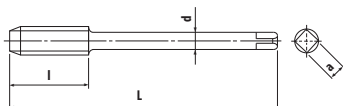
Applications												
C≤0.2%	0.25<C≤0.4%	C≥0.45%	SCM	25~35 HRC	35~45 HRC	45~52 HRC	52~62 HRC	SUS	SKD	SC	GG	GGG
15~24 m/min	10~15 m/min	8~13 m/min	10~15 m/min					8~16 m/min	8~12 m/min	8~12 m/min		10~15 m/min
Cu	BS	BsC	PB	Al	AC,ADC	MC	ZDC	Ti	Ni	Plast.	Vinyl	
12~17 m/min	15~25 m/min	15~25 m/min	10~20 m/min	15~25 m/min	15~20 m/min	10~15 m/min	10~15 m/min	6~9 m/min			10~20 m/min	

Taps

- | | |
|---------------------|--|
| ■ Specification | DIN Standard, Spiral Point
For general applications |
| ■ Chamfer Length | 4 Threads |
| ■ Material | High Vanadium HSSE, Greater wear resistance |
| ■ Surface Treatment | TiCN Coating |



EDP	M	P	L	l1	d	a	ZΔ	Type
6071256002	2	0,4	45	8	2,8	2,1	2	1
6071386002	3	0,5	56	18	3,5	2,7	3	2
6071446002	4	0,7	63	21	4,5	3,4	3	2
6071496002	5	0,8	70	25	6	4,9	3	2
6071556002	6	1	80	30	6	4,9	3	2
6071616002	8	1,25	90	35	8	6,2	3	2
6071696002	10	1,5	100	39	10	8	3	2



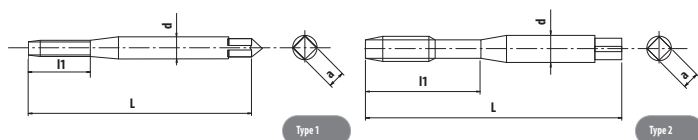
M	HSSE	V	ISO 2 6H	B/4			DIN 376
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[illegible] Z_{Δ} = Number of flutes

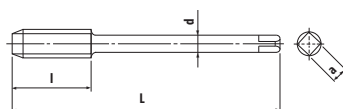
Applications												
C≤0.2%	0.25<C≤0.4%	C≥0.45%	SCM	25~35 HRC	35~45 HRC	45~52 HRC	52~62 HRC	SUS	SKD	SC	GG	GGG
 15~24 m/min	 10~15 m/min	 8~13 m/min	 10~15 m/min					 8~16 m/min	 8~12 m/min	 8~12 m/min		 10~15 m/min
Cu	BS	BSc	PB	Al	AC,ADC	MC	ZDC	Ti	Ni	Plast.	Vinyl	
 12~17 m/min	 15~25 m/min	 15~25 m/min	 10~20 m/min	 15~25 m/min	 15~20 m/min	 10~15 m/min	 10~15 m/min	 6~9 m/min			 10~20 m/min	

Taps

- | | |
|---------------------|---|
| ■ Specification | DIN Standard, Spiral Point, for stainless steels and carbon steels tapping with water soluble coolant |
| ■ Chamfer Length | 4 Threads |
| ■ Material | High Vanadium HSSE, Greater wear resistance |
| ■ Surface Treatment | CrN (Chromium Nitride) Coating |



EDP	M	P	L	I1	d	a	ZΔ	Type
48059125	2	0,4	45	8	2,8	2,1	2	1
48059133	2,5	0,45	50	9	2,8	2,1	2	1
48059138	3	0,5	56	18	3,5	2,7	3	2
48059144	4	0,7	63	21	4,5	3,4	3	2
48059149	5	0,8	70	25	6	4,9	3	2
48059155	6	1	80	30	6	4,9	3	2
48059161	8	1,25	90	35	8	6,2	3	2
48059169	10	1,5	100	39	10	8	3	2



M	HSSE	CrN	ISO 2 6HX	B/4			DIN 376
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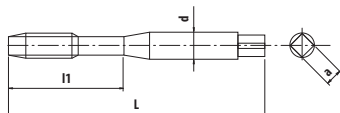
EDP	M	P	L	I	d	a	ZΔ
48060138	3	0,5	56	11	2,2	-	3
48060144	4	0,7	63	13	2,8	2,1	3
48060149	5	0,8	70	16	3,5	2,7	3
48060155	6	1	80	19	4,5	3,4	3
48060161	8	1,25	90	22	6	4,9	3
48060169	10	1,5	100	24	7	5,5	3
48060179	12	1,75	110	28	9	7	3
48060191	14	2	110	30	11	9	3
48060202	16	2	110	32	12	9	3
48060214	18	2,5	125	34	14	11	3
48060228	20	2,5	140	34	16	12	3
48060238	22	2,5	140	34	18	14,5	3
48060247	24	3	160	38	18	14,5	3
48060262	27	3	160	38	20	16	4
48060271	30	3.5	180	45	22	18	4

 Z_{Δ} = Number of flutes

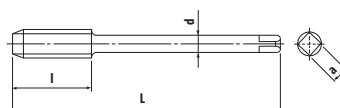
Applications												
C≤0.2%	0.25<C≤0.4%	C≥0.45%	SCM	25~35 HRC	35~45 HRC	45~52 HRC	52~62 HRC	SUS	SKD	SC	GG	GGG
 15~25 m/min	 15~25 m/min	 10~25 m/min	 10~25 m/min					 6~15 m/min				
Cu	BS	BsC	PB	Al	AC,ADC	MC	ZDC	Ti	Ni	Plast.	Vinyl	
 15~25 m/min				 20~40 m/min								

Taps

- Specification DIN Standard, Spiral Point
For steel $\leq 900 \text{ N/mm}^2$ & cast iron
- Chamfer Length 5 Threads
- Material Powder metallurgy, Superior performance
- Surface Treatment None



EDP	M	P	L	l1	d	a	ZΔ
80713860	3	0,5	56	11	3,5	2,7	3
80714460	4	0,7	63	13	4,5	3,4	3
80714960	5	0,8	70	16	6	4,9	3
80715560	6	1	80	19	6	4,9	3
80716160	8	1,25	90	22	8	6,2	3
80716960	10	1,5	100	24	10	8	3



M	PM	ISO 2 6H	B/5			DIN 376
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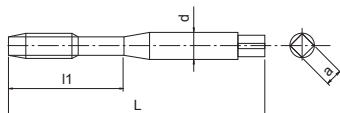
EDP	M	P	L	l	d	a	ZΔ
80815560	6	1	80	19	4,5	3,4	3
80816160	8	1,25	90	22	6	4,9	3
80816960	10	1,5	100	24	7	5,5	3
80817960	12	1,75	110	28	9	7	3
80819160	14	2	110	30	11	9	3
80820260	16	2	110	32	12	9	4
80821460	18	2,5	125	34	14	11	4
80822860	20	2,5	140	34	16	12	4

ZΔ= Number of flutes

Applications												
C≤0.2%	0.25<C≤0.4%	C≥0.45%	SCM	25~35 HRC	35~45 HRC	45~52 HRC	52~62 HRC	SUS	SKD	SC	GG	GGG
		 8~13 m/min		 6~10 m/min	 6~10 m/min				 7~10 m/min			 10~15 m/min
Cu	B5	BsC	PB	Al	AC,ADC	MC	ZDC	Ti	Ni	Plast.	Vinyl	

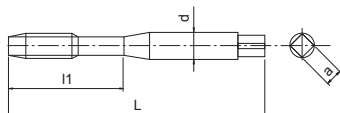
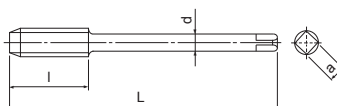
Taps

- | | |
|---------------------|--|
| ■ Specification | DIN Standard, Spiral Point, for stainless steels and alloy steels from 25~45 HRC |
| ■ Chamfer Length | 5 Threads |
| ■ Material | Powder metallurgy, Superior performance |
| ■ Surface Treatment | Steam Oxide |

[illegible] Z_{Δ} = Number of flutes

Applications												
C≤0.2%	0.25<C≤0.4%	C≥0.45%	SCM	25~35 HRC	35~45 HRC	45~52 HRC	52~62 HRC	SUS	SKD	SC	GG	GGG
		8~13 m/min		6~10 m/min	6~10 m/min				7~10 m/min			10~15 m/min
Cu	BS	BsC	PB	Al	AC,ADC	MC	ZDC	Ti	Ni	Plast.	Vinyl	
								4~6 m/min	2~4 m/min			

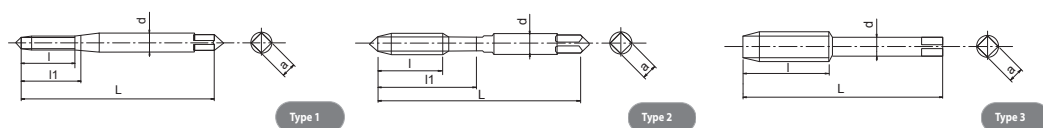
■ Specification	DIN Standard, Spiral Point, for stainless steels and alloy steels from 25~45 HRC
■ Chamfer Length	5 Threads
■ Material	Powder metallurgy, Superior performance
■ Surface Treatment	Steam Oxide

[illegible][illegible]

Applications

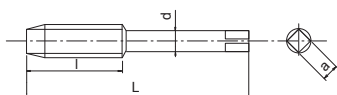
Applications												
C≤0.2%	0.25<C≤0.4%	C≥0.45%	SCM	25~35 HRC	35~45 HRC	45~52 HRC	52~62 HRC	SUS	SKD	SC	GG	GGG
		8~13 m/min		6~10 m/min	6~10 m/min				7~10 m/min			10~15 m/min
Cu	BS	BsC	PB	Al	AC,ADC	MC	ZDC	Ti	Ni	Plast.	Vinyl	
								4~6 m/min	2~4 m/min			

■ Specification	ISO-529, Spiral Point General applications
■ Chamfer Length	4 Threads
■ Material	High Vanadium HSSE, Greater wear resistance
■ Surface Treatment	Steam Oxide

 Z_{Δ} = Number of flutes[illegible]

Taps

- | | |
|---------------------|--|
| ■ Specification | ISO-2284, Spiral Point
General applications |
| ■ Chamfer Length | 4 Threads |
| ■ Material | High Vanadium HSSE, Greater wear resistance |
| ■ Surface Treatment | Steam Oxide |

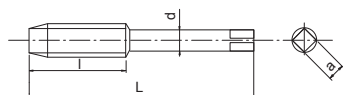


G (BSP)

[illegible] Z_{Δ} = Number of flutes[illegible]

Taps

- Specification BS-949:1951, Spiral Point
General applications
- Chamfer Length 4 Threads
- Material High Vanadium HSSE, Greater wear resistance
- Surface Treatment Steam Oxide



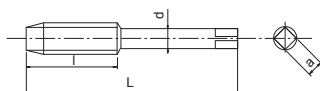
EDP	G	P	L	l	d	a	ZΔ
22628764	1/8	27	2 1/8	3/4	0,318	0,238	3
22628774	1/4	18	2 7/16	1 1/16	0,429	0,322	4
22628784	3/8	18	2 9/16	1 1/16	0,542	0,406	4
22628794	1/2	14	3 1/8	1 3/8	0,687	0,515	4
22628804	3/4	14	3 1/4	1 3/8	0,906	0,679	4
22628814	1	11 1/2	3 3/4	1 3/4	1,125	0,843	4
22408074	1	11	109	33	25	20	4

ZΔ= Number of flutes

Applications												
C≤0.2%	0.25<C≤0.4%	C≥0.45%	SCM	25~35 HRC	35~45 HRC	45~52 HRC	52~62 HRC	SUS	SKD	SC	GG	GGG
10~15 m/min	8~14 m/min	7~11 m/min	8~14 m/min	7~11 m/min				7~12 m/min	6~9 m/min	7~14 m/min		7~12 m/min
Cu	BS	BsC	PB	Al	AC,ADC	MC	ZDC	Ti	Ni	Plast.	Vinyl	

Taps

- Specification ISO-2284, Spiral Point
General applications
- Chamfer Length 4 Threads
- Material High Vanadium HSSE, Greater wear resistance
- Surface Treatment Steam Oxide



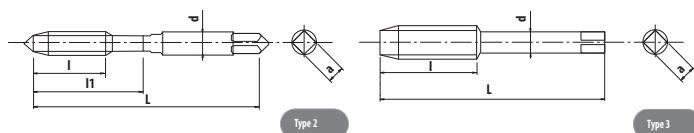
Rc (BSPT)

EDP	RC	P	L	l	d	a	ZΔ
22618384	1/8	28	52	15	8	6,3	3
22618394	1/4	19	67	19	10	8	4
22618404	3/8	19	75	21	12,5	10	4
22618414	1/2	14	87	26	16	12,5	4
22618434	3/4	14	96	28	20	16	4
22618454	1	11	109	33	25	20	4

