Leading Through Innovation

HSS-E

YG TAP ALU

YG TAP Aluminium

- For long-chipping Aluminum Wrought Alloys with Large Chip Gullets to Avoid Clogging in the Threading Operations
- Für langspanende Aluminium-Knetlegierungen mit großen Spanabständen zur Vermeidung von Verstopfungen beim Gewindeschneiden.

SELECTION GUIDE

YG THREADING TOOLS

HSS-E YG TAP ALU

For long-chipping Aluminum Wrought Alloys with Large Chip Gullets to Avoid Clogging in the Threading Operations

HOLE TYPE			Max. 2.5xD Blind Hole	
TOOL MATERIAL			HSS-E	
CHAMFER LEAD ACC. TO DIN2197			C	C
FLUTE TYPE			Spiral Flute	Spiral Flute
SPIRAL FLUTE ANGLE			R45	R40
SERIES	M	DIN371/376	TC163 (p.318)	TE953 (p.319)
		DIN352		
		DIN357/LONG		
	MF	DIN374	TC963 (p.320)	
		DIN2181		
	UNC	DIN371/376	TC169 (p.321)	
		DIN351		
	UNF	DIN371/374	TC170 (p.322)	
		DIN2181		
	BSW	DIN2182/2183		
		DIN351		
	G(BSP)	DIN5156/5157		
	EG-M	DIN371/376		
	EG-UNC	DIN371/376		
	EG-UNF	DIN371/374		
SURFACE TREATMENT			Bright	Nitride
MODEL				

Please visit globalyg1.com/mat for material search

◎ : Excellent ○ : Good

Recommended cutting conditions : p.328

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment		HB	HRc		
P	1	Non-alloy steel	About 0.15% C	Annealed	125		○	
	2		About 0.45% C	Annealed	190	13	○	
	3		About 0.45% C	Quenched & Tempered	250	25	○	○
	4		About 0.75% C	Annealed	270	28		
	5		About 0.75% C	Quenched & Tempered	300	32		
	6	Low alloy steel		Annealed	180	10		
	7			Quenched & Tempered	275	29		
	8			Quenched & Tempered	300	32		
	9			Quenched & Tempered	350	38		
	10	High alloyed steel, and tool steel		Annealed	200	15		
	11			Quenched & Tempered	325	35		
M	12	Stainless steel	Ferritic / Martensitic	Annealed	200	15		
	13		Martensitic	Quenched & Tempered	240	23		
	14		Austenitic		180	10		
K	15	Grey cast iron	Pearlitic / ferritic		180	10		
	16		Pearlitic (Martensitic)		260	26		
	17	Nodular cast iron	Ferritic		160	3		
	18		Pearlitic		250	25		
	19	Malleable cast iron	Ferritic		130			
	20		Pearlitic		230	21		
N	21	Aluminum-wrought alloy	Not Curable		60		◎	○
	22		Curable	Hardened	100		◎	○
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable		75		◎	○
	24		≤ 12% Si, Curable	Hardened	90		◎	○
	25		> 12% Si, Not Curable		130			◎
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%		110			
	27		CuZn, CuSnZn (Brass)		90		○	
	28		CuSn, lead-free copper and electrolytic copper		100			
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic					
	30		Rubber, Wood, etc.					
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15		
	32			Cured	280	30		
	33		Ni or Co Based	Annealed	250	25		
	34			Cured	350	38		
	35			Cast	320	34		
	36	Titanium Alloys	Pure Titanium		400 Rm			
	37		Alpha + Beta Alloys	Hardened	1050 Rm			
H	38	Hardened steel		Hardened	550	55		
	39			Hardened	630	60		
	40	Chilled Cast Iron		Cast	400	42		
	41	Hardened Cast Iron		Hardened	550	55		

Max. 3.0xD Through Hole		Max. 2.0xD Blind/Through Hole			
HSS-E					
B	B	C	C	C	
Spiral Point	Spiral Point	Straight Flute	Straight Flute	Straight Flute	
-	-	-	-	-	
TC622 (p.B323)	**TE943** (p.324)	**TC433** (p.325)	**TE443** (p.326)	**TY433** (p.327)	
					M
					MF
					UNC
					UNF
					BSW
					G(BSP)
					EG-M
					EG-UNC
					EG-UNF
Bright	Nitride	Bright	Nitride+Vap	TiAlN	
○					1 P
○					2 P
○	○				3 P
					4 P
					5 P
					6 P
					7 P
					8 P
					9 P
					10 P
					11 P
					12 M
					13 M
					14 M
					15 K
					16 K
					17 K
					18 K
					19 K
					20 K
◎	○				21 N
◎	○				22 N
◎	○				23 N
◎	○				24 N
	◎				25 N
		◎	◎	◎	26 N
○		○	○	○	27 N
		○		○	28 N
					29 N
					30 N
					31 S
					32 S
					33 S
					34 S
					35 S
					36 S
					37 S
					38 H
					39 H
					40 H
					41 H

YG TAP ALU

TC163 SERIES

M ISO metric coarse threads DIN 13

Metrisches ISO-Gewinde DIN 13
ISO MÉTRIQUE DIN13
ISO Metrico passo grosso DIN 13

Machine taps
Maschinengewindebohrer

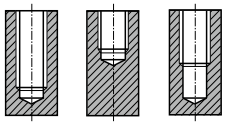
▶ Suitable for tapping blind holes due to special flute geometry and excellent chip evacuation.

