



Leading Through Innovation

HSS-E

SCREW THREAD INSERT TAP

EINSATZGEWINDE INSERT TAPS

- Tapping STI Threads of Soft Materials
- Gewindeschneiden von STI-Gewinden in weichen Materialien

SELECTION GUIDE



HSS-E SCREW THREAD INSERT TAP

Tapping STI Threads of Soft Materials

HOLE TYPE		Max. 2.5xD Blind Hole	Max. 3.0xD Through Hole
TOOL MATERIAL		HSS-E	
CHAMFER LEAD ACC. TO DIN2197		C	B
FLUTE TYPE		Spiral Flute	Spiral Point
SPIRAL FLUTE ANGLE		R40	-
SERIES	M	DIN371/376	
		DIN352	
		DIN357/LONG	
	MF	DIN374	
		DIN2181	
	UNC	DIN371/376	
		DIN351	
	UNF	DIN371/374	
		DIN2181	
	BSW	DIN2182/2183	
DIN351			
G(BSP)	DIN5156/5157		
EG-M	DIN371/376	TC909 (p.B321)	TC973 (p.B322)
EG-UNC	DIN371/376	TC944 (p.B323)	TC934 (p.B324)
EG-UNF	DIN371/374		TC954 (p.B325)
SURFACE TREATMENT		Bright	Bright
MODEL			

Please visit globalyg1.com/mat for material search
 ◎ : Excellent ○ : Good
 Recommended cutting conditions : p.B326

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		Ferritic	130				
20	Malleable cast iron	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		Annealed	250	25			
	34		Ni or Co Based 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	Hardened Cast Iron	Cast	400	42			
	41		Hardened	550	55			

YG SCREW THREAD INSERT TAP

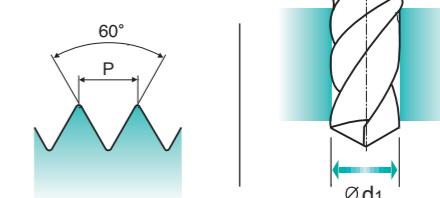
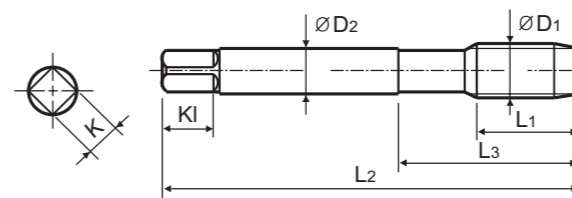
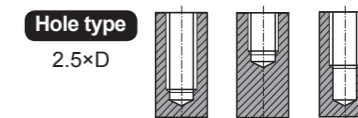
TC909 SERIES

EG-M ISO metric coarse threads for Screw Thread insert
 ● Metrisches ISO Regelgew.f.Gew. Drahteins
 ○ ISO MÉTRIQUE DIN13 POUR FILETS RAPPORTÉS
 ○ ISO Metrico passo grosso per Helicoil

Machine taps
 Maschinengewindebohrer

Wire insert threads are used for increasing fastening strength in soft materials.

Gewinde mit Drahteinsätzen werden verwendet um größere Drehmomente in weichen Werkstoffen zu erreichen.



Material groups: AI, HSS-E, DIN 371/376, 6H Mod., 60°, C, R40, Bright, p.B326

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

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	KI	Z	Ød1
M2.5 × 0.45		TC909176	6	56	18	3.5	2.7	6	3	2.65
M3 × 0.5		TC909206	5	63	21	4.5	3.4	6	3	3.15
M3.5 × 0.6		TC909226	8	70	25	6	4.9	8	3	3.7
M4 × 0.7		TC909246	8	70	25	6	4.9	8	3	4.2
M5 × 0.8		TC909286	8	80	30	6	4.9	8	3	5.25
M6 × 1.0		TC909316	10	90	35	8	6.2	9	3	6.3
M8 × 1.25		TC909366	16	100	39	10	8	11	3	8.4
M10 × 1.5		TC909426	15	110	44	9	7	10	3	10.4
M12 × 1.75		TC909506	20	110	44	11	9	12	3	12.5
M14 × 2.0		TC909546	22	110	44	12	9	12	3	14.5
M16 × 2.0		TC909606	25	125	50	14	11	14	4	16.5
M18 × 2.5		TC909656	27	140	54	18	14.5	17	4	18.75
M20 × 2.5		TC909706	30	160	60	18	14.5	17	4	20.75