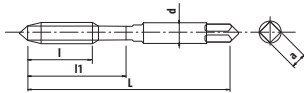
ZΔ= Number of flutes

Applications												
C≤0.2%	0.25<C≤0.4%	C≥0.45%	SCM	25~35 HRC	35~45 HRC	45~52 HRC	52~62 HRC	SUS	SKD	SC	GG	GGG
10~15 m/min	8~14 m/min	7~11 m/min	8~14 m/min	7~11 m/min				7~12 m/min	6~9 m/min	7~14 m/min		
Cu	BS	BsC	PB	Al	AC,ADC	MC	ZDC	Ti	Ni	Plast.	Vinyl	

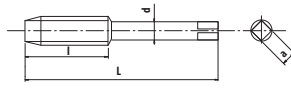
■ Specification	ISO-529, Spiral Point General applications
■ Chamfer Length	Second (4 Threads)
■ Material	High Vanadium HSSE, Greater wear resistance
■ Surface Treatment	TiN

[illegible] Z_{Δ} = Number of flutes[illegible]

■ Specification	ISO-529, Spiral Point For steels 25-45 HRC
■ Chamfer Length	5 Threads
■ Material	Powder metallurgy, Superior performance
■ Surface Treatment	Steam Oxide



Type 2



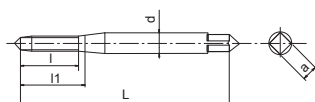
Type 3

[illegible]

Taps ■ M

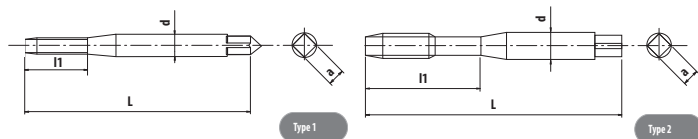
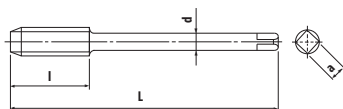
[illegible]

■ Specification	ISO-529, Spiral Point For steels 25-45HRC
■ Chamfer Length	5 Threads
■ Material	Powder metallurgy, Superior performance
■ Surface Treatment	Steam Oxide

[illegible][illegible]

Taps

- | | |
|---------------------|---|
| ■ Specification | DIN Standard, Spiral Flute, for stainless steels and alloy steels |
| ■ Chamfer Length | 2.5 Threads |
| ■ Material | High Vanadium HSSE, Greater wear resistance |
| ■ Surface Treatment | Steam Oxide |

[illegible]

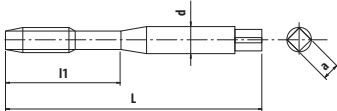
M	HSSE	OX	40°	ISO 3 6G	C/2,5			DIN 376
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[illegible] Z_{Δ} = Number of flutes

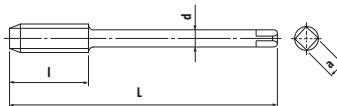
Applications												
C≤0.2%	0.25<C≤0.4%	C≥0.45%	SCM	25~35 HRC	35~45 HRC	45~52 HRC	52~62 HRC	SUS	SKD	SC	GG	GGG
 10~15 m/min	 8~14 m/min	 7~11 m/min	 8~14 m/min					 7~12 m/min	 7~11 m/min	 7~14 m/min		 7~14 m/min
Cu	BS	BsC	PB	Al	AC,ADC	MC	ZDC	Ti	Ni	Plast.	Vinyl	
 7~14 m/min											 10~15 m/min	

Taps

- | | |
|---------------------|---|
| ■ Specification | DIN Standard, Spiral Flute, for stainless steels and alloy steels |
| ■ Chamfer Length | 1.5 Threads |
| ■ Material | High Vanadium HSSE, Greater wear resistance |
| ■ Surface Treatment | Steam Oxide |



EDP	M	P	L	l1	d	a	ZΔ
48036138	3	0,5	56	18	3,5	2,7	3
48036144	4	0,7	63	21	4,5	3,4	3
48036149	5	0,8	70	25	6	4,9	3
48036155	6	1	80	30	6	4,9	3
48036161	8	1,25	90	35	8	6,2	3
48036169	10	1,5	100	39	10	8	3

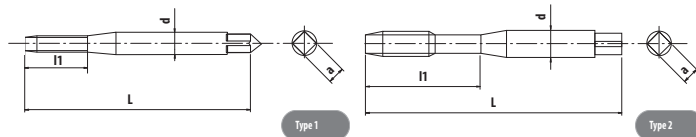


M	HSSE	OX	40°	ISO 2 6H	E/1,5	$2 \geq D$	DIN 376
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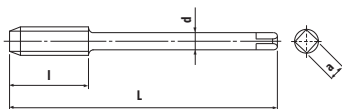
[illegible] Z_{Δ} = Number of flutes

Applications												
C≤0.2%	0.25<C≤0.4%	C≥0.45%	SCM	25~35 HRC	35~45 HRC	45~52 HRC	52~62 HRC	SUS	SKD	SC	GG	GGG
 10~15 m/min	 8~14 m/min	 7~11 m/min	 8~14 m/min					 7~12 m/min	 7~11 m/min	 7~14 m/min		 7~14 m/min
Cu	BS	BsC	PB	Al	AC,ADC	MC	ZDC	Ti	Ni	Plast.	Vinyl	
 7~14 m/min											 10~15 m/min	

■ Specification	DIN Standard, Spiral Flute, For general applications
■ Chamfer Length	2.5 Threads
■ Material	High Vanadium HSSE, Greater wear resistance
■ Surface Treatment	None



EDP	M	P	L	l1	d	a	ZΔ	Type
61312560	2	0,4	45	8	2,8	2,1	2	1
61313360	2,5	0,45	50	9	2,8	2,1	2	1
61313860	3	0,5	56	18	3,5	2,7	3	2
61314060	3,5	0,6	56	20	4	3	3	2
61314460	4	0,7	63	21	4,5	3,4	3	2
61314960	5	0,8	70	25	6	4,9	3	2
61315560	6	1	80	30	6	4,9	3	2
61316160	8	1,25	90	35	8	6,2	3	2
61316960	10	1,5	100	39	10	8	3	2



M	HSSE	 40°	ISO 2 6H	 C/2,5		DIN 376
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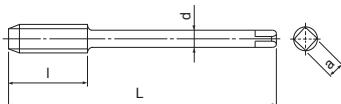
[illegible]

Applications

Applications												
C≤0.2%	0.25<C≤0.4%	C≥0.45%	SCM	25~35 HRC	35~45 HRC	45~52 HRC	52~62 HRC	SUS	SKD	SC	GG	GGG
 8~13 m/min	 7~12 m/min	 6~9 m/min	 7~12 m/min							 6~11 m/min		 6~8 m/min
Cu	BS	BsC	PB	Al	AC,ADC	MC	ZDC	Ti	Ni	Plast.	Vinyl	
 6~11 m/min	 10~20 m/min	 10~20 m/min	 6~11 m/min	 10~20 m/min	 10~15 m/min	 7~12 m/min	 7~12 m/min				 10~15 m/min	

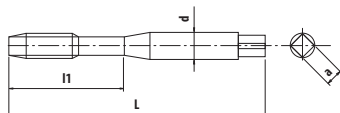
Taps

- | | |
|---------------------|--|
| ■ Specification | DIN Standard, Spiral Flute, for general applications |
| ■ Chamfer Length | 2.5 Threads |
| ■ Material | High Vanadium HSSE, Greater wear resistance |
| ■ Surface Treatment | None |

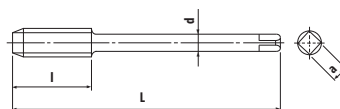
[illegible] Z_{Δ} = Number of flutes

Applications												
C≤0.2%	0.25<C≤0.4%	C≥0.45%	SCM	25~35 HRC	35~45 HRC	45~52 HRC	52~62 HRC	SUS	SKD	SC	GG	GGG
 8~13 m/min	 7~12 m/min	 6~9 m/min	 7~12 m/min							 6~11 m/min		 6~8 m/min
Cu	BS	BSc	PB	Al	AC,ADC	MC	ZDC	Ti	Ni	Plast.	Vinyl	
 6~11 m/min	 10~20 m/min	 10~20 m/min	 6~11 m/min	 10~20 m/min	 10~15 m/min	 7~12 m/min	 7~12 m/min				 10~15 m/min	

■ Specification	DIN Standard, Spiral Flute, For mild steel
■ Chamfer Length	2.5 Threads
■ Material	High Vanadium HSSE, Greater wear resistance
■ Surface Treatment	Steam Oxide



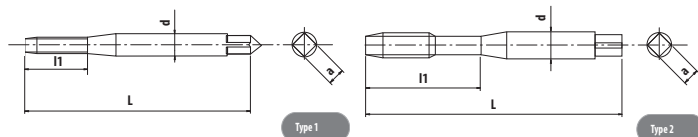
EDP	M	P	L	l1	d	a	ZΔ
61614460	4	0,7	63	21	4,5	3,4	3
61614960	5	0,8	70	25	6	4,9	3
61615560	6	1	80	30	6	4,9	3
61616160	8	1,25	90	35	8	6,2	3
61616960	10	1,5	100	39	10	8	3



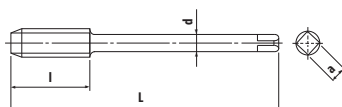
M	HSSE	OX	40°	ISO 2 6H	C/2,5			DIN 376
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[illegible] Z_{Δ} = Number of flutes[illegible]

■ Specification	DIN Standard, Spiral Flute, For general applications
■ Chamfer Length	2.5 Threads
■ Material	High Vanadium HSSE, Greater wear resistance
■ Surface Treatment	TiN Coating



EDP	M	P	L	I1	d	a	ZΔ	Type
6131256001	2	0,4	45	8	2,8	2,1	2	1
6131336001	2,5	0,45	50	9	2,8	2,1	2	1
6131386001	3	0,5	56	18	3,5	2,7	3	2
6131406001	3,5	0,6	56	20	4	3	3	2
6131446001	4	0,7	63	21	4,5	3,4	3	2
6131496001	5	0,8	70	25	6	4,9	3	2
6131556001	6	1	80	30	6	4,9	3	2
6131616001	8	1,25	90	36	8	6,2	3	2
6131696001	10	1,5	100	39	10	8	3	2



M	HSSE	TiN	40°	ISO 2 6H	C/2,5			DIN 376
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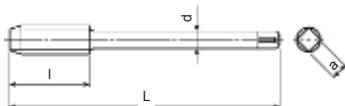
EDP	M	P	L	I	d	a	ZΔ
6141386001	3	0,5	56	5	2,2	-	3
6141446001	4	0,7	63	7	2,8	2,1	3
6141496001	5	0,8	70	8	3,5	2,7	3
6141556001	6	1	80	10	4,5	3,4	3
6141616001	8	1,25	90	13	6	4,9	3
6141696001	10	1,5	100	15	7	5,5	3
6141796001	12	1,75	110	18	9	7	3
6141916001	14	2	110	20	11	9	3
6142026001	16	2	110	20	12	9	3
6142146001	18	2,5	125	25	14	11	4
6142286001	20	2,5	140	25	16	12	4
6142386001	22	2,5	140	25	18	14,5	4
6142476001	24	3	160	30	18	14,5	4
6142626001	27	3	160	30	20	16	4
6142716001	30	3,5	180	35	22	18	4

 Z_{Δ} = Number of flutes

Applications												
C≤0.2%	0.25<C≤0.4%	C≥0.45%	SCM	25~35 HRC	35~45 HRC	45~52 HRC	52~62 HRC	SUS	SKD	SC	GG	GGG
 8~13 m/min	 7~12 m/min	 6~9 m/min	 7~12 m/min					 5~8 m/min	 6~9 m/min	 6~11 m/min		 7~12 m/min
Cu	BS	BsC	PB	Al	AC,ADC	MC	ZDC	Ti	Ni	Plast.	Vinyl	
 6~11 m/min	 10~20 m/min	 10~20 m/min	 6~11 m/min	 10~20 m/min	 10~15 m/min	 7~12 m/min	 7~12 m/min	 4~6 m/min			 10~15 m/min	

Taps

- Specification DIN Standard, Spiral Flute, for deep hole tapping in stainless steels with water soluble coolant
- Chamfer Length 2.5 Threads
- Material High Vanadium HSSE, Greater wear resistance
- Surface Treatment Steam Oxide



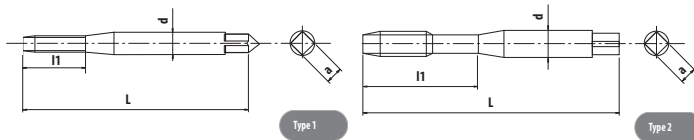
EDP	MF	P	L	l	d	a	ZΔ
48027163	8	0,75	80	10	6	4,9	3
48027162	8	1	90	10	6	4,9	3
48027171	10	1	90	12	7	5,5	3
48027170	10	1,25	100	12	7	5,5	3
48027182	12	1	100	9	9	7	3
48027181	12	1,25	100	14	9	7	3
48027180	12	1,5	100	14	9	7	3
48027192	14	1,5	100	16	11	9	3
48027203	16	1,5	100	16	12	9	3
48027216	18	1,5	110	20	14	11	4
48027230	20	1,5	125	20	16	12	4
48027240	22	1,5	125	20	18	14,5	4
48027250	24	1,5	140	24	18	14,5	4