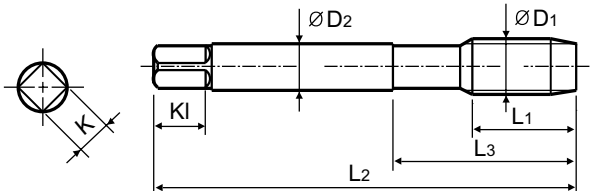
▶ Geeignet zum Gewinden von Sacklöchern dank besonderer Nutengeometrie und ausgezeichneter Spanabfuhr.

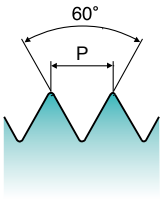
DIN 371

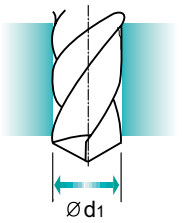
DIN 374

Hole type
2.5×D









Material groups: Al | HSS-E | DIN 371/376 | 6H | 60° | C | R45 | Bright

p.328

Recommended ToolHolder: Plain Shank — TAPPING ER CHUCK, TAPPING CHUCK, ONE STEP TAPPING CHUCK

Unit : mm

SIZE	Pitch	EDP No.	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No. of Flute	Tapping Drill Diameter
ØD1	P	Bright	L1	L2	L3	ØD2	K	Kl	Z	Ød1
M2	× 0.4	TC163136	8	45	13	2.8	2.1	5	2	1.6
M2.2	× 0.45	TC163156	8	45	13	2.8	2.1	5	2	1.75
*M2.3	× 0.4	TC163196	8	45	13	2.8	2.1	5	2	1.9
M2.5	× 0.45	TC163176	9	50	15	2.8	2.1	5	2	2.05
*M2.6	× 0.45	TC163496	9	50	15	2.8	2.1	5	2	2.1
M3	× 0.5	TC163206	6	56	18	3.5	2.7	6	2	2.5
M3.5	× 0.6	TC163226	7	56	20	4	3	6	2	2.9
M4	× 0.7	TC163246	7	63	21	4.5	3.4	6	2	3.3
M4.5	× 0.75	TC163266	8	70	25	6	4.9	8	2	3.7
M5	× 0.8	TC163286	8	70	25	6	4.9	8	2	4.2
M6	× 1.0	TC163316	10	80	30	6	4.9	8	2	5
M7	× 1.0	TC163346	10	80	30	7	5.5	8	2	6
M8	× 1.25	TC163366	13	90	35	8	6.2	9	2	6.8
M9	× 1.25	TC163396	13	90	35	9	7	10	2	7.8
M10	× 1.5	TC163426	15	100	39	10	8	11	2	8.5
M11	× 1.5	TC163466	17	100	40	8	6.2	9	2	9.5
M12	× 1.75	TC163506	18	110	44	9	7	10	2	10.2
M14	× 2.0	TC163546	20	110	44	11	9	12	3	12
M16	× 2.0	TC163606	20	110	44	12	9	12	3	14
M18	× 2.5	TC163656	25	125	50	14	11	14	3	15.5
M20	× 2.5	TC163706	25	140	54	16	12	15	3	17.5
M22	× 2.5	TC163746	25	140	54	18	14.5	17	3	19.5
M24	× 3.0	TC163786	30	160	60	18	14.5	17	3	21
M27	× 3.0	TC163866	30	160	60	20	16	19	3	24
M30	× 3.5	TC163946	35	180	70	22	18	21	3	26.5

▶ DIN 371(M2~M10) and DIN 376(M11~M30)
▶ * DIN profile not ISO

◎ : Excellent ○ : Good

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○																	

ISO	N										S					H					
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎			○														

YG TAP ALU

TE953 SERIES

M ISO metric coarse threads DIN 13

Metrisches ISO-Gewinde DIN 13
ISO MÉTRIQUE DIN13
ISO Metrico passo grosso DIN 13

Machine taps
Maschinengewindebohrer

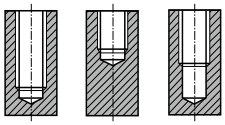
▶ Suitable for tapping blind holes due to special flute geometry and excellent chip evacuation.

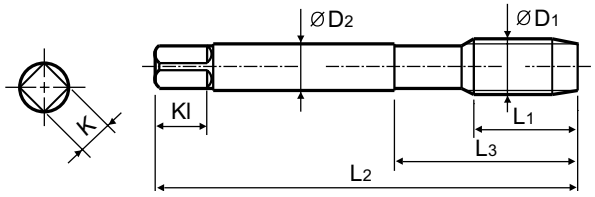
▶ Geeignet zum Gewinden von Sacklöchern dank besonderer Nutengeometrie und ausgezeichneter Spanabfuhr.

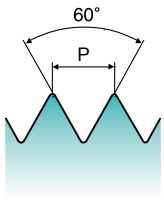
DIN 371

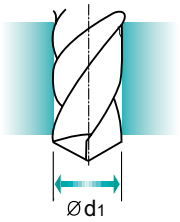
DIN 376

Hole type
2.5×D









Material groups **Al** | HSS-E | DIN 371/376 | 6H | 60° | C | R40 | Nitride

p.328

Recommended ToolHolder: Plain Shank — TAPPING ER CHUCK / TAPPING CHUCK / ONE STEP TAPPING CHUCK

