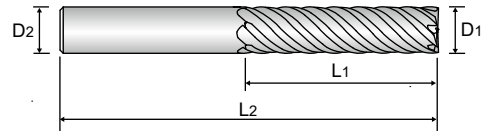


CARBIDE, 6 FLUTE 45° HELIX EXTRA LONG LENGTH

- **VOLLHARTMETALL, 6 SCHNEIDEN 45° RECHTSSPIRALE EXTRA LANG**
- **Fraise carbure, 6 dents, hélice 45°, extra-longue**
- **6 TAGLIENTI, ELICA 45°, SERIE EXTRA LUNGA**

- ▶ Designed to machine hardened materials.
- ▶ High speed cutting and finish milling with high feed rates.
- ▶ Superior workpiece finishes.
- ▶ Superior wear resistance.
- ▶ Suitable for dry milling.

- ▶ Geeignet zum Fräsen von gehärteten Stählen.
- ▶ Hochgeschwindigkeitsfräsen und Finishing mit erhöhtem Vorschub.
- ▶ Bessere Werkstückoberflächen
- ▶ Höhere Verschleißfestigkeit.
- ▶ Geeignet zum Trocken-Fräsen.

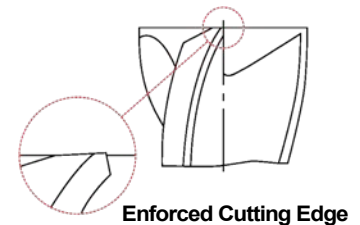


CARBIDE 6 45° PLAIN P.393

Unit : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	D1	D2	L1	L2
GM834060	6.0	6	26	70
GM834080	8.0	8	36	90
GM834100	10.0	10	46	100
GM834120	12.0	12	56	110
GM834160	16.0	16	66	130
GM834200	20.0	20	76	140
GM834250	25.0	25	92	180

Mill Dia. Tolerance (mm)	Shank Dia. Tolerance
0 ~ - 0.03	h5



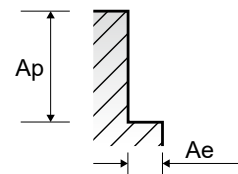
◎ : Excellent ○ : Good

ISO Material Description	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	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	
Recommend	○	○	○	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○	
ISO Material Description	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	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○	◎	◎	○

Vc = m/min.
fz = mm/tooth
RPM = rev./min.
FEED = mm/min.

GM834 SERIES **6 FLUTE - SIDE CUTTING**

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)							
						6.0	8.0	10.0	12.0	16.0	20.0	25.0	
P	1-4	Non-alloy steel	0.01D	3.0D	Vc	45	45	45	45	45	45	45	
					fz	0.035	0.045	0.055	0.06	0.065	0.07	0.074	
	5	Non-alloy steel	0.01D	3.0D	RPM	2387	1790	1432	1194	895	716	573	
					FEED	501	483	473	430	349	301	254	
	6-7	Low alloy steel	0.01D	3.0D	Vc	30	30	30	30	30	30	30	
					fz	0.035	0.044	0.050	0.053	0.061	0.067	0.071	
	8-9	Low alloy steel	0.01D	3.0D	RPM	1592	1194	955	796	597	477	382	
					FEED	334	315	286	253	218	192	163	
	10	High alloyed steel, and tool steel	0.01D	3.0D	Vc	45	45	45	45	45	45	45	
					fz	0.035	0.045	0.055	0.06	0.065	0.07	0.074	
	11.1 - 11.2	High alloyed steel, and tool steel	0.01D	3.0D	RPM	2387	1790	1432	1194	895	716	573	
					FEED	501	483	473	430	349	301	254	
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.01D	3.0D	Vc	30	30	30	30	30	30	30	
					fz	0.035	0.044	0.050	0.053	0.061	0.067	0.071	
	38.1 - 38.2	Hardened steel	0.005D	3.0D	RPM	1592	1194	955	796	597	477	382	
					FEED	334	315	286	253	218	192	163	
	40	Chilled Cast Iron	0.01D	3.0D	Vc	45	45	45	45	45	45	45	
					fz	0.035	0.045	0.055	0.06	0.065	0.07	0.074	
	41	Hardened Cast Iron	0.005D	3.0D	RPM	2387	1790	1432	1194	895	716	573	
					FEED	501	483	473	430	349	301	254	
	H	38.1 - 38.2	Hardened steel	0.005D	3.0D	Vc	25	25	25	25	25	25	25
						fz	0.030	0.038	0.046	0.051	0.054	0.060	0.064
		40	Chilled Cast Iron	0.01D	3.0D	RPM	1326	995	796	663	497	398	318
						FEED	239	227	220	203	161	143	122
41		Hardened Cast Iron	0.005D	3.0D	Vc	30	30	30	30	30	30	30	
					fz	0.035	0.044	0.050	0.053	0.061	0.067	0.071	
41		Hardened Cast Iron	0.005D	3.0D	RPM	1592	1194	955	796	597	477	382	
					FEED	334	315	286	253	218	192	163	
41		Hardened Cast Iron	0.005D	3.0D	Vc	25	25	25	25	25	25	25	
					fz	0.030	0.038	0.046	0.051	0.054	0.060	0.064	
41		Hardened Cast Iron	0.005D	3.0D	RPM	1326	995	796	663	497	398	318	
					FEED	239	227	220	203	161	143	122	