ZΔ= Number of flutes

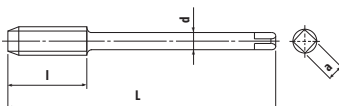
Applications												
C≤0.2%	0.25<C≤0.4%	C≥0.45%	SCM	25~35 HRC	35~45 HRC	45~52 HRC	52~62 HRC	SUS	SKD	SC	GG	GGG
								7~12 m/min				
Cu	BS	BS C	PB	Al	AC, ADC	MC	ZDC	Ti	Ni	Plast.	Vinyl	
6~11 m/min											10~15 m/min	

Taps

- Specification DIN Standard, Spiral Flute, for stainless steels and carbon steels tapping up to 2XD with water soluble coolant
- Chamfer Length 2.5 Threads
- Material High Vanadium HSSE, Greater wear resistance
- Surface Treatment CrN (Chromium Nitride) Coating



EDP	M	P	L	l1	d	a	ZΔ	Type
48032125	2	0,4	45	8	2,8	2,1	2	1
48032133	2,5	0,45	50	10	2,8	2,1	2	1
48032138	3	0,5	56	12	3,5	2,7	3	1
48032144	4	0,7	63	16	4,5	3,4	3	1
48032149	5	0,8	70	20	6	4,9	3	1
48032155	6	1	80	24	6	4,9	3	1
48032161	8	1,25	90	35	8	6,2	3	2
48032169	10	1,5	100	39	10	8	4	2



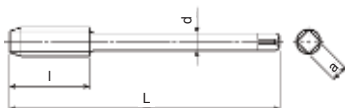
EDP	M	P	L	l	d	a	ZΔ
48035138	3	0,5	56	5	2,2	-	3
48035144	4	0,7	63	7	2,8	2,1	3
48035149	5	0,8	70	8	3,5	2,7	3
48035155	6	1	80	10	4,5	3,4	3
48035161	8	1,25	90	11	6	4,9	3
48035169	10	1,5	100	14	7	5,5	4
48032179	12	1,75	110	16	9	7	4
48032191	14	2	110	18	11	9	4
48032202	16	2	110	18	12	9	4
48032214	18	2,5	125	23	14	11	4
48032228	20	2,5	140	23	16	12	4
48032238	22	2,5	140	23	18	14,5	4
48032247	24	3	160	27	18	14,5	4
48032262	27	3	160	27	20	16	4
48032271	30	3,5	180	32	22	18	4
48032294	36	4	200	36	28	22	4

ZΔ= Number of flutes

Applications												
C≤0.2%	0.25<C≤0.4%	C≥0.45%	SCM	25~35 HRC	35~45 HRC	45~52 HRC	52~62 HRC	SUS	SKD	SC	GG	GGG
15~25 m/min	15~25 m/min	10~25 m/min	10~25 m/min					6~10 m/min				
Cu	BS	BsC	PB	Al	AC,ADC	MC	ZDC	Ti	Ni	Plast.	Vinyl	
15~24 m/min				15~35 m/min								

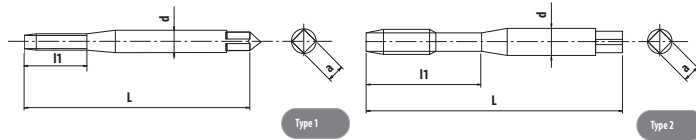
Taps

- | | |
|---------------------|---|
| ■ Specification | DIN Standard, Spiral Flute, for stainless steels and carbon steels tapping up to 2XD with water soluble coolant |
| ■ Chamfer Length | 2.5 Threads |
| ■ Material | High Vanadium HSS-E, Greater wear resistance |
| ■ Surface Treatment | CrN (Chromium Nitride) Coating |

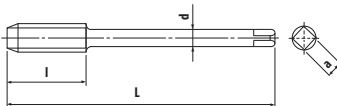
[illegible] Z_{Δ} = Number of flutes

Applications												
C≤0.2%	0.25<C≤0.4%	C≥0.45%	SCM	25~35 HRC	35~45 HRC	45~52 HRC	52~62 HRC	SUS	SKD	SC	GG	GGG
 15~25 m/min	 15~25 m/min	 10~25 m/min	 10~25 m/min					 6~10 m/min				
Cu	BS	BsC	PB	Al	AC,ADC	MC	ZDC	Ti	Ni	Plast.	Vinyl	
 15~24 m/min				 15~35 m/min								

■ Specification	Long series, Spiral flute, for stainless steels and carbon steels tapping up to 2XD with water soluble coolant
■ Chamfer Length	2.5 Threads
■ Material	High Vanadium HSSE, Greater wear resistance
■ Surface Treatment	CrN (Chromium Nitride) Coating



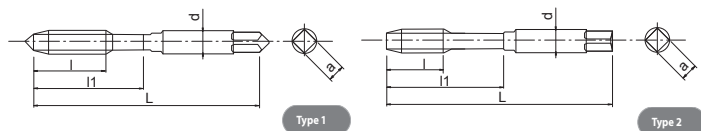
EDP	M	P	L	l1	d	a	ZΔ	Type
48113125	2	0,4	80	8	2,8	2,1	2	1
48113133	2,5	0,45	100	10	2,8	2,1	2	1
48113138	3	0,5	100	12	3,5	2,7	3	1
48113144	4	0,7	125	16	4,5	3,4	3	1
48113149	5	0,8	140	20	6	4,9	3	1
48113155	6	1	160	24	6	4,9	3	1
48113161	8	1,25	180	35	8	6,2	3	2
48113169	10	1,5	200	39	10	8	4	2

[illegible] Z_{Δ} = Number of flutes

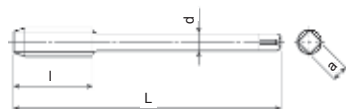
Applications												
C≤0.2%	0.25<C≤0.4%	C≥0.45%	SCM	25~35 HRC	35~45 HRC	45~52 HRC	52~62 HRC	SUS	SKD	SC	GG	GGG
 15~25 m/min	 15~25 m/min	 10~25 m/min	 10~25 m/min					 6~10 m/min				
Cu	BS	BsC	PB	Al	AC,ADC	MC	ZDC	Ti	Ni	Plast.	Vinyl	
 15~24 m/min				 15~35 m/min								

Taps

- | | |
|---------------------|--|
| ■ Specification | DIN Standard, Variable lead Spiral Flute, for stainless and carbon steels tapping up to 2XD with water soluble coolant |
| ■ Chamfer Length | 2.5 Threads |
| ■ Material | High Vanadium HSSE, Greater wear resistance |
| ■ Surface Treatment | CrN (Chromium Nitride) Coating |

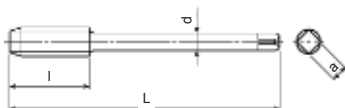


EDP	MJ	P	L	l1	d	a	ZΔ	Type
48242125	2	0,4	45	8	2,8	2,1	2	1
48242138	3	0,5	56	18	3,5	2,7	2	2
48242144	4	0,7	63	21	4,5	3,4	2	2
48242149	5	0,8	70	25	6	4,9	2	2
48242155	6	1	80	30	6	4,9	2	2
48242161	8	1,25	90	35	8	6,2	3	2
48242169	10	1,5	100	39	10	8	3	2

[illegible] Z_{Δ} = Number of flutes

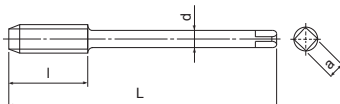
Applications												
C≤0.2%	0.25<C≤0.4%	C≥0.45%	SCM	25~35 HRC	35~45 HRC	45~52 HRC	52~62 HRC	SUS	SKD	SC	GG	GGG
 15~25 m/min	 15~25 m/min	 10~25 m/min	 10~25 m/min					 1~10 m/min				
Cu	BS	BsC	PB	Al	AC,ADC	MC	ZDC	Ti	Ni	Plast.	Vinyl	
 15~24 m/min				 15~35 m/min								

■ Specification	DIN Standard, Spiral Flute, for aluminium and aluminium alloys
■ Chamfer Length	2.5 Threads
■ Material	High Vanadium HSSE, Greater wear resistance
■ Surface Treatment	None

[illegible]

Applications												
C≤0.2%	0.25<C≤0.4%	C≥0.45%	SCM	25~35 HRC	35~45 HRC	45~52 HRC	52~62 HRC	SUS	SKD	SC	GG	GGG
Cu	BS	BsC	PB	Al	AC,ADC	MC	ZDC	Ti	Ni	Plast.	Vinyl	
				10~20 m/min	10~15 m/min	7~12 m/min						

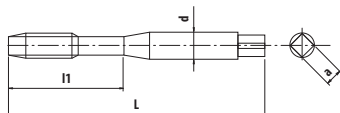
■ Specification	DIN Standard, Spiral Flute, for alloyed steel > 1100N/mm²
■ Chamfer Length	3 Threads
■ Material	High Vanadium HSSE, Greater wear resistance
■ Surface Treatment	None

[illegible]

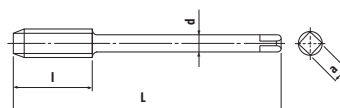
Applications												
C≤0.2%	0.25<C≤0.4%	C≥0.45%	SCM	25~35 HRC	35~45 HRC	45~52 HRC	52~62 HRC	SUS	SKD	SC	GG	GGG
	7~12 m/min	6~9 m/min	7~12 m/min								7~12 m/min	6~8 m/min
Cu	BS	BsC	PB	Al	AC,ADC	MC	ZDC	Ti	Ni	Plast.	Vinyl	
	10~20 m/min	10~20 m/min	6~11 m/min		10~15 m/min		7~12 m/min				7~12 m/min	

Taps

- Specification DIN Standard, Spiral Flute
For steel $\geq 900 \text{ N/mm}^2$ & cast iron
- Chamfer Length 3 Threads
- Material Powder metallurgy, Superior performance
- Surface Treatment None



EDP	M	P	L	l1	d	a	ZΔ
81913860	3	0,5	56	18	3,5	2,7	3
81914460	4	0,7	63	21	4,5	3,4	3
81914960	5	0,8	70	25	6	4,9	3
81915560	6	1	80	30	6	4,9	3
81916160	8	1,25	90	35	8	6,2	3
81916960	10	1,5	100	39	10	8	3

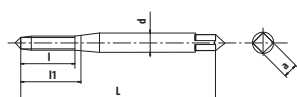


EDP	M	P	L	l	d	a	ZΔ
82016160	8	1,25	90	13	6	4,9	3
82016960	10	1,5	100	15	7	5,5	3
82017960	12	1,75	110	18	9	7	3
82019160	14	2	110	20	11	9	3
82020260	16	2	110	20	12	9	3
82021460	18	2,5	125	25	14	11	4
82022860	20	2,5	140	25	16	12	4

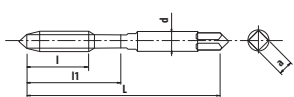
ZΔ= Number of flutes

Applications												
C≤0.2%	0.25<C≤0.4%	C≥0.45%	SCM	25~35 HRC	35~45 HRC	45~52 HRC	52~62 HRC	SUS	SKD	SC	GG	GGG
		6~12 m/min	7~12 m/min	4~8 m/min	4~8 m/min				6~12 m/min	7~15 m/min	7~12 m/min	7~12 m/min
Cu	B5	BsC	PB	Al	AC,ADC	MC	ZDC	Ti	Ni	Plast.	Vinyl	

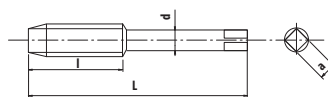
■ Specification	ISO-529 Spiral Flute General applications
■ Chamfer Length	2.5 Threads
■ Material	High Vanadium HSSE, Greater wear resistance
■ Surface Treatment	Steam Oxide



Type 1



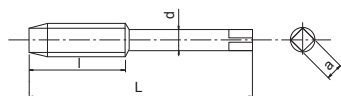
Type 2



Type 3

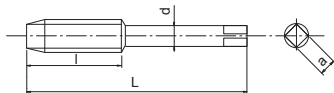
 Z_{Δ} = Number of flutes[illegible]

■ Specification	ISO-2284, Spiral Flute General applications
■ Chamfer Length	2.5 Threads
■ Material	High Vanadium HSSE, Greater wear resistance
■ Surface Treatment	Steam Oxide

[illegible] Z_{Δ} = Number of flutes[illegible]

Taps

- Specification BS-949: 1951, Spiral Flute
General applications
- Chamfer Length 2.5 Threads
- Material High Vanadium HSSE, Greater wear resistance
- Surface Treatment Steam Oxide



