

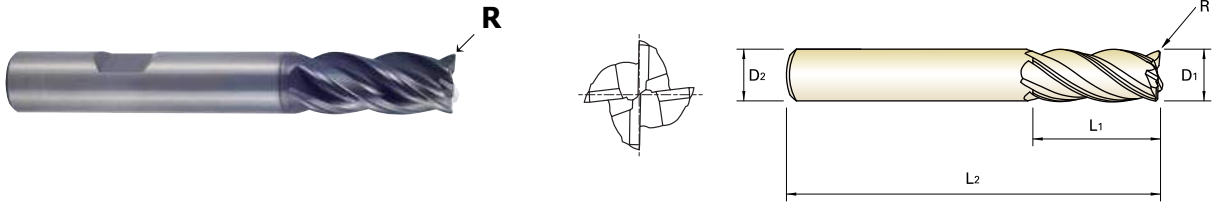


CARBIDE, 4 FLUTE CORNER RADIUS LONG LENGTH

- VOLLHARTMETALL, 4 SCHNEIDEN ECKENRADIUS LANG
- CARBURE, 4 DENTS, SÉRIE LONGUE, RAYONNÉE
- MD, 4 TAGLIENTI SERIE LUNGA TORICA

▶Special flute geometry and multiple helix eliminate vibrations
 ▶Excellent performance for Stainless Steels, Mild Steels, Cast Iron, Low/Medium hardness materials under HRC40

▶Die spezielle Schneidengeometrie und der ungleiche Drill verhindern Vibrationen
 ▶Exzellente Leistung in Edelmetallen, Baustählen, Guss und Stählen unter 40HRC



Unit : mm

EDP No.	Corner Radius		Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	PLAIN	FLAT	R	D1	D2	L1
GMF58030	GMF59030	R0.3	3.0	6	8	57
GMF58901	GMF59901	R0.5	3.0	6	8	57
GMF58040	GMF59040	R0.3	4.0	6	11	57
GMF58902	GMF59902	R0.5	4.0	6	11	57
GMF58050	GMF59050	R0.3	5.0	6	13	57
GMF58903	GMF59903	R0.5	5.0	6	13	57
GMF58060	GMF59060	R0.3	6.0	6	13	57
GMF58904	GMF59904	R0.5	6.0	6	13	57
GMF58905	GMF59905	R1.0	6.0	6	13	57
GMF58080	GMF59080	R0.5	8.0	8	19	63
GMF58906	GMF59906	R1.0	8.0	8	19	63
GMF58100	GMF59100	R0.5	10.0	10	22	72
GMF58907	GMF59907	R1.0	10.0	10	22	72
GMF58120	GMF59120	R0.5	12.0	12	26	83
GMF58908	GMF59908	R1.0	12.0	12	26	83
GMF58909	GMF59909	R2.0	12.0	12	26	83
GMF58140	GMF59140	R0.5	14.0	14	26	83
GMF58160	GMF59160	R1.0	16.0	16	32	92
GMF58912	GMF59912	R2.0	16.0	16	32	92
GMF58913	GMF59913	R3.0	16.0	16	32	92
GMF58180	GMF59180	R1.0	18.0	18	32	92
GMF58200	GMF59200	R1.0	20.0	20	38	104
GMF58916	GMF59916	R2.0	20.0	20	38	104
GMF58917	GMF59917	R3.0	20.0	20	38	104
GMF58250	GMF59250	R1.0	25.0	25	38	104

Mill Dia. Tolerance (mm)	Shank Dia. Tolerance
Up to Ø12	0 ~ - 0.02
Over Ø12	0 ~ - 0.03
	h5
	* Shank Dia. ≥ Ø12 : h6

◎ : 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											○	○	○	○	○	○	○				

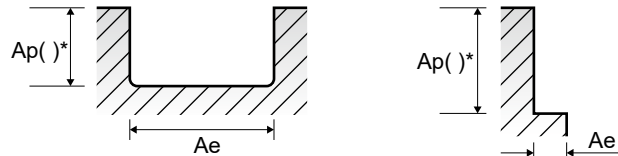
GMF52 GMF53 GMF54 GMF55 GMF56 GMF57 GMF58 GMF59 GMF60 GMF61 GMF62 GMF63