Unit : mm

SIZE	Pitch	EDP No.	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No. of Flute	Tapping Drill Diameter
ØD1	P	Nitride	L1	L2	L3	ØD2	K	Kl	Z	Ød1
M2	× 0.4	TE953136	8	45	13	2.8	2.1	5	2	1.6
M2.2	× 0.45	TE953156	8	45	13	2.8	2.1	5	2	1.75
*M2.3	× 0.4	TE953196	8	45	13	2.8	2.1	5	2	1.9
M2.5	× 0.45	TE953176	9	50	15	2.8	2.1	5	2	2.05
*M2.6	× 0.45	TE953496	9	50	15	2.8	2.1	5	2	2.1
M3	× 0.5	TE953206	6	56	18	3.5	2.7	6	2	2.5
M3.5	× 0.6	TE953226	7	56	20	4	3	6	2	2.9
M4	× 0.7	TE953246	7	63	21	4.5	3.4	6	2	3.3
M4.5	× 0.75	TE953266	8	70	25	6	4.9	8	2	3.7
M5	× 0.8	TE953286	8	70	25	6	4.9	8	2	4.2
M6	× 1.0	TE953316	10	80	30	6	4.9	8	2	5
M7	× 1.0	TE953346	10	80	30	7	5.5	8	2	6
M8	× 1.25	TE953366	13	90	35	8	6.2	9	2	6.8
M9	× 1.25	TE953396	13	90	35	9	7	10	3	7.8
M10	× 1.5	TE953426	15	100	39	10	8	11	3	8.5
M11	× 1.5	TE953466	17	100	40	8	6.2	9	3	9.5
M12	× 1.75	TE953506	18	110	44	9	7	10	3	10.2
M14	× 2.0	TE953546	20	110	44	11	9	12	3	12
M16	× 2.0	TE953606	20	110	44	12	9	12	3	14
M18	× 2.5	TE953656	25	125	50	14	11	14	4	15.5
M20	× 2.5	TE953706	25	140	54	16	12	15	4	17.5
M22	× 2.5	TE953746	25	140	54	18	14.5	17	4	19.5
M24	× 3.0	TE953786	30	160	60	18	14.5	17	4	21
M27	× 3.0	TE953866	30	160	60	20	16	19	4	24
M30	× 3.5	TE953946	35	180	70	22	18	21	4	26.5

▶ DIN 371(M2~M10) and DIN 376(M11~M30)
▶ * DIN profile not ISO

◎ : Excellent ○ : Good

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended			○																	

ISO	N										S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	◎																

YG TAP ALU

TC963 SERIES

MF ISO metric fine threads DIN 13

Metrisches ISO-Feingewinde DIN 13
ISO MÉTRIQUE PAS FINS DIN13
ISO Metrico passo fine DIN 13

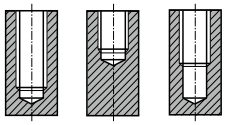
Machine taps
Maschinengewindebohrer

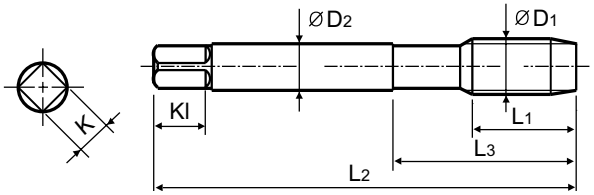
▶ Suitable for tapping blind holes due to special flute geometry and excellent chip evacuation.

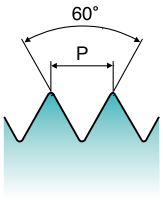
▶ Geeignet zum Gewinden von Sacklöchern dank besonderer Nutengeometrie und ausgezeichneter Spanabfuhr.

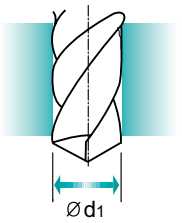
DIN 374

Hole type
2.5×D









Material groups: Al | HSS-E | DIN 374 | 6H | 60° | C | R45 | Bright

p.328

Recommended ToolHolder: Plain Shank — TAPPING ER CHUCK, TAPPING CHUCK, ONE STEP TAPPING CHUCK

Unit : mm

SIZE	Pitch	EDP No.	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No. of Flute	Tapping Drill Diameter
ØD1	P	Bright	L1	L2	L3	ØD2	K	Kl	Z	Ød1
M4	× 0.5	TC963256	5	63	21	2.8	2.1	5	2	3.5
M5	× 0.5	TC963296	5	70	25	3.5	2.7	6	2	4.5
M6	× 0.75	TC963326	8	80	30	4.5	3.4	6	2	5.2
M6	× 0.5	TC963336	5	80	30	4.5	3.4	6	2	5.5
M7	× 0.75	TC963356	10	80	30	5.5	4.3	7	2	6.2
M8	× 1.0	TC963376	10	90	36	6	4.9	8	2	7
M8	× 0.75	TC963386	8	80	30	6	4.9	8	2	7.2
M10	× 1.25	TC963436	16	100	40	7	5.5	8	2	8.8
M10	× 1.0	TC963446	10	90	36	7	5.5	8	2	9
M10	× 0.75	TC963456	10	90	36	7	5.5	8	2	9.2
M12	× 1.5	TC963516	15	100	40	9	7	10	2	10.5
M12	× 1.25	TC963526	15	100	40	9	7	10	2	10.8
M12	× 1.0	TC963536	11	100	40	9	7	10	2	11
M14	× 1.5	TC963556	15	100	40	11	9	12	3	12.5
M14	× 1.25	TC963566	15	100	40	11	9	12	3	12.8
M16	× 1.5	TC963616	15	100	40	12	9	12	3	14.5
M18	× 1.5	TC963676	17	110	44	14	11	14	3	16.5
M20	× 1.5	TC963726	17	125	50	16	12	15	3	18.5
M22	× 1.5	TC963766	17	125	50	18	14.5	17	3	20.5
M24	× 1.5	TC963806	20	140	54	18	14.5	17	3	22.5

◎ : Excellent ○ : Good

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○																	

ISO	N										S					H				
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎			○														

YG TAP ALU

TC169 SERIES

UNC

Unified coarse threads

Unified Grobgewinde
UNC
Unificato passo grosso

Machine taps
Maschinengewindebohrer

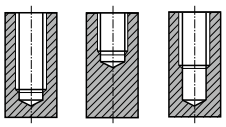
▶ Suitable for tapping blind holes due to special flute geometry and excellent chip evacuation.