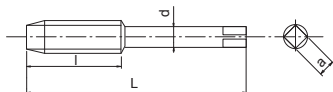
EDP	NPT	P	L	l	d	a	ZΔ
22638764	1/8	27	2 1/8	3/4	0,318	0,238	3
22638774	1/4	18	2 7/16	1 1/16	0,429	0,322	4
22638784	3/8	18	2 9/16	1 1/16	0,542	0,406	4
22638794	1/2	14	3 1/8	1 3/8	0,687	0,515	4
22638804	3/4	14	3 1/4	1 3/8	0,906	0,679	4
22638814	1	11 1/2	3 3/4	1 3/4	1,125	0,843	4

ZΔ= Number of flutes

Applications												
C≤0.2%	0.25<C≤0.4%	C≥0.45%	SCM	25~35 HRC	35~45 HRC	45~52 HRC	52~62 HRC	SUS	SKD	SC	GG	GGG
10~15 m/min	8~14 m/min	7~11 m/min	8~14 m/min	7~11 m/min				7~12 m/min	6~9 m/min	7~14 m/min		7~12 m/min
Cu	BS	BsC	PB	Al	AC,ADC	MC	ZDC	Ti	Ni	Plast.	Vinyl	

Taps

- Specification ISO-2284, Spiral Flute
General applications
- Chamfer Length 2.5 Threads
- Material High Vanadium HSSE, Greater wear resistance
- Surface Treatment Steam Oxide



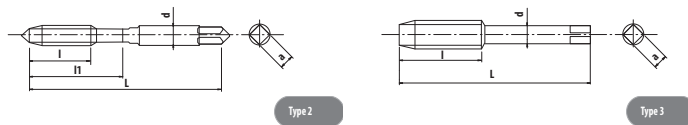
Rc (BSPT)

EDP	RC	P	L	l	d	a	ZΔ
22618384	1/8	28	52	15	8	6,3	3
22618394	1/4	19	67	19	10	8	4
22618404	3/8	19	75	21	12,5	10	4
22618414	1/2	14	87	26	16	12,5	4
22618434	3/4	14	96	28	20	16	4
22618454	1	11	109	33	25	20	4

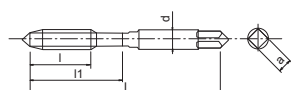
ZΔ= Number of flutes

Applications												
C≤0.2%	0.25<C≤0.4%	C≥0.45%	SCM	25~35 HRC	35~45 HRC	45~52 HRC	52~62 HRC	SUS	SKD	SC	GG	GGG
10~15 m/min	8~14 m/min	7~11 m/min	8~14 m/min	7~11 m/min				7~12 m/min	6~9 m/min	7~14 m/min		
Cu	BS	BsC	PB	Al	AC,ADC	MC	ZDC	Ti	Ni	Plast.	Vinyl	

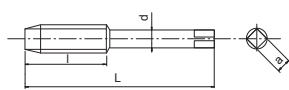
■ Specification	ISO-529, Spiral Flute For steels 25-45 HRC
■ Chamfer Length	3 Threads
■ Material	Power metallurgy, Superior performance
■ Surface Treatment	Steam Oxide

[illegible][illegible]

■ Specification	ISO-529, Spiral Flute For steels 25-45 HRC
■ Chamfer Length	3 Threads
■ Material	Power metallurgy, Superior performance
■ Surface Treatment	Steam Oxide

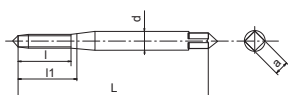


Type 2

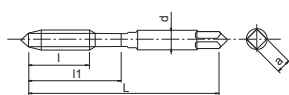


Type 3

[illegible] Z_{Δ} = Number of flutes[illegible]

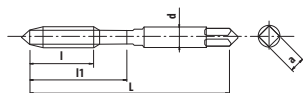


Type 1

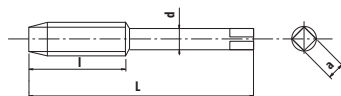


Type 2

[illegible][illegible]



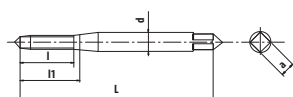
EDP	NPT	P	L	I	d	a
T0247033	1/16	27	80	11	10	8
T0247034	1/8	27	90	12	11	9
T0247035	1/4	18	100	14	14	11
T0247036	3/8	18	110	15	16	12



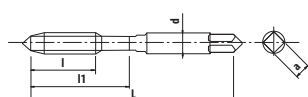
NPT	HSSE	OX	15°	C/2,5		DIN 374
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[illegible][illegible]

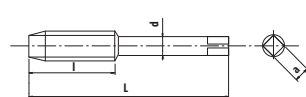
■ Specification	ISO-529 Fluteless. General applications
■ Chamfer Length	2.5 Threads
■ Material	High Vanadium HSSE, Greater wear resistance
■ Surface Treatment	TiN



Type 1



Type 2



Type:

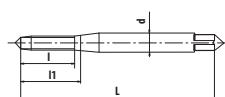
[illegible]

Z_Δ= Number of oil grooves

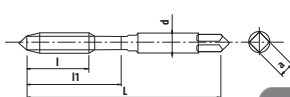
Applications												
C≤0.2%	0.25<C≤0.4%	C≥0.45%	SCM	25~35 HRC	35~45 HRC	45~52 HRC	52~62 HRC	SUS	SKD	SC	GG	GGG
 10~15 m/min	 10~15 m/min	 10~15 m/min	 8~12 m/min					 5~10 m/min				
Cu	BS	BsC	PB	Al	AC,ADC	MC	ZDC	Ti	Ni	Plast.	Vinyl	
 10~20 m/min	 10~20 m/min	 10~20 m/min		 10~20 m/min	 10~20 m/min		 10~15 m/min					

Taps

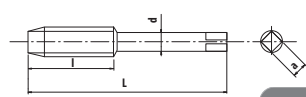
- Specification ISO 529, Straight Flute
General applications
- Chamfer Length BTG (2.5), SEC (4) & TPR (8)
- Material High Vanadium HSSE, Greater wear resistance
- Surface Treatment None



Type 1



Type 2



Type 3



BTG



SEC



TPR

EDP	EDP	EDP	M	P	L	I	I1	d	a	ZΔ	Type
22031110	-	-	1	0,25	38,5	8	-	2,5	2	3	1
22031130	22021130	22011130	1,2	0,25	38,5	8	-	2,5	2	3	1
22031150	22021150	22011150	1,4	0,3	38,5	8	-	2,5	2	3	1
22031180	22021180	22011180	1,6	0,35	38,5	8	-	2,5	2	3	1
22031230	22021230	22011230	1,8	0,35	41	8	-	2,5	2	3	1
22031250	22021250	22011250	2	0,4	41	8	-	2,5	2	3	1
T100022045B	T100022045S	T100022045T	2,2	0,45	41	8	-	2,8	2,24	3	1
22031330	22021330	22011330	2,5	0,45	44,5	9,5	-	2,8	2,24	3	1
22031380	22021380	22011380	3	0,5	48	11	18	3,15	2,5	3	2
22031400	22021400	22011400	3,5	0,6	50	13	20	3,55	2,8	3	2
22031440	22021440	22011440	4	0,7	53	13	21	4	3,15	3	2
22031460	22021460	22011460	4,5	0,75	53	13	21	4,5	3,55	3	2
22031490	22021490	22011490	5	0,8	58	16	25	5	4	3	2
22031550	22021550	22011550	6	1	66	19	30	6,3	5	3	2
22031580	22021580	22011580	7	1	66	19	30	7,1	5,6	4	2
22031610	22021610	22011610	8	1,25	72	22	35	8	6,3	4	2
22031650	22021650	22011650	9	1,25	72	22	36	9	7,1	4	2
22031690	22021690	22011690	10	1,5	80	24	39	10	8	4	2
22031740	22021740	22011740	11	1,5	84	24	-	8	6,3	4	3
22031790	22021790	22011790	12	1,75	85	25	-	9	7,1	4	3
22031910	22021910	22011910	14	2	95	30	-	11,2	9	4	3
22032020	22022020	22012020	16	2	102	32	-	12,5	10	4	3
22032140	22022140	22012140	18	2	112	37	-	14	11,2	4	3
22032280	22022280	22012280	20	2,5	112	37	-	14	11,2	4	3
22032380	22022380	22012380	22	2,5	118	38	-	16	12,5	4	3
22032470	22022470	22012470	24	3	130	45	-	18	14	4	3

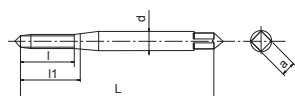
ZΔ= Number of flutes

Applications												
C≤0.2%	0.25<C≤0.4%	C≥0.45%	SCM	25~35 HRC	35~45 HRC	45~52 HRC	52~62 HRC	SUS	SKD	SC	GG	GGG
	7~12 m/min											7~12 m/min
Cu	B5	B5C	PB	Al	AC,ADC	MC	ZDC	Ti	Ni	Plast.	Vinyl	
	10~15 m/min	10~15 m/min	6~11 m/min	10~20 m/min	10~15 m/min	7~12 m/min	7~12 m/min					

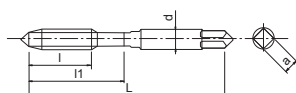


Taps

- Specification ISO-529, Straight Flute
General applications
- Chamfer Length BTG (2.5)
- Material High Vanadium HSSE, Greater wear resistance
- Surface Treatment None



Type 1



Type 2

EDP	BA	P	L	l	l1	d	a	ZΔ	Type
22109100	0	-	66	19	30	6,3	5	3	2
22109110	1	-	62	17	26	5,6	4,5	3	2
22109120	2	-	58	16	25	5	4	3	2
22109130	3	-	53	13	21	4,5	3,55	3	2
22109140	4	-	50	13	20	3,55	2,8	3	2
22109150	5	-	48	11	18	3,15	2,5	3	2
22109160	6	-	44,5	9,5	-	2,8	2,24	2	1
22109170	7	-	44,5	9,5	-	2,8	2,24	2	1
22109180	8	-	44,5	9,5	-	2,8	2,24	2	1
22109190	9	-	41	8	-	2,5	2	2	1
22109200	10	-	41	8	-	2,5	2	2	1
22109210	11	-	40	8	-	2,5	2	2	1
22109220	12	-	40	8	-	2,5	2	2	1
22109230	13	-	38,5	8	-	2,5	2	2	1
22109240	14	-	38,5	8	-	2,5	2	2	1

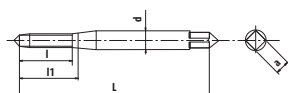
Please note taps requiring a second or taper lead will be modified from bottoming at no charge, same day.

ZΔ= Number of flutes

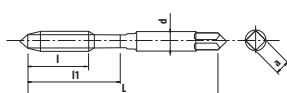
Applications												
C≤0.2%	0.25<C≤0.4%	C≥0.45%	SCM	25~35 HRC	35~45 HRC	45~52 HRC	52~62 HRC	SUS	SKD	SC	GG	GGG
	7~12 m/min											7~12 m/min
Cu	B5	BsC	PB	Al	AC,ADC	MC	ZDC	Ti	Ni	Plast.	Vinyl	
	10~15 m/min	10~15 m/min	6~11 m/min	10~20 m/min	10~15 m/min	7~12 m/min	7~12 m/min					

Taps

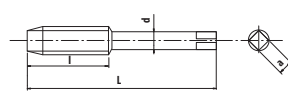
- Specification ISO-529, Straight Flute
General applications
- Chamfer Length BTG (2.5), SEC (4) & TPR (8)
- Material High Vanadium HSSE, Greater wear resistance
- Surface Treatment None



Type 1



Type 2



Type 3

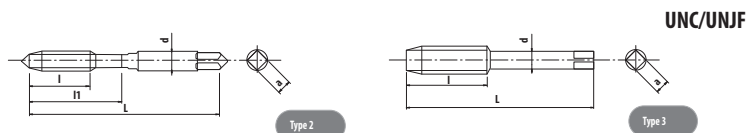
EDP	M	P	L	l	l1	d	a	ZΔ	Type
22061180	1,6	0,35	38,5	8	-	2,5	2	2	1
22061250	2	0,4	41	8	-	2,5	2	2	1
22061330	2,5	0,45	44,5	9,5	-	2,8	2,24	2	1
22061380	3	0,5	48	11	18	3,15	2,5	3	2
22061400	3,5	0,6	50	13	20	3,55	2,8	3	2
22061440	4	0,7	53	13	21	4	3,15	3	2
22061490	5	0,8	58	16	25	5	4	3	2
22061550	6	1	66	19	30	6,3	5	3	2
22061610	8	1,25	72	22	35	8	6,3	3	2
22061690	10	1,5	80	24	39	10	8	3	2
22061740	11	1,5	85	25	-	8	6,3	3	3
22061790	12	1,75	89	29	-	9	7,1	3	3
22062020	16	2	102	32	-	12,5	10	3	3
22062140	18	2,5	112	37	-	14	11,2	3	3