► DIN 371 (M2.5~M8) and DIN 376 (M10~M20)

◎ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRC	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	4	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											
	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
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRC	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	◎	◎	◎	◎	◎	◎																

Y/G SCREW THREAD INSERT TAP

TC973 SERIES

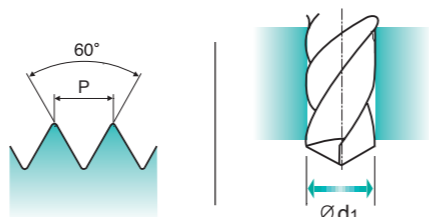
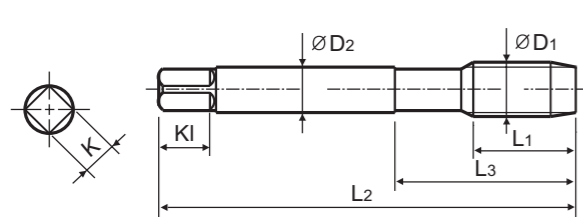
EG-M ISO metric coarse threads for Screw Thread insert

Metrisches ISO Regelgew.f.Gew. Drahteins
ISO MÉTRIQUE DIN13 POUR FILETS RAPPORTÉS
ISO Metrico passo grosso per Helicoil

Machine taps
Maschinengewindebohrer

▶ Wire insert threads are used for increasing fastening strength in soft materials.

▶ Gewinde mit Drahteinsätzen werden verwendet um größere Drehmomente in weichen Werkstoffen zu erreichen.



Material groups: **AI** HSS-E DIN 371/376 6H Mod. 60° B Bright p.B326

Recommended ToolHolder: Plain Shank TAPPING ER 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
M2.5 × 0.45		TC973176	11	56	18	3.5	2.7	6	3	2.65
M3 × 0.5		TC973206	10	63	21	4.5	3.4	6	3	3.15
M3.5 × 0.6		TC973226	14	70	25	6	4.9	8	3	3.7
M4 × 0.7		TC973246	13	70	25	6	4.9	8	3	4.2
M5 × 0.8		TC973286	13	80	30	6	4.9	8	3	5.25
M6 × 1.0		TC973316	17	90	35	8	6.2	9	3	6.3
M8 × 1.25		TC973366	18	100	39	10	8	11	3	8.4
M10 × 1.5		TC973426	22	110	44	9	7	10	3	10.4
M12 × 1.75		TC973506	26	110	44	11	9	12	3	12.5
M14 × 2.0		TC973546	27	110	44	12	9	12	3	14.5
M16 × 2.0		TC973606	30	125	50	14	11	14	4	16.5
M18 × 2.5		TC973656	32	140	54	18	14.5	17	4	18.75
M20 × 2.5		TC973706	34	160	60	18	14.5	17	4	20.75

▶ DIN 371(M2.5~M8) and DIN 376(M10~M20)

◎ : Excellent ○ : Good

ISO	P										M				K					
	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	30	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										
	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	42	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎			◎														

Y/G SCREW THREAD INSERT TAP

TC944 SERIES

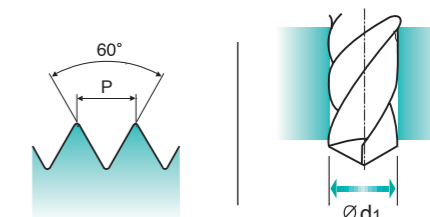
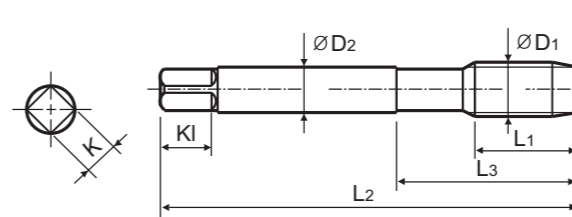
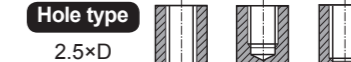
EG-UNC Unified coarse threads for Screw Thread insert