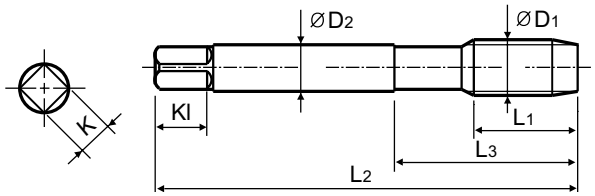
Geeignet zum Gewinden von Sacklöchern dank besonderer Nutengeometrie und ausgezeichneter Spanabfuhr.

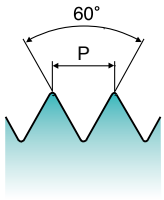
DIN 371

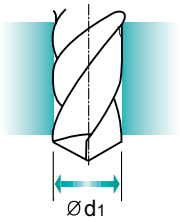
DIN 374

Hole type
2.5×D









Material groups **Al** | HSS-E | DIN 371/376 | 2B | 60° | C | R45 | Bright

p.328

Recommended ToolHolder: Plain Shank — TAPPING ER CHUCK / TAPPING CHUCK / ONE STEP TAPPING CHUCK

Unit : mm

SIZE ØD1	TPI	EDP No. Bright	Thread Length L1	Overall Length L2	Neck Length L3	Shank Diameter ØD2	Square Size K	Square Length Kl	No. of Flute Z	Tapping Drill Diameter Ød1
#4	- 40UNC	TC169162	6	56	18	3.5	2.7	6	2	2.3
#5	- 40UNC	TC169202	7	56	18	3.5	2.7	6	2	2.6
#6	- 32UNC	TC169242	7	56	20	4	3	6	2	2.85
#8	- 32UNC	TC169282	8	63	21	4.5	3.4	6	2	3.5
#10	- 24UNC	TC169322	10	70	25	6	4.9	8	2	3.9
#12	- 24UNC	TC169362	10	80	30	6	4.9	8	2	4.5
1/4	- 20UNC	TC169402	13	80	30	7	5.5	8	2	5.2
5/16	- 18UNC	TC169442	14	90	35	8	6.2	9	2	6.6
3/8	- 16UNC	TC169482	16	100	39	9	7	10	2	8
7/16	- 14UNC	TC169522	17	100	40	8	6.2	9	2	9.4
1/2	- 13UNC	TC169562	20	110	44	9	7	10	2	10.75
9/16	- 12UNC	TC169602	20	110	44	11	9	12	3	12.25
5/8	- 11UNC	TC169642	22	110	44	12	9	12	3	13.5
3/4	- 10UNC	TC169702	25	125	50	14	11	14	3	16.5
7/8	- 9UNC	TC169742	27	140	54	18	14.5	17	3	19.5
1	- 8UNC	TC169782	30	160	60	20	16	19	3	22.25
1-1/8	- 7UNC	TC169822	35	180	65	22	18	21	3	25

▶ DIN 371(#4~3/8) and DIN 376(7/16~1-1/8)

◎ : Excellent ○ : Good

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○																	

ISO	N										S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎			○														

YG TAP ALU

TC170 SERIES

UNF

Unified fine threads

Unified Feingewinde
UNF
Unificato passo fine

Machine taps
Maschinengewindebohrer

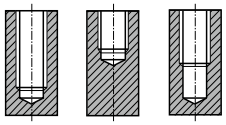
▶ Suitable for tapping blind holes due to special flute geometry and excellent chip evacuation.

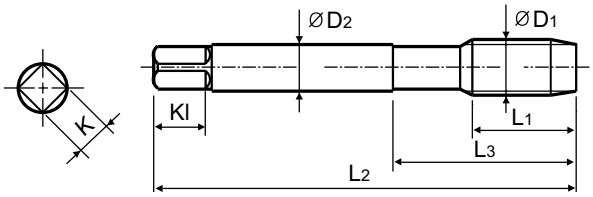
▶ Geeignet zum Gewinden von Sacklöchern dank besonderer Nutengeometrie und ausgezeichneter Spanabfuhr.

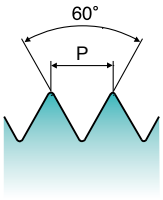
DIN 371

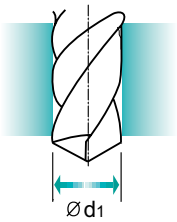
DIN 374

Hole type
2.5×D









Material groups: Al | HSS-E | DIN 371/374 | 2B | 60° | C | R45 | Bright

p.328

Recommended ToolHolder: Plain Shank; TAPPING ER CHUCK; TAPPING CHUCK; ONE STEP TAPPING CHUCK