Tap set consists of 1 Bottoming, 1 Second and 1 Taper

ZΔ= Number of flutes

Applications												
C≤0.2%	0.25<C≤0.4%	C≥0.45%	SCM	25~35 HRC	35~45 HRC	45~52 HRC	52~62 HRC	SUS	SKD	SC	GG	GGG
	7~12 m/min											7~12 m/min
Cu	B5	BsC	PB	Al	AC,ADC	MC	ZDC	Ti	Ni	Plast.	Vinyl	
	10~15 m/min	10~15 m/min	6~11 m/min	10~20 m/min	10~15 m/min	7~12 m/min	7~12 m/min					

■ Specification	ISO-529, Thread Straight Flute General applications
■ Chamfer Length	Bottoming (2.5 Threads) & Second (4 Threads)
■ Material	High Vanadium HSSE, Greater wear resistance
■ Surface Treatment	TiN



SEC

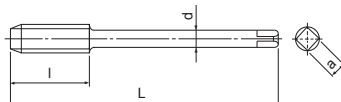
[illegible] Z_{Δ} = Number of flutes

Applications												
C≤0.2%	0.25<C≤0.4%	C≥0.45%	SCM	25~35 HRC	35~45 HRC	45~52 HRC	52~62 HRC	SUS	SKD	SC	GG	GGG
	7~12 m/min											7~12 m/min
Cu	BS	BsC	PB	Al	AC,ADC	MC	ZDC	Ti	Ni	Plast.	Vinyl	
	10~15 m/min	10~15 m/min	6~11 m/min	10~20 m/min	10~15 m/min	7~12 m/min	7~12 m/min					



Taps

- Specification ISO-2283, Straight Flute Long Shank
General applications
- Chamfer Length 2.5 Threads
- Material High Vanadium HSSE, Greater wear resistance
- Surface Treatment None



EDP	UNC	P	L	l	d	a	ZΔ
L200000632	6	32	68	13	2,5	2,5	3
L200000832	8	32	73	13	3,15	2,5	3
L200001024	10	24	79	16	3,55	2,8	3
L200025020	1/4	20	89	19	4,5	3,6	3
L200031218	5/16	18	97	19	6,3	5	4
L200037516	3/8	16	108	24	7,1	5,6	4
L200043714	7/16	14	115	25	8	6,3	4
L200050013	1/2	13	119	29	9	7,1	4
L200056212	9/16	1	127	30	11,2	9	4
L200062511	5/8	11	137	32	12,5	10	4
L200075010	3/4	10	149	37	14	11,2	4
L200087509	7/8	9	158	38	16	12,5	4

Please note taps requiring a second or taper lead will be modified from bottoming at no charge, same day.

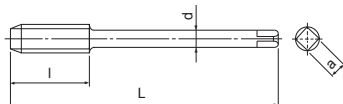
ZΔ= Number of flutes

Applications												
C≤0.2%	0.25<C≤0.4%	C≥0.45%	SCM	25~35 HRC	35~45 HRC	45~52 HRC	52~62 HRC	SUS	SKD	SC	GG	GGG
	7~12 m/min											7~12 m/min
Cu	B5	BsC	PB	Al	AC,ADC	MC	ZDC	Ti	Ni	Plast.	Vinyl	
	10~15 m/min	10~15 m/min	6~11 m/min	10~20 m/min	10~15 m/min	7~12 m/min	7~12 m/min					



Taps

- Specification ISO-2283, Straight Flute Long Shank
General applications
- Chamfer Length 2.5 Threads
- Material High Vanadium HSSE, Greater wear resistance
- Surface Treatment None



EDP	UNF	P	L	l	d	a	ZΔ
L22001032	10	32	79	16	3,55	2,8	3
L220025028	1/4	28	89	19	4,5	3,6	3
L220031224	5/16	24	97	19	6,3	5	4
L220037524	3/8	24	108	24	7,1	5,6	4
L220043720	7/16	20	115	25	8	6,3	4
L220050020	1/2	20	119	29	9	7,1	4
L220056218	9/16	18	127	30	11,2	9	4
L220062518	5/8	18	137	32	12,5	10	4
L220075016	3/4	16	149	37	14	11,2	4
L220087514	7/8	14	158	38	16	12,5	4

Please note taps requiring a second or taper lead will be modified from bottoming at no charge, same day.

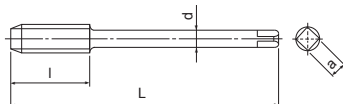
ZΔ= Number of flutes

Applications												
C≤0.2%	0.25<C≤0.4%	C≥0.45%	SCM	25~35 HRC	35~45 HRC	45~52 HRC	52~62 HRC	SUS	SKD	SC	GG	GGG
	7~12 m/min											7~12 m/min
Cu	B5	BsC	PB	Al	AC,ADC	MC	ZDC	Ti	Ni	Plast.	Vinyl	
	10~15 m/min	10~15 m/min	6~11 m/min	10~20 m/min	10~15 m/min	7~12 m/min	7~12 m/min					



Taps

- Specification ISO-2283, Straight Flute Long Shank
General applications
- Chamfer Length 2.5 Threads
- Material High Vanadium HSSE, Greater wear resistance
- Surface Treatment None



EDP	BSW	P	L	l	d	a	ZΔ
L300018724	3/16	24	79	16	3,55	2,8	3
L300025020	1/4	20	89	19	4,5	3,6	3
L300031218	5/16	18	97	19	6,3	5	4
L300037516	3/8	16	108	24	7,1	5,6	4
L300043714	7/16	14	115	25	8	6,3	4
L300050012	1/2	12	119	29	9	7,1	4
L300062511	5/8	11	137	32	12,5	10	4
L300087509	3/4	10	149	37	14	11,2	4
L300087509	7/8	9	158	38	16	12,5	4
L300100008	1	8	172	45	18	14	4

Please note taps requiring a second or taper lead will be modified from bottoming at no charge, same day.

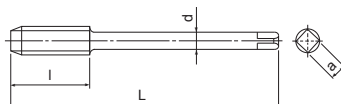
ZΔ= Number of flutes

Applications												
C≤0.2%	0.25<C≤0.4%	C≥0.45%	SCM	25~35 HRC	35~45 HRC	45~52 HRC	52~62 HRC	SUS	SKD	SC	GG	GGG
	7~12 m/min											7~12 m/min
Cu	B5	BsC	PB	Al	AC,ADC	MC	ZDC	Ti	Ni	Plast.	Vinyl	
	10~15 m/min	10~15 m/min	6~11 m/min	10~20 m/min	10~15 m/min	7~12 m/min	7~12 m/min					



Taps

- Specification ISO-2283, Straight Flute Long Shank
General applications
- Chamfer Length 2.5 Threads
- Material High Vanadium HSSE, Greater wear resistance
- Surface Treatment None



EDP	BSF	P	L	l	d	a	ZΔ
L310025026	1/4	26	89	19	4,5	3,6	3
L310031222	5/16	22	97	19	6,3	5	4
L310037520	3/8	20	108	24	7,1	5,6	4
L310043718	7/16	18	115	25	8	6,3	4
L310050016	1/2	16	119	29	9	7,1	4
L310062514	5/8	14	137	32	12,5	10	4

Please note taps requiring a second or taper lead will be modified from bottoming at no charge, same day.

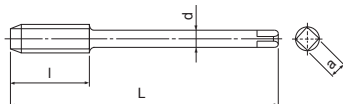
ZΔ= Number of flutes

Applications												
C≤0.2%	0.25<C≤0.4%	C≥0.45%	SCM	25~35 HRC	35~45 HRC	45~52 HRC	52~62 HRC	SUS	SKD	SC	GG	GGG
	7~12 m/min											7~12 m/min
Cu	B5	BsC	PB	Al	AC,ADC	MC	ZDC	Ti	Ni	Plast.	Vinyl	
	10~15 m/min	10~15 m/min	6~11 m/min	10~20 m/min	10~15 m/min	7~12 m/min	7~12 m/min					



Taps

- Specification ISO-2284, Straight Flute Long Shank
General applications
- Chamfer Length 2.5 Threads
- Material High Vanadium HSSE, Greater wear resistance
- Surface Treatment None



G (BSP)

EDP	G	P	L	l	d	a	ZΔ
L400012528	1/8	28	81	15	8	6,3	4
L400025019	1/4	19	91	19	10	8	4
L400037519	3/8	19	102	21	12,5	10	4
L400050014	1/2	14	118	26	16	12,5	4

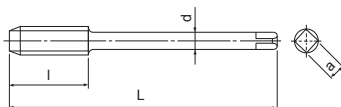
Please note taps requiring a second or taper lead will be modified from bottoming at no charge, same day.

ZΔ= Number of flutes

Applications												
C≤0.2%	0.25<C≤0.4%	C≥0.45%	SCM	25~35 HRC	35~45 HRC	45~52 HRC	52~62 HRC	SUS	SKD	SC	GG	GGG
	7~12 m/min											7~12 m/min
Cu	B5	BsC	PB	Al	AC,ADC	MC	ZDC	Ti	Ni	Plast.	Vinyl	
	10~15 m/min	10~15 m/min	6~11 m/min	10~20 m/min	10~15 m/min	7~12 m/min	7~12 m/min					

Taps

- Specification BS-949:1951, Straight Flute Nut
General applications
- Chamfer Length 2.5 Threads
- Material High Vanadium HSSE, Greater wear resistance
- Surface Treatment None



EDP	UNC	P	L	l	d	a	ZΔ
N200000632	6	32	3.3/4	1	.090	.070	3
N200000832	8	32	3.3/4	1	.113	.087	3
N200001024	10	24	4.1/4	1	.132	.100	3
N200025020	1/4	20	5	1.1/4	.185	.139	3
N200031218	5/16	18	5.1/2	1.3/8	.240	.180	4
N200037516	3/8	16	6	1.1/2	.294	.220	4
N200043714	7/16	14	6.1/2	1.3/4	.345	.259	4
N200050013	1/2	13	7	1.7/8	.367	.275	4
N200062511	5/8	11	8	2.1/4	.503	.377	4
N200075010	3/4	10	9	2.1/2	.616	.462	4
N200087509	7/8	9	10	2.3/4	.727	.545	4
N200100008	1	8	11	3	.834	.625	4

Please note taps requiring a second or taper lead will be modified from bottoming at no charge, same day.

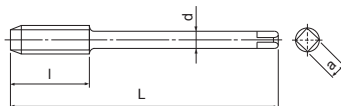
ZΔ= Number of flutes

Applications												
C≤0.2%	0.25<C≤0.4%	C≥0.45%	SCM	25~35 HRC	35~45 HRC	45~52 HRC	52~62 HRC	SUS	SKD	SC	GG	GGG
	7~12 m/min											7~12 m/min
Cu	B5	BsC	PB	Al	AC,ADC	MC	ZDC	Ti	Ni	Plast.	Vinyl	
	10~15 m/min	10~15 m/min	6~11 m/min	10~20 m/min	10~15 m/min	7~12 m/min	7~12 m/min					



Taps

- Specification BS-949:1951, Straight Flute Nut
General applications
- Chamfer Length 2.5 Threads
- Material High Vanadium HSSE, Greater wear resistance
- Surface Treatment None



EDP	UNF	P	L	l	d	a	ZΔ
N220000640	6	40	3.3/4	1	.090	.070	3
N220000836	8	36	3.3/4	1	.113	.087	3
N220001032	10	32	4.1/4	1	.132	.100	3
N220025028	1/4	28	5	1.1/4	.185	.139	3
N220031224	5/16	24	5.1/2	1.3/8	.240	.180	4
N220037524	3/8	24	6	1.1/2	.294	.220	4
N220043720	7/16	20	6.1/2	1.3/4	.345	.259	4
N220050020	1/2	20	7	1.7/8	.367	.275	4
N220056218	9/16	18	7.1/2	2	.450	.337	4
N220062518	5/8	18	8	2.1/4	.503	.377	4
N220075016	3/4	16	9	2.1/2	.616	.462	4
N220087514	7/8	14	10	2.3/4	.727	.545	4
N220100012	1	12	11	3	.834	.625	4

Please note taps requiring a second or taper lead will be modified from bottoming at no charge, same day.

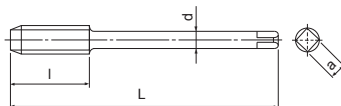
ZΔ= Number of flutes

Applications												
C≤0.2%	0.25<C≤0.4%	C≥0.45%	SCM	25~35 HRC	35~45 HRC	45~52 HRC	52~62 HRC	SUS	SKD	SC	GG	GGG
	7~12 m/min											7~12 m/min
Cu	B5	BsC	PB	Al	AC,ADC	MC	ZDC	Ti	Ni	Plast.	Vinyl	
	10~15 m/min	10~15 m/min	6~11 m/min	10~20 m/min	10~15 m/min	7~12 m/min	7~12 m/min					



Taps

- Specification BS-949:1951, Straight Flute Nut
General applications
- Chamfer Length 2.5 Threads
- Material High Vanadium HSSE, Greater wear resistance
- Surface Treatment None



EDP	BSW	P	L	l	d	a	ZΔ
N300018724	3/16	24	4.1/4	1	.132	.100	3
N300025020	1/4	20	5	1.1/4	.185	.139	3
N300031218	5/16	18	5.1/2	1.3/8	.240	.180	4
N300037516	3/8	16	6	1.1/2	.294	.220	4
N300043714	7/16	14	6.1/2	1.3/4	.345	.259	4
N300050012	1/2	12	7	1.7/8	.367	.275	4
N300062511	5/8	11	8	2.1/4	.503	.377	4
N300075010	3/4	10	9	2.1/2	.616	.462	4
N300087509	7/8	9	10	2.3/4	.727	.545	4
N300100008	1	8	11	3	.834	.625	4

Please note taps requiring a second or taper lead will be modified from bottoming at no charge, same day.