4 FLUTE - SIDE & SLOTTING

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

ISO	VDI 3323	Material Description	Ae		Ap		Parameter	Diameter (Ø)																
			Side	Slotting	Side	Slotting		3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	25.0					
P	1-4	Non-alloy steel	0.5D	1.0D	1.5D (1.2D)	1.0D (0.8D)	Vc	152	152	152	152	152	168	168	168	168	168	168	168	168	168			
							fz	0.005	0.008	0.011	0.016	0.027	0.038	0.047	0.049	0.053	0.059	0.065	0.064					
							RPM	16128	12096	9677	8064	6048	5348	4456	3820	3342	2971	2674	2139					
							FEED	323	387	426	516	653	813	838	749	709	701	695	548					
	5	Low alloy steel	0.5D	1.0D	1.5D (1.2D)	1.0D (0.8D)	Vc	107	107	107	107	107	117	117	117	117	117	117	117	117				
							fz	0.005	0.008	0.011	0.016	0.027	0.038	0.047	0.049	0.053	0.059	0.065	0.064					
							RPM	11353	8515	6812	5677	4257	3724	3104	2660	2328	2069	1862	1490					
							FEED	227	272	300	363	460	566	583	521	493	488	484	381					
	6-7	Low alloy steel	0.5D	1.0D	1.5D (1.2D)	1.0D (0.8D)	Vc	152	152	152	152	152	168	168	168	168	168	168	168	168				
							fz	0.005	0.008	0.011	0.016	0.027	0.038	0.047	0.049	0.053	0.059	0.065	0.064					
							RPM	16128	12096	9677	8064	6048	5348	4456	3820	3342	2971	2674	2139					
							FEED	323	387	426	516	653	813	838	749	709	701	695	548					
	8-9	Low alloy steel	0.5D	1.0D	1.5D (1.2D)	1.0D (0.8D)	Vc	107	107	107	107	107	117	117	117	117	117	117	117	117				
							fz	0.005	0.008	0.011	0.016	0.027	0.038	0.047	0.049	0.053	0.059	0.065	0.064					
							RPM	11353	8515	6812	5677	4257	3724	3104	2660	2328	2069	1862	1490					
							FEED	227	272	300	363	460	566	583	521	493	488	484	381					
	10-11.1	High alloyed steel, and tool steel	0.5D	1.0D	1.5D (1.2D)	1.0D (0.8D)	Vc	64	64	64	64	64	70	70	70	70	70	70	70	70				
							fz	0.003	0.006	0.008	0.011	0.019	0.027	0.032	0.034	0.037	0.041	0.045	0.045					
							RPM	6791	5093	4074	3395	2546	2228	1857	1592	1393	1238	1114	891					
							FEED	81	122	130	149	194	241	238	216	206	203	201	160					
M	12-13	Stainless steel	0.5D	1.0D	1.5D (1.2D)	1.0D (0.8D)	Vc	148	148	148	148	148	148	148	148	148	148	148	148					
							fz	0.004	0.006	0.009	0.013	0.022	0.034	0.039	0.042	0.045	0.05	0.055	0.055					
							RPM	15703	11777	9422	7852	5889	4711	3926	3365	2944	2617	2355	1884					
	14.1	Stainless steel	0.5D	1.0D	1.5D (1.2D)	1.0D (0.8D)	Vc	106	106	106	106	106	106	106	106	106	106	106	106					
							fz	0.005	0.008	0.013	0.018	0.028	0.048	0.055	0.059	0.062	0.07	0.077	0.077					
							RPM	11247	8435	6748	5623	4218	3374	2812	2410	2109	1874	1687	1350					
	14.2	Stainless steel	0.5D	1.0D	1.5D (1.2D)	1.0D (0.8D)	Vc	95	95	95	95	95	95	95	95	95	95	95	95					
							fz	0.005	0.008	0.013	0.018	0.028	0.048	0.055	0.059	0.062	0.069	0.076	0.076					
							RPM	10080	7560	6048	5040	3780	3024	2520	2160	1890	1680	1512	1210					
K	15-20	Grey cast iron	0.5D	1.0D	1.5D (1.2D)	1.0D (0.8D)	Vc	112	112	112	112	112	123	123	123	123	123	123	123					
							fz	0.006	0.01	0.014	0.02	0.034	0.048	0.058	0.061	0.065	0.073	0.081	0.079					
							RPM	11884	8913	7130	5942	4456	3915	3263	2797	2447	2175	1958	1566					
S	31-35	Heat Resistant Super Alloys	0.25D	1.0D	1.0D	0.5D	Vc	26	26	26	26	26	26	26	26	26	26	26	26					
							fz	0.005	0.007	0.008	0.012	0.019	0.033	0.038	0.04	0.043	0.048	0.054	0.052					
							RPM	2759	2069	1655	1379	1035	828	690	591	517	460	414	331					
	36-37	Titanium Alloys	0.4D	1.0D	1.0D	0.5D	Vc	58	58	58	58	58	58	58	58	58	58	58	58					
							fz	0.004	0.007	0.011	0.016	0.025	0.042	0.05	0.053	0.055	0.062	0.068	0.069					
							RPM	6154	4615	3692	3077	2308	1846	1538	1319	1154	1026	923	738					
								FEED	98	129	162	197	231	310	308	280	254	254	251	204				

*() : Short length & Neck type



SELECTION GUIDE



SERIES	GMG55 GMG56	GMF54 GMF55	GMF58 GMF59
FLUTE	4	4	4
HELIX ANGLE	35°/37° (MULTIPLE HELIX)	35°/37° (MULTIPLE HELIX)	35°/37° (MULTIPLE HELIX)
CUTTING EDGE SHAPE	BALL NOSE	CORNER RADIUS	CORNER RADIUS
SIZE MIN	R1.5	D3.0	D3.0
SIZE MAX	R12.5	D20.0	D25.0
PAGE	442	443	444

- 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

SOLID CARBIDE
V7 PLUS
END MILLS

High performance carbide end mills for Steels, Cast Iron and Stainless Steels



Please visit globalyg1.com/mat for material search

◎ : Excellent ○ : Good

Recommended cutting conditions : P 458

LONG LENGTH	SHORT LENGTH	LONG LENGTH
Y-Coating	Y-Coating	Y-Coating



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		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		Fe Based Cured	280	30	○	○	○	
	33		Ni or Co Based Annealed	250	25	○	○	○	
	34		Ni or Co Based Cured	350	38	○	○	○	
	35	Ni or Co Based 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				