

CARBIDE, 4 FLUTE LONG REACH CORNER RADIUS

- **VOLLHARTMETALL, 4 SCHNEIDEN GROÖE REICHWEITE ECKENRADIUS**
- **Fraise carbure, 4 dents, torique longue portée**
- **4 TAGLIENTI, SERIE LUNGA, TORICA**

- ▶ Suitable for dry milling applications at high temperatures.
- ▶ Excellent high-performance end mills.
- ▶ Designed for milling of radius bottom slots, fillets and special contours.

- ▶ Für die Trockenbearbeitung.
- ▶ Hervorragendes Preis - Leistungsverhältnis.
- ▶ Bestimmt für das Fräsen von Nuten mit konvexem Grund, Sonderprofilen und zum Kopieren.



Unit : mm

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	R				
G9B85030	R0.5	3.0	4	6	75
G9B85901	R1.0	3.0	4	6	75
G9B85040	R0.5	4.0	4	8	75
G9B85902	R1.0	4.0	4	8	75
G9B85050	R0.5	5.0	6	10	75
G9B85903	R1.0	5.0	6	10	75
G9B85060	R0.5	6.0	6	12	75
G9B85904	R1.0	6.0	6	12	75
G9B85080	R0.5	8.0	8	16	100
G9B85905	R1.0	8.0	8	16	100
G9B85906	R1.5	8.0	8	16	100
G9B85907	R2.0	8.0	8	16	100
G9B85908	R2.5	8.0	8	16	100
G9B85100	R0.5	10.0	10	20	100
G9B85909	R1.0	10.0	10	20	100
G9B85910	R1.5	10.0	10	20	100
G9B85911	R2.0	10.0	10	20	100
G9B85912	R2.5	10.0	10	20	100
G9B85120	R0.5	12.0	12	24	100
G9B85913	R1.0	12.0	12	24	100
G9B85914	R1.5	12.0	12	24	100
G9B85915	R2.0	12.0	12	24	100
G9B85916	R2.5	12.0	12	24	100

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

◎ : Excellent ○ : Good

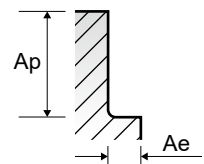
ISO Material Description	P										M					K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel					Stainless steel			Grey cast iron		Nodular cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		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	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