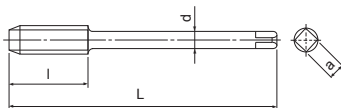
ZΔ= Number of flutes

Applications												
C≤0.2%	0.25<C≤0.4%	C≥0.45%	SCM	25~35 HRC	35~45 HRC	45~52 HRC	52~62 HRC	SUS	SKD	SC	GG	GGG
	7~12 m/min											7~12 m/min
Cu	B5	BsC	PB	Al	AC,ADC	MC	ZDC	Ti	Ni	Plast.	Vinyl	
	10~15 m/min	10~15 m/min	6~11 m/min	10~20 m/min	10~15 m/min	7~12 m/min	7~12 m/min					



Taps

- Specification BS-949:1951, Straight Flute Nut General applications
- Chamfer Length 2.5 Threads
- Material High Vanadium HSSE, Greater wear resistance
- Surface Treatment None



EDP	BSF	P	L	l	d	a	ZΔ
N3100187932	3/16	32	4.1/4	1	.132	.100	3
N3100250269	1/4	26	5	1.1/4	.185	.139	3
N310031222	5/16	22	5.1/2	1.3/8	.240	.180	4
N310037520	3/8	20	6	1.1/2	.294	.220	4
N310043718	7/16	18	6.1/2	1.3/4	.345	.259	4
N310050016	1/2	16	7	1.7/8	.367	.275	4
N310062514	5/8	14	8	2.1/4	.503	.377	4
N310075012	3/4	12	9	2.1/2	.616	.462	4
N310087511	7/8	11	10	2.3/4	.727	.545	4
N310100010	1	10	11	3	.834	.625	4

Please note taps requiring a second or taper lead will be modified from bottoming at no charge, same day.

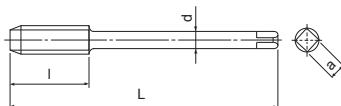
ZΔ= Number of flutes

Applications												
C≤0.2%	0.25<C≤0.4%	C≥0.45%	SCM	25~35 HRC	35~45 HRC	45~52 HRC	52~62 HRC	SUS	SKD	SC	GG	GGG
	7~12 m/min											7~12 m/min
Cu	B5	BsC	PB	Al	AC,ADC	MC	ZDC	Ti	Ni	Plast.	Vinyl	
	10~15 m/min	10~15 m/min	6~11 m/min	10~20 m/min	10~15 m/min	7~12 m/min	7~12 m/min					



Taps

- Specification BS-949:1951, Straight Flute Nut General applications
- Chamfer Length 2.5 Threads
- Material High Vanadium HSSE, Greater wear resistance
- Surface Treatment None



EDP	BA	P	L	l	d	a	ZΔ
N33000	0	-	4.1/4	1.1/4	.182	.133	3
N33002	2	-	4.1/4	1	.132	.100	3
N33004	4	-	3.3/4	1	.107	.075	3
N33006	6	-	3.1/2	3/4	.082	-	3
N33008	8	-	3	5/8	.063	-	2
N330010	10	-	2.1/2	1/2	.047	-	2

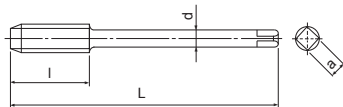
Please note taps requiring a second or taper lead will be modified from bottoming at no charge, same day.

ZΔ= Number of flutes

Applications												
C≤0.2%	0.25<C≤0.4%	C≥0.45%	SCM	25~35 HRC	35~45 HRC	45~52 HRC	52~62 HRC	SUS	SKD	SC	GG	GGG
	7~12 m/min											7~12 m/min
Cu	B5	BsC	PB	Al	AC,ADC	MC	ZDC	Ti	Ni	Plast.	Vinyl	
	10~15 m/min	10~15 m/min	6~11 m/min	10~20 m/min	10~15 m/min	7~12 m/min	7~12 m/min					

Taps

- SpecificationBS-949:1951, Straight Flute Nut
General applications
- Chamfer Length2.5 Threads
- MaterialHigh Vanadium HSSE, Greater wear resistance
- Surface TreatmentNone



G (BSP)

EDP	G	P	L	I	d	a	ZΔ
N400012528	1/8	28	3.3/4	1	.318	.238	4
N400025019	1/4	19	5	1.3/8	.429	.322	4
N400037519	3/8	19	5	1.3/8	.542	.406	4
N400050014	1/2	14	7	2	.687	.515	4
N400075014	3/4	14	7	2	.906	.679	4
N400100011	1	11	8.3/4	2.1/2	1.125	.843	4

Taps ■ G (BSP)

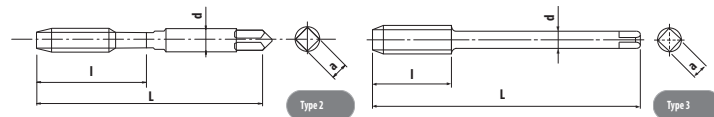
Please note taps requiring a second or taper lead will be modified from bottoming at no charge, same day.

ZΔ= Number of flutes

Applications												
C≤0.2%	0.25<C≤0.4%	C≥0.45%	SCM	25~35 HRC	35~45 HRC	45~52 HRC	52~62 HRC	SUS	SKD	SC	GG	GGG
	7~12 m/min											7~12 m/min
Cu	B5	BsC	PB	Al	AC,ADC	MC	ZDC	Ti	Ni	Plast.	Vinyl	
	10~15 m/min	10~15 m/min	6~11 m/min	10~20 m/min	10~15 m/min	7~12 m/min	7~12 m/min					

Synchro Taps

- Specification OSG Standard, developed for CNC machines equipped with rigid tapping, lefthand spiral righthand cutting, ultra high speed tapping
- Chamfer Length 6 Threads
- Material High Vanadium HSSE, greater wear resistance
- Surface Treatment V (TiCN) Coating



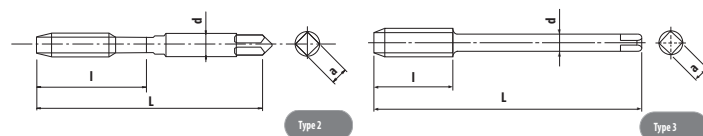
SYNCHRO TAPS are not recommended on machines without synchronised feed control

EDP	M	P	L	l	d	a	ZΔ	Type
8311269	3	0,5	46	19	4	3,2	2	2
8311283	4	0,7	52	21	6	4,5	2	2
8311297	5	0,8	60	24	6	4,5	2	2
8311311	6	1	62	29	6	4,5	2	2
8311325	8	1,25	70	37	8	6	2	2
8311339	10	1,5	75	24	8	6	2	3
8311357	12	1,75	82	29	10	8	2	3

US-AL-SFT

Synchro Taps

- Specification OSG Standard, developed for CNC machines equipped with rigid tapping, for ultra speed tapping in aluminium
- Chamfer Length 3 Threads
- Material High Vanadium HSSE, Greater wear resistance
- Surface Treatment V (TiCN) Coating



EDP	M	P	L	l	d	a	ZΔ	Type
8311669	3	0,5	46	19	4	3,2	2	2
8311683	4	0,7	52	21	6	4,5	2	2
8311697	5	0,8	60	24	6	4,5	2	2
8311711	6	1	62	29	6	4,5	2	2
8311725	8	1,25	70	37	8	6	2	2
8311739	10	1,5	75	12	8	6	2	3
8311757	12	1,75	82	14	10	8	2	3

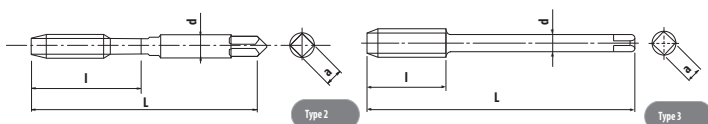
SYNCHRO TAPS are not recommended on machines without synchronised feed control

ZΔ= Number of flutes

Applications												
C≤0.2%	0.25<C≤0.4%	C≥0.45%	SCM	25~35 HRC	35~45 HRC	45~52 HRC	52~62 HRC	SUS	SKD	SC	GG	GGG
Cu	BS	BsC	PB	Al	AC,ADC	MC	ZDC	Ti	Ni	Plast.	Vinyl	
					100~400 m/min	100~400 m/min	27~100 m/min	27~200 m/min				

Synchro Taps

- Specification OSG Standard, developed for CNC machines equipped with rigid tapping, lefthand spiral righthand cutting, ultra high speed tapping
- Chamfer Length 6 Threads
- Material High Vanadium HSSE, greater wear resistance
- Surface Treatment TiN

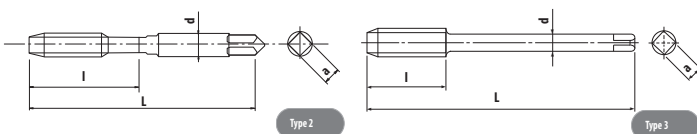


SYNCHRO TAPS are not recommended on machines without synchronised feed control

EDP	M	P	L	l	d	a	ZΔ	Type
20710	3	0,5	46	19	4	3,2	3	2
20714	4	0,7	52	21	6	4,5	3	2
20718	5	0,8	60	24	6	4,5	3	2
20722	6	1	62	29	6	4,5	3	2
20728	8	1,25	70	37	8	6	3	2
20734	10	1,5	75	24	8	6	3	3
20739	12	1,75	82	29	10	8	3	3

Synchro Taps

- Specification OSG Standard, developed for CNC machines equipped with rigid tapping for ultra high speed tapping
- Chamfer Length 3 Threads
- Material High Vanadium HSSE, greater wear resistance
- Surface Treatment TiN



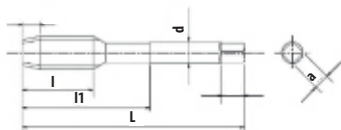
EDP	M	P	L	l	d	a	ZΔ	Type
20810	3	0,5	46	19	4	3,2	3	2
20814	4	0,7	52	21	6	4,5	3	2
20818	5	0,8	60	24	6	4,5	3	2
20822	6	1	62	29	6	4,5	3	2
20828	8	1,25	70	37	8	6	3	2
20834	10	1,5	75	12	8	6	3	3
20839	12	1,75	82	14	10	8	3	3

SYNCHRO TAPS are not recommended on machines without synchronised feed control

ZΔ= Number of flutes

Applications												
C≤0.2%	0.25<C≤0.4%	C≥0.45%	SCM	25~35 HRC	35~45 HRC	45~52 HRC	52~62 HRC	SUS	SKD	SC	GG	GGG
27~32 m/min	27~32 m/min	22~27 m/min	22~27 m/min					15~20 m/min		17~22 m/min		
Cu	BS	BsC	PB	Al	AC,ADC	MC	ZDC	Ti	Ni	Plast.	Vinyl	
27~32 m/min	27~32 m/min			50~100 m/min	40~100 m/min		27~100 m/min				27~32 m/min	

■ Specification	OSG Standard, Fluteless developed for CNC machines with rigid tapping, for ultra speed tapping in aluminium
■ Chamfer Length	2 Threads
■ Material	High Vanadium HSSE, Greater wear resistance
■ Surface Treatment	V (TiCN) Coating

[illegible] Z_{Δ} = Number of oil grooves

Applications												
C≤0.2%	0.25<C≤0.4%	C≥0.45%	SCM	25~35 HRC	35~45 HRC	45~52 HRC	52~62 HRC	SUS	SKD	SC	GG	GGG
Cu	BS	BsC	PB	Al	AC,ADC	MC	ZDC	Ti	Ni	Plast.	Vinyl	
				100~400 m/min	100~400 m/min		100~400 m/min					

Our vast experience in production since 1969 has made us a leading force in the special tap market. Together with our parent company, OSG Corporation of Japan, we are able to offer exceptional technical support and production capability.