Unit : mm

SIZE ØD1	TPI	EDP No. Bright	Thread Length L1	Overall Length L2	Neck Length L3	Shank Diameter ØD2	Square Size K	Square Length Kl	No. of Flute Z	Tapping Drill Diameter Ød1
#4	48UNF	TC170182	6	56	18	3.5	2.7	6	2	2.4
#5	44UNF	TC170222	7	56	18	3.5	2.7	6	2	2.7
#6	40UNF	TC170262	7	56	20	4	3	6	2	3
#8	36UNF	TC170302	8	63	21	4.5	3.4	6	2	3.5
#10	32UNF	TC170342	10	70	25	6	4.9	8	2	4.1
#12	28UNF	TC170382	10	80	30	6	4.9	8	2	4.7
1/4	28UNF	TC170422	10	80	30	7	5.5	8	2	5.5
5/16	24UNF	TC170462	10	90	35	8	6.2	9	2	6.9
3/8	24UNF	TC170502	10	100	39	9	7	10	2	8.5
7/16	20UNF	TC170542	13	100	40	8	6.2	9	2	9.9
1/2	20UNF	TC170582	13	100	40	9	7	10	2	11.5
9/16	18UNF	TC170622	15	100	40	11	9	12	3	12.9
5/8	18UNF	TC170662	15	100	40	12	9	12	3	14.5
3/4	16UNF	TC170722	17	110	44	14	11	14	3	17.5
7/8	14UNF	TC170762	17	125	50	18	14.5	17	3	20.5
1	12UNF	TC170802	20	140	54	18	14.5	17	3	23.25
1-1/8	12UNF	TC170842	22	150	60	22	18	21	3	26.5

▶ DIN 371(#4~3/8) and DIN 374(7/16~1-1/8)

◎ : Excellent ○ : Good

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○																	

ISO	N										S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎			○														

M-Az ISO metric coarse threads DIN 13

Metrisches ISO-Gewinde DIN 13
ISO MÉTRIQUE DIN13
ISO Metrico passo grosso DIN 13

Machine taps
Maschinengewindebohrer

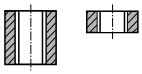
▶ Interrupted tap to reduce contact area and tapping torque, and to give more chip space.

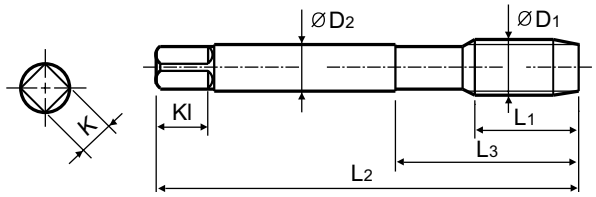
▶ Gewindebohrer mit ausgesetzten Zahnen um die Kontaktzone mit dem Werkstuck und das Drehmoment zu minimieren und dem Span mehr Raum zu geben.

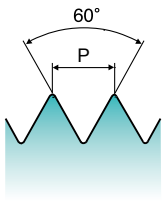
DIN 371

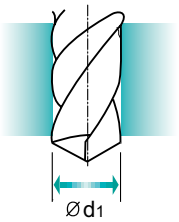
DIN 376

Hole type
3.0×D









Material groups **Al** | HSS-E | DIN 371/376 | 6H | 60° | B | Bright

p.328

Recommended ToolHolder: Plain Shank — TAPPING ER CHUCK / TAPPING CHUCK / ONE STEP TAPPING CHUCK

Unit : mm

SIZE	Pitch	EDP No.	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No. of Flute	Tapping Drill Diameter
ØD1	P	Bright	L1	L2	L3	ØD2	K	Kl	Z	Ød1
M2	× 0.4	TC622136	8	45	13	2.8	2.1	5	3	1.6
M2.2	× 0.45	TC622156	8	45	13	2.8	2.1	5	3	1.75
*M2.3	× 0.4	TC622196	8	45	13	2.8	2.1	5	3	1.9
M2.5	× 0.45	TC622176	9	50	15	2.8	2.1	5	3	2.05
*M2.6	× 0.45	TC622496	9	50	15	2.8	2.1	5	3	2.1
M3	× 0.5	TC622206	11	56	18	3.5	2.7	6	3	2.5
M3.5	× 0.6	TC622226	12	56	20	4	3	6	3	2.9
M4	× 0.7	TC622246	13	63	21	4.5	3.4	6	3	3.3
M4.5	× 0.75	TC622266	14	70	25	6	4.9	8	3	3.7
M5	× 0.8	TC622286	15	70	25	6	4.9	8	3	4.2
M6	× 1.0	TC622316	17	80	30	6	4.9	8	3	5
M7	× 1.0	TC622346	17	80	30	7	5.5	8	3	6
M8	× 1.25	TC622366	20	90	35	8	6.2	9	3	6.8
M9	× 1.25	TC622396	20	90	35	9	7	10	3	7.8
M10	× 1.5	TC622426	22	100	39	10	8	11	3	8.5
M11	× 1.5	TC622466	22	100	40	8	6.2	9	3	9.5
M12	× 1.75	TC622506	24	110	44	9	7	10	3	10.2
M14	× 2.0	TC622546	26	110	44	11	9	12	3	12
M16	× 2.0	TC622606	27	110	44	12	9	12	3	14
M18	× 2.5	TC622656	30	125	50	14	11	14	3	15.5
M20	× 2.5	TC622706	32	140	54	16	12	15	3	17.5
M22	× 2.5	TC622746	32	140	54	18	14.5	17	3	19.5
M24	× 3.0	TC622786	34	160	60	18	14.5	17	3	21
M27	× 3.0	TC622866	36	160	60	20	16	19	3	24
M30	× 3.5	TC622946	40	180	70	22	18	21	3	26.5

▶ DIN 371(M2~M10) and DIN 376(M11~M30)
▶ * DIN profile not ISO

◎ : Excellent ○ : Good

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○																	

ISO	N										S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎			○														

YG TAP ALU

TE943 SERIES

M ISO metric coarse threads DIN 13

Metrisches ISO-Gewinde DIN 13
ISO MÉTRIQUE DIN13
ISO Metrico passo grosso DIN 13

Machine taps
Maschinengewindebohrer

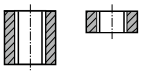
▶ Suitable for through hole in more cutting speed than other taps due to thick web.