G9B84, G9B85 SERIES 4 FLUTE CORNER RADIUS - SIDE CUTTING

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

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Mill Diameter (Ø)									
						1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0
P	1-4	Non-alloy steel	0.1D	1.0D	Vc	55	55	60	70	80	85	90	90	85	90
					fz	0.002	0.005	0.006	0.009	0.019	0.024	0.029	0.043	0.047	0.047
	RPM	17507	11671	9549	7427	6366	5411	4775	3581	2706	2387				
	FEED	140	233	229	267	484	519	554	616	509	449				
	5	Non-alloy steel	0.1D	1.0D	Vc	30	35	40	45	50	50	55	55	55	55
					fz	0.002	0.004	0.006	0.009	0.019	0.024	0.031	0.038	0.038	0.037
	RPM	9549	7427	6366	4775	3979	3183	2918	2188	1751	1459				
	FEED	76	119	153	172	302	306	362	333	266	216				
	6-7	Low alloy steel	0.1D	1.0D	Vc	55	55	60	70	80	85	90	90	85	90
					fz	0.002	0.005	0.006	0.009	0.019	0.024	0.029	0.043	0.047	0.047
RPM	17507	11671	9549	7427	6366	5411	4775	3581	2706	2387					
FEED	140	233	229	267	484	519	554	616	509	449					
8-9	Low alloy steel	0.1D	1.0D	Vc	30	35	40	45	50	50	55	55	55	55	
				fz	0.002	0.004	0.006	0.009	0.019	0.024	0.031	0.038	0.038	0.037	
RPM	9549	7427	6366	4775	3979	3183	2918	2188	1751	1459					
FEED	76	119	153	172	302	306	362	333	266	216					
10	High alloyed steel, and tool steel	0.1D	1.0D	Vc	55	55	60	70	80	85	90	90	85	90	
				fz	0.002	0.005	0.006	0.009	0.019	0.024	0.029	0.043	0.047	0.047	
RPM	17507	11671	9549	7427	6366	5411	4775	3581	2706	2387					
FEED	140	233	229	267	484	519	554	616	509	449					
11.1 - 11.2	High alloyed steel, and tool steel	0.1D	1.0D	Vc	30	35	40	45	50	50	55	55	55	55	
				fz	0.002	0.004	0.006	0.009	0.019	0.024	0.031	0.038	0.038	0.037	
RPM	9549	7427	6366	4775	3979	3183	2918	2188	1751	1459					
FEED	76	119	153	172	302	306	362	333	266	216					
M	14.1	Stainless steel	0.1D	1.0D	Vc	25	35	35	35	40	40	45	45	45	45
fz	0.002	0.004	0.006	0.009	0.018	0.024	0.029	0.042	0.044	0.045					
RPM	7958	7427	5570	3714	3183	2546	2387	1790	1432	1194					
FEED	64	119	134	134	229	244	277	301	252	215					
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.1D	1.5D	Vc	60	55	60	55	60	55	55	55	60	55
					fz	0.008	0.013	0.017	0.026	0.035	0.044	0.065	0.093	0.116	0.155
RPM	19099	11671	9549	5836	4775	3501	2918	2188	1910	1459					
FEED	611	607	649	607	668	616	759	814	886	905					
N	21~22	Aluminum-wrought alloy	0.1D	1.5D	Vc	140	130	140	145	140	145	145	145	145	140
					fz	0.006	0.011	0.015	0.021	0.03	0.036	0.047	0.063	0.078	0.095
	RPM	44563	27587	22282	15385	11141	9231	7692	5769	4615	3714				
	FEED	1070	1214	1337	1292	1337	1329	1446	1454	1440	1411				
	23~25	Aluminum-cast, alloyed	0.1D	1.5D	Vc	140	130	140	145	140	145	145	145	145	140
					fz	0.006	0.011	0.015	0.021	0.03	0.036	0.047	0.063	0.078	0.095
	RPM	44563	27587	22282	15385	11141	9231	7692	5769	4615	3714				
	FEED	1070	1214	1337	1292	1337	1329	1446	1454	1440	1411				
	26-28	Copper and Copper Alloys (Bronze / Brass)	0.1D	1.5D	Vc	80	95	105	105	110	105	105	110	105	105
					fz	0.006	0.011	0.016	0.024	0.029	0.038	0.048	0.063	0.081	0.096
RPM	25465	20160	16711	11141	8754	6685	5570	4377	3342	2785					
FEED	611	887	1070	1070	1015	1016	1070	1103	1083	1070					
29.1	Non Metallic Materials	0.1D	1.5D	Vc	80	95	105	105	110	105	105	110	105	105	
				fz	0.006	0.011	0.016	0.024	0.029	0.038	0.048	0.063	0.081	0.096	
RPM	25465	20160	16711	11141	8754	6685	5570	4377	3342	2785					
FEED	611	887	1070	1070	1015	1016	1070	1103	1083	1070					
H	40	Chilled Cast Iron	0.1D	1.0D	Vc	30	35	40	45	50	50	55	55	55	55
fz	0.002	0.004	0.006	0.009	0.019	0.024	0.031	0.038	0.038	0.037					
RPM	9549	7427	6366	4775	3979	3183	2918	2188	1751	1459					
FEED	76	119	153	172	302	306	362	333	266	216					