SELECTION GUIDE



SERIES	GM876	GM813	GM886	GM902
FLUTE	2	2	2	2
HELIX ANGLE	30°	30°	30°	30°
CUTTING EDGE SHAPE	BALL NOSE	BALL NOSE	BALL NOSE	BALL NOSE
SIZE MIN	R0.5	R0.5	R0.25	R0.5
SIZE MAX	R8.0	R10.0	R3.0	R4.0
PAGE	350	351	352	354

SOLID CARBIDE
X-POWER PRO
END MILLS

for Pre-Hardened Steels up to HRC55,
 Mold & Die, Dry & Wet Cutting

SHORT LENGTH	LONG LENGTH	RIB PROCESSING	TAPER NECK
Y-Coating	Y-Coating	Y-Coating	Y-Coating



Please visit
globalyg1.com/mat
 for material search

◎ : Excellent ○ : Good

Recommended cutting conditions : P 372

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRC	GM876	GM813	GM886	GM902	
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		Cutting Alloys, PB>1%	110						
	27	Copper and Copper Alloys	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	Chilled Cast Iron	Cast	400	42	◎	◎	◎	◎	
	41	Hardened Cast Iron	Hardened	550	55	○	○	○	○	

GM815	GM818	GM8A1	GM839	GM819	GM810	GM883	GM895	GM811	GM817	GM812	GM834	GM814
4	2	2	4	4	2	2	3	4	4	6&8	6	3&4
30°	30°	30°	30°	30°	30°	30°	38°	30°	30°	45°	45°	20°
BALL NOSE	CORNER RADIUS	CORNER RADIUS	CORNER RADIUS	CORNER RADIUS	SQUARE	SQUARE	SQUARE	SQUARE	SQUARE	SQUARE	SQUARE	ROUGHING
R1.0	D4.0	D1.0	D2.0	D3.0	D0.4	D0.4	D1.0	D2.0	D2.0	D6.0	D6.0	D6.0
R8.0	D12.0	D6.0	D12.0	D20.0	D20.0	D6.0	D16.0	D25.0	D20.0	D20.0	D25.0	D20.0
355	356	357	359	360	361	363	366	367	368	369	370	371
LONG LENGTH	LONG LENGTH	RIB PROCESSING	STUB LENGTH	LONG LENGTH	SHORT LENGTH	RIB PROCESSING	SHORT LENGTH	SHORT LENGTH	LONG LENGTH	LONG LENGTH	EXTRA LONG LENGTH	LONG LENGTH
Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating



○	○	○	○	○	○	○	○	○	○	○	○	○	1
○	○	○	○	○	○	○	○	○	○	○	○	○	2
○	○	○	○	○	○	○	○	○	○	○	○	○	3
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	4
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	5
○	○	○	○	○	○	○	○	○	○	○	○	○	6 P
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	7
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	8
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	9
○	○	○	○	○	○	○	○	○	○	○	○	○	10
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	11
				○	○		○	○				○	12
				○	○		○	○				○	13 M
				○	○		○	○				○	14
○	○	○	○	○	○	○	○	○	○	○	○	○	15
○	○	○	○	○	○	○	○	○	○	○	○	○	16
○	○	○	○	○	○	○	○	○	○	○	○	○	17 K
○	○	○	○	○	○	○	○	○	○	○	○	○	18
○	○	○	○	○	○	○	○	○	○	○	○	○	19
○	○	○	○	○	○	○	○	○	○	○	○	○	20
													21
													22
													23
													24
													25 N
													26
													27
													28
													29
													30
													31
													32
													33
													34 S
													35
													36
													37
○	○	○	○	○	○	○	○	○	○	○	○	○	38
○	○	○	○	○	○	○	○	○	○	○	○	○	39
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	40 H
○	○	○	○	○	○	○	○	○	○	○	○	○	41

HSS

CBN END MILLS

i-Xmill END MILLS

i-SMART MODULAR END MILLS

X5070 END MILLS

4G MILL END MILLS

X-POWER PRO END MILLS

TitaNox-POWER END MILLS

JET-POWER END MILLS

V7 PLUS END MILLS

ALU-POWER HPC END MILLS

ALU-POWER END MILLS

D-POWER GRAPHITE END MILLS

D-POWER CFRP END MILLS

ROUTERS

CRX S END MILLS

K-2 END MILLS

ONLY ONE COATED PM60 END MILLS

TANK-POWER END MILLS

GENERAL HSS END MILLS

MILLING CUTTERS

TECHNICAL DATA