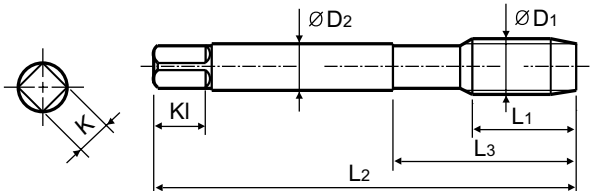
▶ Geeignet für Durchgangslöcher in höherer Schnittgeschwindigkeit als bei anderen Gewindebohrern dank größerer Kerndicke.

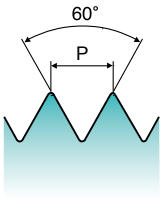
DIN 371

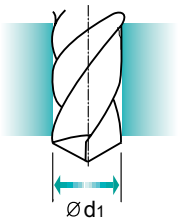
DIN 376

Hole type
3.0×D









Material groups: Al | HSS-E | DIN 371/376 | 6H | 60° | B | Nitride

p.328

Recommended ToolHolder: Plain Shank — TAPPING ER CHUCK / TAPPING CHUCK / ONE STEP TAPPING CHUCK

Unit : mm

SIZE	Pitch	EDP No.	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No. of Flute	Tapping Drill Diameter
ØD1	P	Nitride	L1	L2	L3	ØD2	K	Kl	Z	Ød1
M2	× 0.4	TE943136	8	45	13	2.8	2.1	5	3	1.6
M2.2	× 0.45	TE943156	8	45	13	2.8	2.1	5	3	1.75
*M2.3	× 0.4	TE943196	8	45	13	2.8	2.1	5	3	1.9
M2.5	× 0.45	TE943176	9	50	15	2.8	2.1	5	3	2.05
*M2.6	× 0.45	TE943496	9	50	15	2.8	2.1	5	3	2.1
M3	× 0.5	TE943206	11	56	18	3.5	2.7	6	3	2.5
M3.5	× 0.6	TE943226	12	56	20	4	3	6	3	2.9
M4	× 0.7	TE943246	13	63	21	4.5	3.4	6	3	3.3
M4.5	× 0.75	TE943266	14	70	25	6	4.9	8	3	3.7
M5	× 0.8	TE943286	15	70	25	6	4.9	8	3	4.2
M6	× 1.0	TE943316	17	80	30	6	4.9	8	3	5
M7	× 1.0	TE943346	17	80	30	7	5.5	8	3	6
M8	× 1.25	TE943366	20	90	35	8	6.2	9	3	6.8
M9	× 1.25	TE943396	20	90	35	9	7	10	3	7.8
M10	× 1.5	TE943426	22	100	39	10	8	11	3	8.5
M11	× 1.5	TE943466	22	100	40	8	6.2	9	3	9.5
M12	× 1.75	TE943506	24	110	44	9	7	10	3	10.2
M14	× 2.0	TE943546	26	110	44	11	9	12	3	12
M16	× 2.0	TE943606	27	110	44	12	9	12	3	14
M18	× 2.5	TE943656	30	125	50	14	11	14	4	15.5
M20	× 2.5	TE943706	32	140	54	16	12	15	4	17.5
M22	× 2.5	TE943746	32	140	54	18	14.5	17	4	19.5
M24	× 3.0	TE943786	34	160	60	18	14.5	17	4	21
M27	× 3.0	TE943866	36	160	60	20	16	19	4	24
M30	× 3.5	TE943946	40	180	70	22	18	21	4	26.5

▶ DIN 371(M2~M10) and DIN 376(M11~M30)
▶ * DIN profile not ISO

◎ : Excellent ○ : Good

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended			○																	

ISO	N										S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	◎																

YG TAP ALU

TC433 SERIES

M ISO metric coarse threads DIN 13

Metrisches ISO-Gewinde DIN 13
ISO MÉTRIQUE DIN13
ISO Metrico passo grosso DIN 13

Machine taps
Maschinengewindebohrer

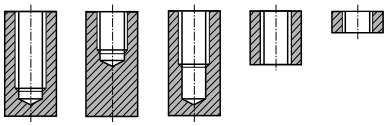
▶ Suitable for brass and short chip work materials.

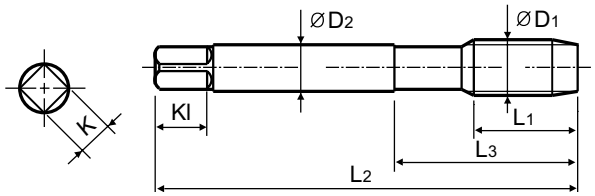
▶ Geeignet zum Gewindeschneiden von Messing und anderen kurzspanenden Werkstoffen

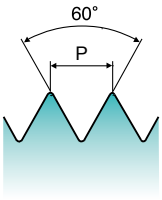
DIN 371

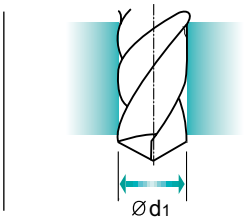
DIN 376

Hole type
2.0×D









Material groups **Ms** | HSS-E | DIN 371/376 | 6H | 60° | C | Bright

p.328

Recommended ToolHolder: Plain Shank — TAPPING ER CHUCK / TAPPING CHUCK / ONE STEP TAPPING CHUCK