OSG-UK is probably the largest stockist of specials in the UK. Our range includes:

Fine pitches

Hand, spiral point & spiral flute

Wire insert

Oversize threads

5H - Class 1 - 3B

Lefthand threads

Special tap features regularly undertaken include:

Oversize

Spiral flute

Fine pitch

Interrupted

Lefthand

Special thread tolerance

Multi start

Piloted (plain & threaded)

Spiral point

Acme.Trapezoidal & Knuckle



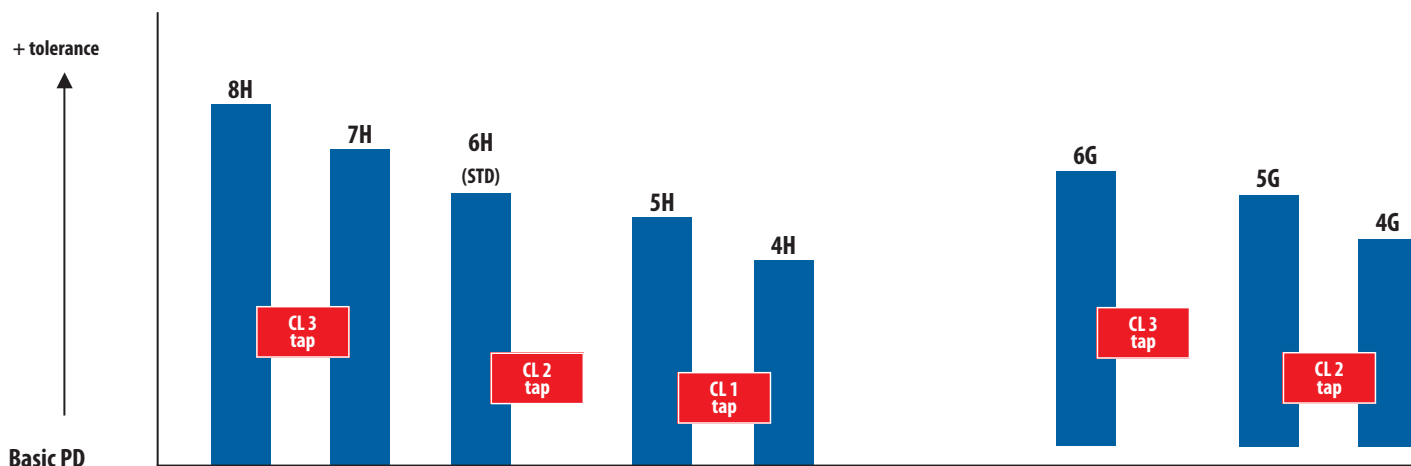
All styles and specifications of taps can be considered and our comprehensive stock of HSS-EV3 & PM-T15 (powder metallurgy) pre-prepared blanks gives us the ability to offer quick turnaround on many designs.



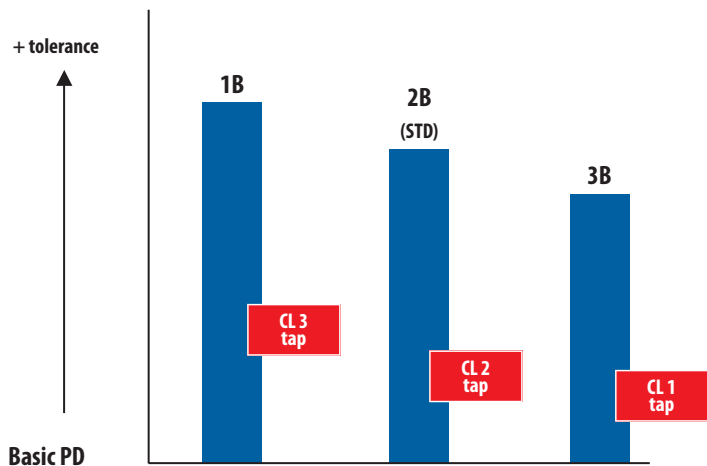
TAP THREAD TOLERANCES

Tap thread tolerances are designed to give maximum tool life whilst keeping within the component tolerance. The tapping operation can be affected by a variety of circumstances e.g. tap geometry, work material, specification & condition, cutting fluid, tap speed, drill size, machine set-up. For any particular tapping operation, any of these may have a significant effect and should be considered in tap choice.

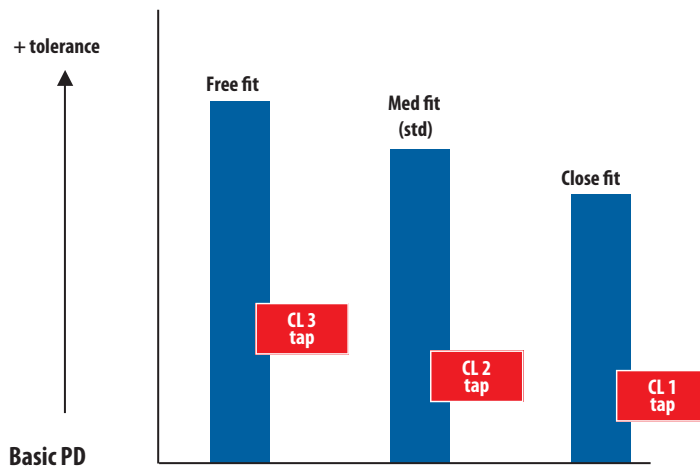
Metric Threads to BS 3643



Unified Threads to BS 1580

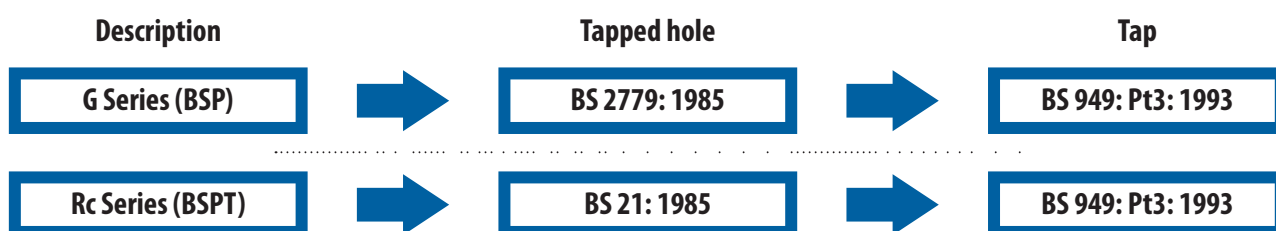


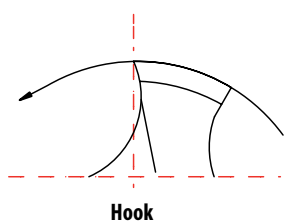
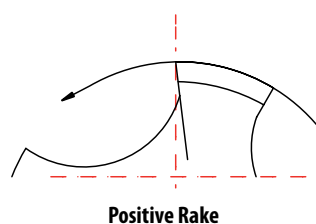
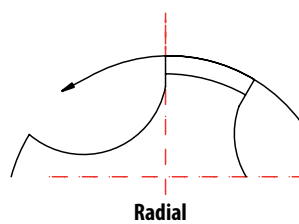
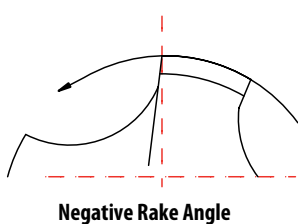
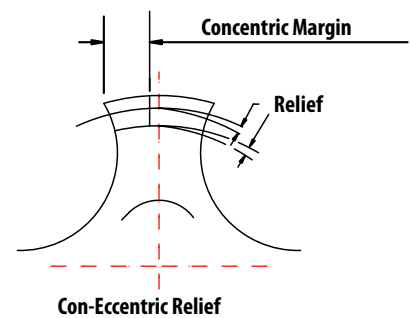
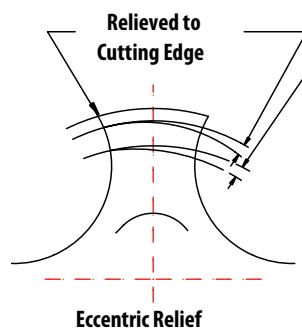
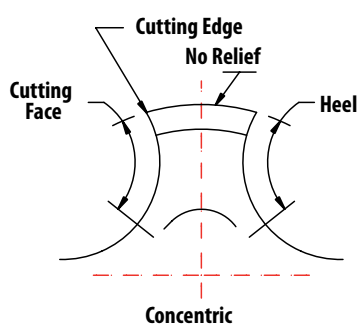
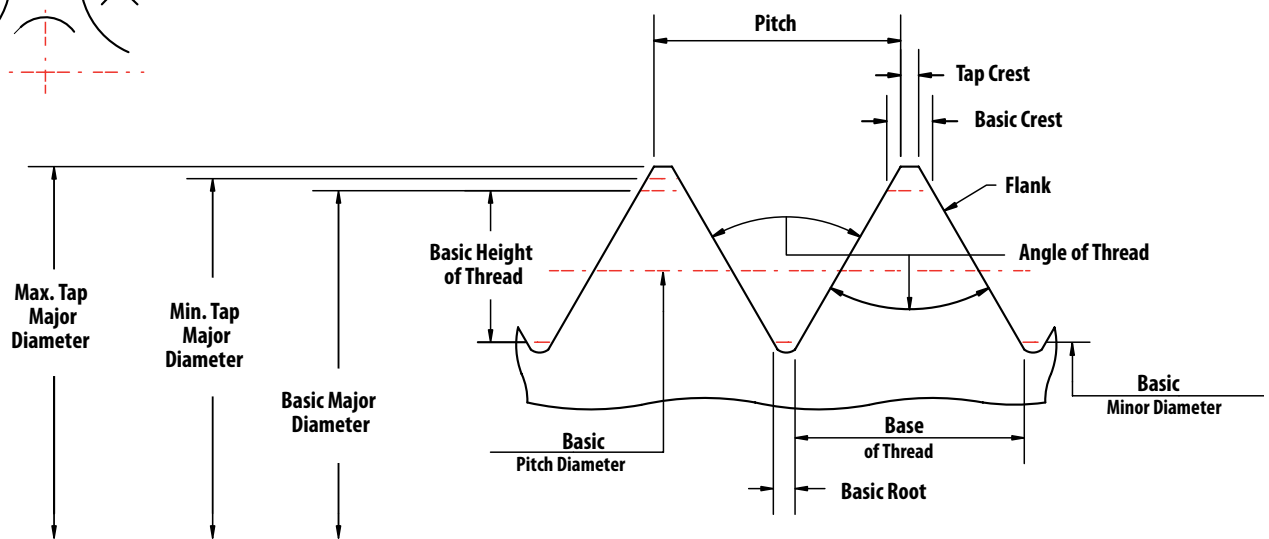
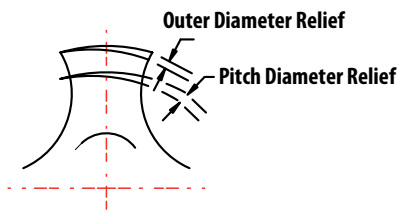
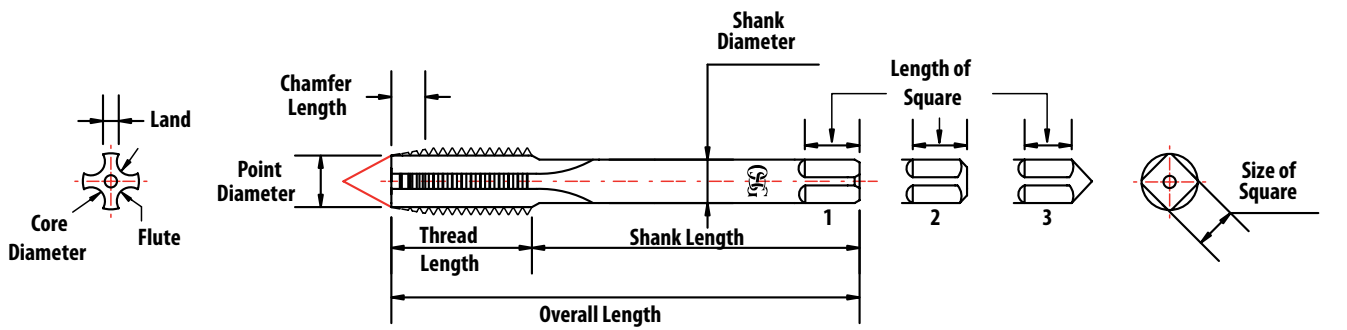
Whitworth Threads to BS 84

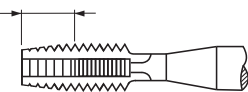
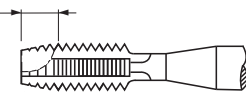
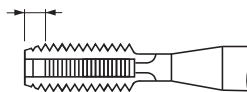
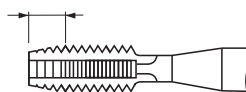
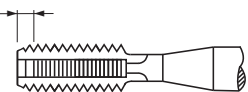


ISO PIPE Thread tolerances

Tapped hole





FORM A	FORM B	FORM C	FORM D	FORM E
				
■ Long ■ 6 - 8 threads ■ For short through holes ■ Increases the torque and thrust the danger of breakage	■ Medium ■ 3,5 - 5,5 threads ■ With spiral point, useful for through holes ■ For all through holes and deep tapping holes ■ Efficient in tough and tough hard materials	■ Short ■ 2 - 3 threads ■ For blind holes ■ Generally for aluminium, grey cast iron and brass	■ Medium ■ 3,5 - 5 threads ■ For through and blind holes with sufficient run-out	■ Extremely short ■ 1,5 - 2 threads ■ For blind holes with little run-out depth