※ The FEED, in long & extra long types, should be reduced by around 50%



SELECTION GUIDE

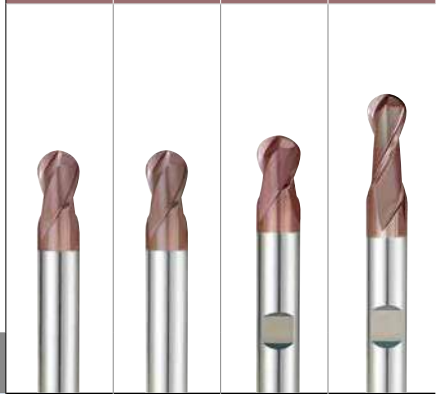


SERIES	G9624	G9A70	G9437	G9438
FLUTE	2	2	2	2
HELIX ANGLE	30°	30°	≈ 30°	≈ 30°
CUTTING EDGE SHAPE	BALL NOSE	BALL NOSE	BALL NOSE	BALL NOSE
SIZE MIN	R1.0	R0.5	R1.0	R1.0
SIZE MAX	R10.0	R10.0	R10.0	R10.0
PAGE	548	549	550	551

SOLID CARBIDE
K-2
END MILLS

General Purpose
Conventional or High Speed Milling
Wet & Dry Cutting

SHORT LENGTH	SHORT LENGTH	SHORT LENGTH	LONG LENGTH
TiAlN based	TiAlN based	TiAlN based	TiAlN based



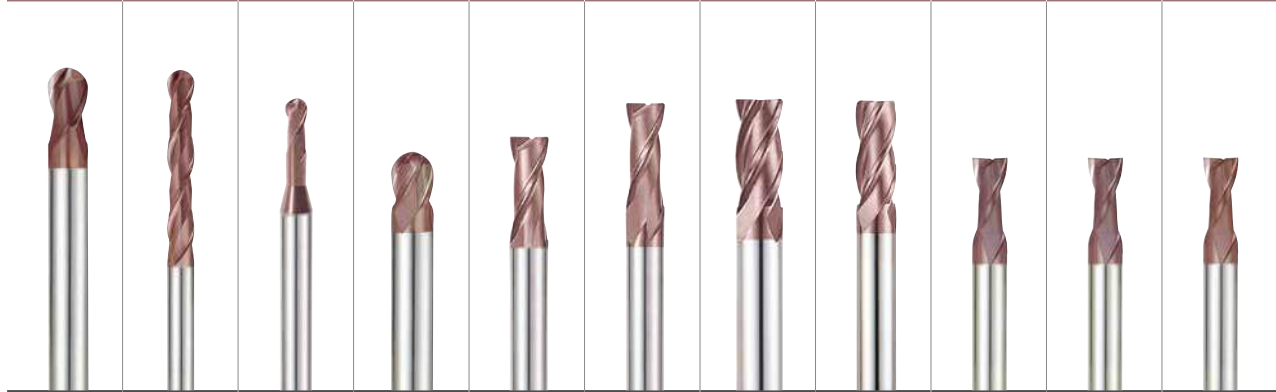
Please visit globalyg1.com/mat for material search

◎ : Excellent ○ : Good

Recommended cutting conditions : P 597

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	Chilled Cast Iron	Cast	400	42	○	○	○	○	
	41	Hardened Cast Iron	Hardened	550	55					

G9454	G9455	G9B81	G9634	G9B82	G9B83	G9B84	G9B85	G9424	G9G44	G9A68
2	2	2	4	2	2	4	4	2	2	2
30°	30°	30°	30°	30°	30°	30°	30°	30°	30°	30°
BALL NOSE	BALL NOSE	BALL NOSE	BALL NOSE	CORNER RADIUS	CORNER RADIUS	CORNER RADIUS	CORNER RADIUS	SQUARE	SQUARE	SQUARE
R1.5	R1.5	R0.2	R1.0	D2.0	D3.0	D2.0	D3.0	D1.0	D3.0	D1.0
R10.0	R10.0	R2.0	R10.0	D12.0	D12.0	D12.0	D12.0	D20.0	D20.0	D20.0
552	553	554	556	557	559	560	562	563	564	565
LONG REACH	EXTRA LONG LENGTH	RIB PROCESSING	SHORT LENGTH	SHORT LENGTH	LONG REACH	SHORT LENGTH	LONG REACH	SHORT LENGTH	SHORT LENGTH WITH CHAMFER	SHORT LENGTH
TiAlN based	TiAlN based	TiAlN based	TiAlN based	TiAlN based	TiAlN based	TiAlN based	TiAlN based	TiAlN based	TiAlN based	TiAlN based



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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