Unit : mm

SIZE	Pitch	EDP No.	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No. of Flute	Tapping Drill Diameter
ØD1	P	Bright	L1	L2	L3	ØD2	K	Kl	Z	Ød1
M2	× 0.4	TC433136	8	45	13	2.8	2.1	5	3	1.6
M2.2	× 0.45	TC433156	8	45	13	2.8	2.1	5	3	1.75
*M2.3	× 0.4	TC433196	8	45	13	2.8	2.1	5	3	1.9
M2.5	× 0.45	TC433176	9	50	15	2.8	2.1	5	3	2.05
*M2.6	× 0.45	TC433496	9	50	15	2.8	2.1	5	3	2.1
M3	× 0.5	TC433206	11	56	18	3.5	2.7	6	3	2.5
M3.5	× 0.6	TC433226	12	56	20	4	3	6	3	2.9
M4	× 0.7	TC433246	13	63	21	4.5	3.4	6	3	3.3
M4.5	× 0.75	TC433266	14	70	25	6	4.9	8	3	3.7
M5	× 0.8	TC433286	15	70	25	6	4.9	8	3	4.2
M6	× 1.0	TC433316	17	80	30	6	4.9	8	3	5
M7	× 1.0	TC433346	17	80	30	7	5.5	8	3	6
M8	× 1.25	TC433366	20	90	35	8	6.2	9	3	6.8
M9	× 1.25	TC433396	20	90	35	9	7	10	3	7.8
M10	× 1.5	TC433426	22	100	39	10	8	11	3	8.5
M11	× 1.5	TC433466	22	100	40	8	6.2	9	3	9.5
M12	× 1.75	TC433506	24	110	44	9	7	10	3	10.2
M14	× 2.0	TC433546	26	110	44	11	9	12	3	12
M16	× 2.0	TC433606	27	110	44	12	9	12	3	14
M18	× 2.5	TC433656	30	125	50	14	11	14	4	15.5
M20	× 2.5	TC433706	32	140	54	16	12	15	4	17.5
M22	× 2.5	TC433746	32	140	54	18	14.5	17	4	19.5
M24	× 3.0	TC433786	34	160	60	18	14.5	17	4	21
M27	× 3.0	TC433866	36	160	60	20	16	19	4	24
M30	× 3.5	TC433946	40	180	70	22	18	21	4	26.5

▶ DIN 371(M2~M10) and DIN 376(M11~M30)
▶ * DIN profile not ISO

◎ : Excellent ○ : Good

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended																				

ISO	N										S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended						◎	○	○													

YG TAP ALU

TE443 SERIES

M ISO metric coarse threads DIN 13

- Metrisches ISO-Gewinde DIN 13
- ISO MÉTRIQUE DIN13
- ISO Metrico passo grosso DIN 13

Machine taps
Maschinengewindebohrer

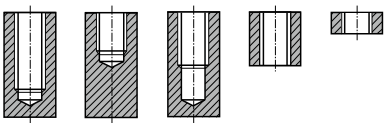
▶ Suitable for brass and short chip work materials.

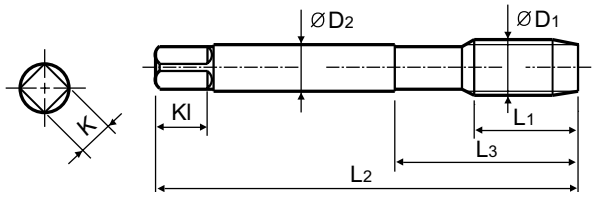
▶ Geeignet zum Gewindeschneiden von Messing und anderen kurzspanenden Werkstoffen

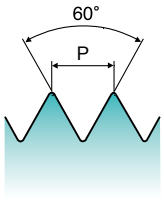
DIN 371

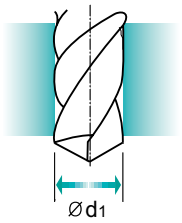
DIN 376

Hole type
2.0×D









Material groups **Ms** | HSS-E | DIN 371/376 | 6HX | 60° | C | Nitride + Vap | p.328

Recommended ToolHolder: Plain Shank; TAPPING ER CHUCK; TAPPING CHUCK; ONE STEP TAPPING CHUCK

Unit : mm

SIZE	Pitch	EDP No.	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No. of Flute	Tapping Drill Diameter
ØD1	P	Nitride + Vap	L1	L2	L3	ØD2	K	Kl	Z	Ød1
M2	× 0.4	TE443136	8	45	13	2.8	2.1	5	3	1.6
M2.2	× 0.45	TE443156	8	45	13	2.8	2.1	5	3	1.75
*M2.3	× 0.4	TE443196	8	45	13	2.8	2.1	5	3	1.9
M2.5	× 0.45	TE443176	9	50	15	2.8	2.1	5	3	2.05
*M2.6	× 0.45	TE443496	9	50	15	2.8	2.1	5	3	2.1
M3	× 0.5	TE443206	11	56	18	3.5	2.7	6	3	2.5
M3.5	× 0.6	TE443226	12	56	20	4	3	6	3	2.9
M4	× 0.7	TE443246	13	63	21	4.5	3.4	6	3	3.3
M4.5	× 0.75	TE443266	14	70	25	6	4.9	8	3	3.7
M5	× 0.8	TE443286	15	70	25	6	4.9	8	3	4.2
M6	× 1.0	TE443316	17	80	30	6	4.9	8	3	5
M7	× 1.0	TE443346	17	80	30	7	5.5	8	3	6
M8	× 1.25	TE443366	20	90	35	8	6.2	9	3	6.8
M9	× 1.25	TE443396	20	90	35	9	7	10	3	7.8
M10	× 1.5	TE443426	22	100	39	10	8	11	3	8.5
M11	× 1.5	TE443466	22	100	40	8	6.2	9	3	9.5
M12	× 1.75	TE443506	24	110	44	9	7	10	3	10.2
M14	× 2.0	TE443546	26	110	44	11	9	12	3	12
M16	× 2.0	TE443606	27	110	44	12	9	12	3	14
M18	× 2.5	TE443656	30	125	50	14	11	14	4	15.5
M20	× 2.5	TE443706	32	140	54	16	12	15	4	17.5
M22	× 2.5	TE443746	32	140	54	18	14.5	17	4	19.5
M24	× 3.0	TE443786	34	160	60	18	14.5	17	4	21
M27	× 3.0	TE443866	36	160	60	20	16	19	4	24
M30	× 3.5	TE443946	40	180	70	22	18	21	4	26.5