Type of Taps & Features

Type	Features	Application
Spiral Fluted Taps 	- Spiral flute - Chips flow out against tapping direction(ejected from holes) - Lower tapping torque and applicable for tapping to the bottom of holes - Good cutting action	- For blind holes - Materials where chips come out continuously in coil shape
Spiral Pointed Taps 	- Spiral point(Chip Drive) - Pushes chips forward with low cutting torque - Shallow and unique flute form provides strong structure - Good cutting action	- For through holes - Materials where chips come out continuously in coil shape - High speed tapping
Forming Taps 	- Taps do not produce chips - Precise uniformity of tapped thread limit - Excellent rigidity	- For both through & blind holes - Materials with Formability
Straight Fluted Taps Hand Taps 	- Straight flute - Strong cutting edges - Applicable for various cutting conditions - Easy to re-grind	- For both through & blind holes (short thread depth only) - Materials where chips come out in powder form - Hard materials

Hardness				Traction	
HRA	HRC	HV	HB	Kgf/mm2	N/mm2 / Mpa
		120	114	42	410
		125	119	43	420
		130	123	45	440
		135	128	46	450
		140	133	48	470
		145	138	49	480
		150	142	51	500
		155	147	52	510
		160	152	54	530
		165	157	55	540
		170	161	56	550
		175	166	58	570
		180	171	59	580
		185	176	61	600
		190	180	62	610
		195	185	64,5	630
		200	190	66,5	650
		205	195	67,5	660
		210	199	69,5	680
		215	204	70,5	690
		220	209	72,5	710
		225	214	73,5	720
		230	218	75,5	740
		235	223	76,5	750
60,7	20,5	240	228	78,5	770
61,2	21,5	245	233	79,5	780
61,6	22	250	237	81,5	800
62,4	24	260	247	84,5	830
63,1	25,5	270	256	88	860
63,8	27	280	266	91	890
64,5	28,5	290	275	95	930
65,2	30	300	285	98	960
65,8	31	310	294	101	990
66,4	32	320	304	104	1020
67	33,5	330	313	108	1060
67,6	34,5	340	323	111	1090
68,1	35,5	350	332	114	1120
68,7	36,5	360	342	118	1160
69,2	37,5	370	351	121	1190
69,8	39	380	361	124	1220
70,3	40	390	370	129	1260
70,8	41	400	380	132	1290
71,4	42	410	389	136	1330
71,8	42,5	420	399	139	1360
72,3	43,5	430	408	143	1400
72,8	44,5	440	418	146	1430
73,3	45,5	450	427	150	1470
73,6	46	460	432	153	1500
74,1	47	470	442	157	1540
74,5	47,5	480	450	160	1570
74,9	48,5	490	456	164	1610
72,3	49	500	466	168	1650
75,7	50	510	475	171	1680
76,1	50,5	520	483	175	1720
76,4	51	530	492	180	1760
76,7	51,5	540	500	183	1790
77	52,5	550	509	187	1830
77,4	53	560	517	191	1870
77,8	53,5	570	526	195	1910
78	54	580	535	198	1940
78,4	54,5	590	543	202	1980
78,6	55	600	552	206	2020
79,2	56,5	620	569	214	2100
79,8	57,5	640	586	222	2180
80,3	58,5	660			
80,8	59	680			
81,3	60	700			
81,8	61	720			
82,2	62	740			
82,6	62,5	760			
83	63,5	780			
83,4	64	800			
83,8	64,5	820			
84,1	65,5	840			
84,4	66	860			
84,7	66,5	880			
85	67	900			
85,3	67,5	920			
85,6	68	940			

Tap & Screw thread

Allowance: The minimum clearance or maximum interference Which is intended between mating parts.

Angle of Thread: The angle included between the flanks of a thread measured in an axial plane.

Back Taper: A slight taper on the threaded portion of the tap, making the pitch diameter near the shank smaller than that at the chamfer.

Basic: The theoretical or nominal standard size from which all variations are made.

Chamfer: The tapered and relieved cutting teeth at the front end of the threaded section. Common types of chamfer are taper, 8 to 10 threads long, plug, 3 to 5 threads, semi (or modified) bottom = 2.5 - 3 threads and bottoming, 1-1/2 threads.

Crest: The top surface joining the two sides or flanks of a thread.

Cutting Face: The leading side of the land.

Flute: The longitudinal channels formed on a tap to create cutting edges on the thread profile.

Heel: The following side of the land.

Height of Thread: In profile, distance between crest and bottom section of thread measured to the axis.

Hook Face: A concave cutting face of the land. This may be varied for different materials and conditions.

Interrupted Thread: Alternate teeth are removed in the thread helix on a tap having an odd number of flutes.

Land: Threaded sections between the flutes of a tap.

Lead of Thread: The distance a screw thread advances axially in one turn.

Major Diameter: The largest diameter of the screw or nut on a straight screw thread.

Minor Diameter: The smallest diameter of the screw or nut on a straight screw thread.

Neck: The reduced diameter, on some taps, between the threaded portion and the shank.

Pitch: The distance from a point on one thread to a corresponding point on the next thread, measured parallel to the axis.

Pitch Diameter: On a straight screw thread, the diameter of an imaginary cylinder where the width of the thread and the width of the space between threads is equal.

Point Diameter: The diameter at the leading end of the chamfered portion.

Radial: The straight face of a land, the plane of which passes through the axis of the tap.

Rake: The angle of the cutting face of the land in relation to an axial plane intersecting the cutting face at the major diameter.

Relief: The removal of metal behind the cutting edge to provide clearance between the part being threaded and a portion of the threaded land. Also, see back taper.

Chamfer Relief: The gradual decrease in land height from cutting edge to heel on the chamfered portion of the tap land to provide radial clearance for the cutting edge.

Con-eccentric Relief: Radial relief in the thread form starting back of a concentric margin.

Eccentric Thread Relief: Radial relief in the thread form starting at the cutting edge and continuing to the heel.

Root: The bottom surface joining the flanks of two adjacent threads.

Side or Flank Thread: The surface of the thread which connects the crest to the root.

Shank: The portion of the tap by which it is held.

Spiral Point: An oblique cutting edge ground into the lands to provide a shear cutting action on the first few threads.

Square: The squared end of the tap shank by which the tap is driven.

Thread: The helical formed portion of the tap which produces the pitch in a pre-existing hole.

Thread Lead Angle: The angle made by the helix of the thread at the pitch diameter, with a plane perpendicular to the axis.

Threads per Inch: The number of threads in one inch of length.

Thread:

Single: A thread in which lead is equal to pitch.

Double: A thread in which lead is equal to twice the pitch.

Triple: A thread in which lead is equal to triple the pitch.

Generally, a tap properly designed and used under ideal conditions will produce surface results without the use of superficial treatments. However, under certain conditions and types of materials, additional tap life, improvement in finish and better gaging will be noted through the use of surface treatments applied to the finished tap.

The treatments applied can be divided into two groups: those that penetrate the surface, and those that are applied to the external surface itself.

The second group covers a wider range of choices including external treatments such as TiN, TiCN, TiAlN and oxide finishes.

Steam Oxide:

A black oxidised surface (Fe_3O_4) produced on the surface of a finished tap by means of a steam furnace. This oxidised surface is porous and helps retain cutting fluid in the working portion of the tap. The materials on which steam oxide has shown improvement in performance are stainless steels, steel forgings, tool and die steels, hot and cold rolled steels, and high nickel alloys.

Nitride:

A hard superficial case, approximately 69 HRC, on the surface of a finished tap produced by means of an ion furnace. The advantages of a Nitride surface treatment is the increase in wear resistance due to the higher surface hardness. This surface treatment is very effective in both abrasive and tough materials such as cast iron, plastics and high silicon cast aluminium.

Note: Extra caution is needed when selecting a Nitride surface treatment because the increased hardness is not recommended for fast spiral flute taps and taps smaller than machine screw No. 2.

Titanium Nitride (TiN):

A thin deposit (approx. 0.0001") applied to the surface of a finished tap utilising PVD coating technology. TiN coating increases the surface hardness and wear resistance. Use of TiN coating on standard tools will help increase tool life in harder materials (up to 32 HRC), such as stainless steels, steel forgings, tool and die steels and hot and cold rolled steels. TiN coating also works very well with water-base cutting fluids.

Titanium Carbon Nitride (TiCN):

Similar to TiN, TiCN is applied utilising PVD coating technology. This coating combines high hardness (approx. 2800 vickers) with the anti-seizure properties of Nitride. A lower coefficient of friction helps reduce welding by 75% over TiN coated tools. These features make TiCN especially beneficial in non-ferrous material and hardened steels. OSG's special TiCN coating is incorporated into many of our stocked items.

Titanium Aluminium Nitride (TiAlN):

TiAlN is applied using PVD coating technology. The addition of aluminium reduces friction and increases the coating oxidation temperature. As a result, TiAlN has increased resistance to heat and oxidation wear. This makes TiAlN better suited for High Speed/High Heat applications. OSG's special TiAlN coating is incorporated into many of our tools.

Chrome Nitride (CrN):

An extremely high surface lubricity makes CrN the proper selection of coating for non-ferrous materials. Aluminium (6061, 7075, etc.) and copper alloys (bronze, brass, etc.) are notorious for their tendency to adhere to the tool when heat is generated. This coating negates the effects of heat by reducing the amount of friction caused when these materials are being machined, while adding increased hardness.

Diamond:

OSG's patented Ultra-Fine diamond coating is grown on the tools at our laboratories. It is ideal for materials such as graphite, aluminium, and copper alloys. Commonly mistaken for a "Diamond-like" coating because of its shiny and smooth surface, this tool promotes finer surface finishes versus the competition's diamond coating and exponentially more tool life than that of PVD coated tools. Special processes enable high adherence to the tool and prevent it from flaking off. Diamond is not intended to cut steel.

Tapping

Dimensional Accuracy		
Specific Problem	Cause	Solution
Oversize Pitch Diameter	Incorrect Tap	1. Use proper pitch diameter limits of taps. 2. Use longer chamfered taps.
	Chip Packing	1. Use spiral point or spiral fluted taps. 2. Reduce number of flutes to provide extra chip room. 3. Use larger hole size. 4. If tapping a blind hole, allow deeper holes where applicable or shorten the thread length of the parts. 5. Use proper lubricant.
	Galling	1. Apply proper surface treatment such as steam oxide or TiN. 2. Use proper cutting lubricant. 3. Reduce tapping speed. 4. Use proper cutting angle in accordance with material being tapped. 5. Use larger hole size.
	Operating Conditions	1. Apply proper tapping speed. 2. Correct alignment of tap and drilled hole. 3. Use proper tapping speed to avoid torn or rough threads. 4. Use lead screw tapper. 5. Use proper tapping machine with suitable power. 6. Avoid misalignment of the tap and drilled hole from loose spindle or worn holder.
	Tool Conditions	1. Obtain proper indexing angle for the flutes at the cutting edge. 2. Grind proper cutting angle and chamfer angle. 3. Avoid too narrow a land width. 4. Remove burrs from regrinding.
Oversize Internal Diameter	Hole Size	1. Use minimum hole size. 2. Avoid tapered hole. 3. Use proper chamfered taps.
	Galling	Galling solutions 1 through 4 under "Tool Conditions" can be applied to this specific problem.

Tapping

Tool Life		
Specific Problem	Cause	Solution
Breakage	Incorrect Tap Selection	1. Avoid chip packing in the flutes or the bottom of the hole. Use spiral pointed or spiral fluted taps or fluteless taps. 2. Apply correct surface treatment such as steam oxide or TiN.
	Excessive Tapping Torque	1. Use larger drill size. 2. Try to shorten thread length. 3. Increase cutting angle. 4. Use a tap with more thread relief and reduced land width. 5. Use spiral pointed or spiral fluted taps.
	Operating Conditions	1. Reduce tapping speed. 2. Avoid misalignment between tap and the hole and tapered hole. 3. Use floating type of tapping holder. 4. Use tapping holder with torque adjustment. 5. Avoid hitting bottom of the hole with tap.
	Tool Condition	1. Do not grind the bottom of the flute. 2. Avoid too narrow a land width. 3. Remove all worn sections when regrinding the flutes. 4. Regrind tool more frequently.
Chipping	Incorrect Tap Selection	1. Reduce cutting angle. 2. Use a different kind of high-speed steel tap. 3. Reduce hardness of the tap. 4. Increase chamfer length. 5. Avoid chip packing in the flutes or in the bottom of the hole by using spiral fluted or spiral pointed taps.
	Operating Conditions	1. Reduce tapping speed. 2. Avoid misalignment between tap and hole. 3. Avoid sudden return of reverse in blind hole tapping. 4. Avoid galling. 5. Use large hole size.
Wear	Incorrect Tap Selection	1. Use specially designed taps for tapping heat treated material. 2. Change to a type of high-speed steel tap that contains vanadium. 3. Apply special surface treatment such as steam oxide or TiN. 4. Increase chamfer length.
	Operating Conditions	1. Reduce tapping speed. 2. Apply proper cutting lubricants. 3. Avoid work hardening. 4. Use larger hole size.
	Tool Condition	1. Grind proper cutting angle. 2. Avoid hardness reduction from grinding process.



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Tool specifications subject to change without notice

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