Unified Regelgew.f.Gew.Drahteins
UNC POUR FILETS RAPPORTÉS
ISO Metrico passo grosso per Helicoil

Machine taps
Maschinengewindebohrer

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Material groups: **AI** HSS-E DIN 371/376 2B 60° C R40 Bright p.B326

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

Unit : mm

SIZE	TPI	EDP No.	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No. of Flute	Tapping Drill Diameter
ØD1		Bright	L1	L2	L3	ØD2	K	Kl	Z	Ød1
#4 - 40 UNC		TC944162	7	63	21	4.5	3.4	6	3	3.1
#5 - 40 UNC		TC944202	7	63	21	4.5	3.4	6	3	3.4
#6 - 32 UNC		TC944242	8	70	25	6	4.9	8	3	3.8
#8 - 32 UNC		TC944282	8	80	25	6	4.9	8	3	4.4
#10 - 24 UNC		TC944322	10	80	30	7	5.5	8	3	5.2
#12 - 24 UNC		TC944362	10	80	30	7	5.5	8	3	5.8
1/4 - 20 UNC		TC944402	14	90	35	8	6.2	9	3	6.7
5/16 - 18 UNC		TC944442	16	100	39	10	8	11	3	8.4
3/8 - 16 UNC		TC944482	16	110	39	12	9	12	3	10
7/16 - 14 UNC		TC944522	20	110	44	11	9	12	3	11.6
1/2 - 13 UNC		TC944562	22	110	44	12	9	12	3	13.3
9/16 - 12 UNC		TC944602	22	125	50	14	11	14	3	15
5/8 - 11 UNC		TC944642	25	125	50	14	11	14	4	16.5
3/4 - 10 UNC		TC944702	27	140	56	18	14.5	17	4	19.75

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

◎ : Excellent ○ : Good

ISO	P										M				K					
	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	30	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										
	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	42	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎			◎														

Y/G SCREW THREAD INSERT TAP

TC934 SERIES

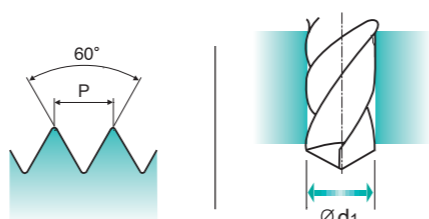
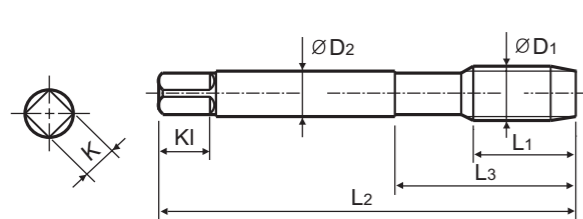
EG-UNC

Unified coarse threads for Screw Thread insert

- Unified Regelgew.f.Gew.Drahteins
 - UNC POUR FILETS RAPPORTÉS
 - ISO Metrico passo grosso per Helicoil
- Machine taps
Maschinengewindebohrer

► Wire insert threads are used for increasing fastening strength in soft materials.

► Gewinde mit Drahteinsätzen werden verwendet um größere Drehmomente in weichen Werkstoffen zu erreichen.



Material groups: **AI** HSS-E DIN 371/376 2B 60° B Bright p.B326

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

Unit : mm

SIZE	TPI	EDP No.	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No. of Flute	Tapping Drill Diameter
ØD1		Bright	L1	L2	L3	ØD2	K	Kl	Z	Ød1
#4 - 40 UNC		TC934162	13	63	21	4.5	3.4	6	3	3.1
#5 - 40 UNC		TC934202	13	63	21	4.5	3.4	6	3	3.4
#6 - 32 UNC		TC934242	14	70	25	6	4.9	8	3	3.8
#8 - 32 UNC		TC934282	13	80	25	6	4.9	8	3	4.4
#10 - 24 UNC		TC934322	17	80	30	7	5.5	8	3	5.2
#12 - 24 UNC		TC934362	17	80	30	7	5.5	8	3	5.8
1/4 - 20 UNC		TC934402	20	90	35	8	6.2	9	3	6.7
5/16 - 18 UNC		TC934442	22	100	39	10	8	11	3	8.4
3/8 - 16 UNC		TC934482	21	110	39	12	9	12	3	10
7/16 - 14 UNC		TC934522	26	110	44	11	9	12	3	11.6
1/2 - 13 UNC		TC934562	27	110	44	12	9	12	3	13.3
9/16 - 12 UNC		TC934602	30	125	50	14	11	14	3	15
5/8 - 11 UNC		TC934642	30	125	50	14	11	14	4	16.5
3/4 - 10 UNC		TC934702	32	140	54	18	14.5	17	4	19.75