▶ DIN 371(M2~M10) and DIN 376(M11~M30)
▶ * DIN profile not ISO

◎ : Excellent ○ : Good

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended																				

ISO	N										S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended						◎	○														

YG TAP ALU

TY433 SERIES

M ISO metric coarse threads DIN 13

Metrisches ISO-Gewinde DIN 13
ISO MÉTRIQUE DIN13
ISO Metrico passo grosso DIN 13

Machine taps
Maschinengewindebohrer

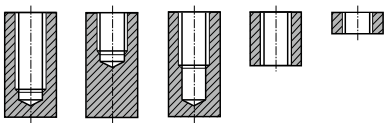
▶ Suitable for brass and short chip work materials.

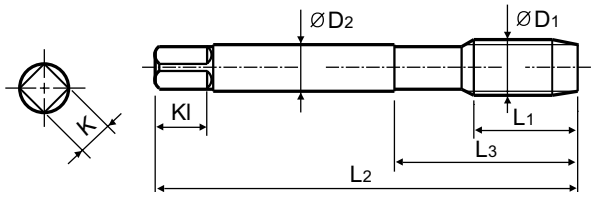
▶ Geeignet zum Gewindeschneiden von Messing und anderen kurzspanenden Werkstoffen

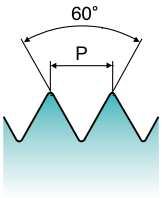
DIN 371

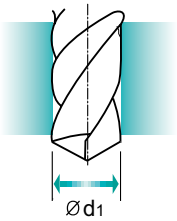
DIN 376

Hole type
2.0×D









Material groups **Ms** | HSS-E | DIN 371/376 | 6H | 60° | C | TiAlN

p.328

Recommended ToolHolder: Plain Shank — TAPPING ER CHUCK / TAPPING CHUCK / ONE STEP TAPPING CHUCK

Unit : mm

SIZE	Pitch	EDP No.	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No. of Flute	Tapping Drill Diameter
ØD1	P	TiAlN	L1	L2	L3	ØD2	K	Kl	Z	Ød1
M2	× 0.4	TY433136	8	45	13	2.8	2.1	5	3	1.6
M2.2	× 0.45	TY433156	8	45	13	2.8	2.1	5	3	1.75
*M2.3	× 0.4	TY433196	8	45	13	2.8	2.1	5	3	1.9
M2.5	× 0.45	TY433176	9	50	15	2.8	2.1	5	3	2.05
*M2.6	× 0.45	TY433496	9	50	15	2.8	2.1	5	3	2.1
M3	× 0.5	TY433206	11	56	18	3.5	2.7	6	3	2.5
M3.5	× 0.6	TY433226	12	56	20	4	3	6	3	2.9
M4	× 0.7	TY433246	13	63	21	4.5	3.4	6	3	3.3
M4.5	× 0.75	TY433266	14	70	25	6	4.9	8	3	3.7
M5	× 0.8	TY433286	15	70	25	6	4.9	8	3	4.2
M6	× 1.0	TY433316	17	80	30	6	4.9	8	3	5
M7	× 1.0	TY433346	17	80	30	7	5.5	8	3	6
M8	× 1.25	TY433366	20	90	35	8	6.2	9	3	6.8
M9	× 1.25	TY433396	20	90	35	9	7	10	3	7.8
M10	× 1.5	TY433426	22	100	39	10	8	11	3	8.5
M11	× 1.5	TY433466	22	100	40	8	6.2	9	3	9.5
M12	× 1.75	TY433506	24	110	44	9	7	10	3	10.2
M14	× 2.0	TY433546	26	110	44	11	9	12	3	12
M16	× 2.0	TY433606	27	110	44	12	9	12	3	14
M18	× 2.5	TY433656	30	125	50	14	11	14	4	15.5
M20	× 2.5	TY433706	32	140	54	16	12	15	4	17.5
M22	× 2.5	TY433746	32	140	54	18	14.5	17	4	19.5
M24	× 3.0	TY433786	34	160	60	18	14.5	17	4	21
M27	× 3.0	TY433866	36	160	60	20	16	19	4	24
M30	× 3.5	TY433946	40	180	70	22	18	21	4	26.5

▶ DIN 371(M2~M10) and DIN 376(M11~M30)
▶ * DIN profile not ISO

◎ : Excellent ○ : Good

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended																				

ISO	N										S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended						◎	○	○													

YG TAP ALU

RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDKONDITIONEN

ISO	VDI 3323	Material Description	HB	HRc	TC163 TC963 TC169 TC170	TE953	TC622	TE943	TC433	TE443	TY433
					Vc (m/min.)						
P	1	Non-alloy steel	125		15-20		15-20				
	2		190	13	15-20		15-20				
	3		250	25	12-18	12-18	12-18	12-18			
N	21	Aluminum-wrought alloy	60		10-15	10-15	10-15	10-15			
	22		100		10-15	10-15	10-15	10-15			
	23	Aluminum-cast, alloyed	75		15-20	15-20	15-20	15-20			
	24		90		15-20	15-20	15-20	15-20			
	25		130			10-15		10-15			
	26	Copper and Copper Alloys (Bronze / Brass)	110						25-35	25-35	35-40
	27		90		8-12		8-12		8-12	8-12	12-16
	28		100						15-20		20-25