► DIN 371(#4~3/8) and DIN 376(7/16~3/4)

◎ : Excellent ○ : Good

ISO	P										M				K					
	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	38	10	29	32	38	45	35	45	50	55	26	28	25	25	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										
	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						15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎		◎															

Y/G SCREW THREAD INSERT TAP

TC954 SERIES

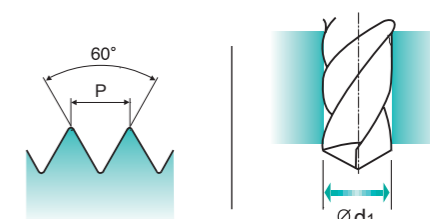
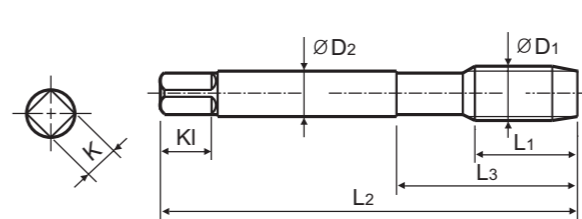
EG-UNF

Unified fine threads for Screw Thread insert

- Unified Feingew.f.Gew.Drahteins
 - UNC POUR FILETS RAPPORTÉS
 - ISO Metrico passo fine per Helicoil
- Machine taps
Maschinengewindebohrer

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Material groups: **AI** HSS-E DIN 371/376 2B 60° B Bright p.B326

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

Unit : mm

SIZE	TPI	EDP No.	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No. of Flute	Tapping Drill Diameter
ØD1		Bright	L1	L2	L3	ØD2	K	Kl	Z	Ød1
#4 - 48 UNF		TC954182	12	56	20	4	3	6	3	3.1
#6 - 40 UNF		TC954262	14	70	25	6	4.9	8	3	3.7
#8 - 36 UNF		TC954302	13	70	25	6	4.9	8	3	4.4
#10 - 32 UNF		TC954342	13	80	25	6	4.9	8	3	5.1
1/4 - 28 UNF		TC954422	17	90	35	8	6.2	9	3	6.6
5/16 - 24 UNF		TC954462	18	100	39	10	8	11	3	8.25
3/8 - 24 UNF		TC954502	18	110	39	12	9	12	3	9.8
7/16 - 20 UNF		TC954542	22	100	40	9	7	10	3	11.5
1/2 - 20 UNF		TC954582	22	100	40	11	9	12	3	13.1
9/16 - 18 UNF		TC954622	22	100	40	12	9	12	3	14.75
5/8 - 18 UNF		TC954662	25	110	44	14	11	14	4	16.25
3/4 - 16 UNF		TC954722	25	125	50	16	12	15	4	19.5

► DIN 371(#4~3/8) and DIN 374(7/16~3/4)

◎ : Excellent ○ : Good

ISO	P										M				K					
	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	38	10	29	32	38	45	35	45	50	55	26	28	25	25	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										
	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						15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎		◎															

ISO	VDI 3323	Material Description	HB	HRc	Vc (m/min.)	
					TC909 TC944	TC973 TC934 TC954
P	1	Non-alloy steel	125		15-20	15-20
	2		190	13	15-20	15-20
	3		250	25	12-18	12-18
N	21	Aluminum-wrought alloy	60		10-15	10-15
	22		100		10-15	10-15
	23	Aluminum-cast, alloyed	75		15-20	15-20
	24		90		15-20	15-20
	27	Copper and Copper Alloys (Bronze / Brass)	90		8-12	8-12


HSS-E

NUT TAP

MUTTERGEWINDEBOHRER

- Nut Tapping Machines
- Zum Gewindeschneiden von Muttern