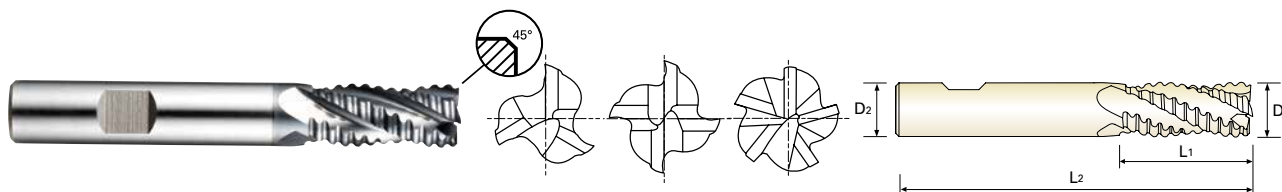


PM60, MULTI FLUTE SHORT LENGTH ROUGHING - COARSE(Center Cut)

- PM60, Mehrschneiden, kurz, Schruppfräser, Zentrumschnitt
- Revêtuë YG-AICrN - PM60, multi-dents, série courte, ravageuse, pas grossiers (Coupe au centre)
- Rivestita PM60, MULTI TAGLIENTE SERIE CORTA PER SGROSSATURA - BOMBATO GROSSO (Tagliente al centro)

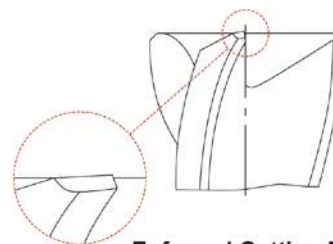


Unit : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	No. of Flute	Chamfer
	D1(js12)	D2(h6)	L1	L2		
GYG03060	6.0	6	13	57	3	0.25
GYG03070	7.0	10	16	66	3	0.25
GYG03080	8.0	10	19	69	3	0.25
GYG03090	9.0	10	19	69	3	0.36
GYG03100	10.0	10	22	72	4	0.36
GYG03120	12.0	12	26	83	4	0.56
GYG03140	14.0	12	26	83	4	0.6
GYG03160	16.0	16	32	92	4	0.6
GYG03180	18.0	16	32	92	4	0.6
GYG03200	20.0	20	38	104	4	0.6
GYG03250	25.0	25	45	121	5	0.6

Tolerances according to DIN 7160 & 7161

Tolerance range in μm			
Nominal-Diameter in mm			
	over 6 to 10	over 10 to 18	over 18 to 30
js12	± 75	± 90	± 105
h6	0 - 9	0 - 11	0 - 13



Enforced Cutting Edge

◎ : Excellent ○ : Good

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloy 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	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
HRC											15	30	25	38	34			55	60	42
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400
Recommend						○	○	○												○



ONLY ONE
COATED PM60 END MILLS

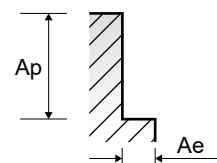
RECOMMENDED CUTTING CONDITIONS
EMPFOLHENE SCHNEIDPARAMETER

GYF94, GYF98, GYG03 SERIES

MULTI FLUTE ROUGHING - SIDE CUTTING

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

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)									
						6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	25.0	
P	1	Non-alloy steel	0.5D	1.5D	Vc	63	72	72	72	74	72	71	72	75	
					fz	0.027	0.041	0.055	0.065	0.074	0.087	0.099	0.111	0.105	
					RPM	3342	2865	2292	1910	1682	1432	1256	1146	955	
					FEED	271	352	504	497	498	498	497	509	501	
	2		0.5D	1.5D	Vc	50	57	57	54	55	57	61	57	57	
					fz	0.027	0.04	0.053	0.069	0.078	0.087	0.092	0.109	0.106	
					RPM	2653	2268	1814	1432	1251	1134	1079	907	726	
					FEED	215	272	385	395	390	395	397	396	385	
	3-4		0.5D	1.5D	Vc	36	42	40	41	40	40	41	40	39	
					fz	0.024	0.038	0.047	0.064	0.076	0.087	0.094	0.107	0.106	
					RPM	1910	1671	1273	1088	909	796	725	637	497	
					FEED	138	191	239	278	276	277	273	272	263	
	5		0.5D	1.5D	Vc	29	32	34	34	33	33	33	33	34	
					fz	0.027	0.04	0.044	0.06	0.071	0.081	0.091	0.101	0.1	
					RPM	1538	1273	1082	902	750	657	584	525	433	
					FEED	125	153	190	216	213	213	212	212	216	
	6		0.5D	1.5D	Vc	50	57	57	54	55	57	61	57	57	
					fz	0.027	0.04	0.053	0.069	0.078	0.087	0.092	0.109	0.106	
					RPM	2653	2268	1814	1432	1251	1134	1079	907	726	
					FEED	215	272	385	395	390	395	397	396	385	
7	0.5D	1.5D	Vc	36	42	40	41	40	40	41	40	39			
			fz	0.024	0.038	0.047	0.064	0.076	0.087	0.094	0.107	0.106			
			RPM	1910	1671	1273	1088	909	796	725	637	497			
			FEED	138	191	239	278	276	277	273	272	263			
8-9	0.5D	1.5D	Vc	29	32	34	34	33	33	33	33	34			
			fz	0.027	0.04	0.044	0.06	0.071	0.081	0.091	0.101	0.1			
			RPM	1538	1273	1082	902	750	657	584	525	433			
			FEED	125	153	190	216	213	213	212	212	216			
10	0.5D	1.5D	Vc	50	57	57	54	55	57	61	57	57			
			fz	0.027	0.04	0.053	0.069	0.078	0.087	0.092	0.109	0.106			
			RPM	2653	2268	1814	1432	1251	1134	1079	907	726			
			FEED	215	272	385	395	390	395	397	396	385			
11.1	High alloyed steel, and tool steel	0.5D	1.5D	Vc	29	32	34	34	33	33	33	33	34		
				fz	0.027	0.04	0.044	0.06	0.071	0.081	0.091	0.101	0.1		
				RPM	1538	1273	1082	902	750	657	584	525	433		
				FEED	125	153	190	216	213	213	212	212	216		
11.2		0.3D	1.5D	Vc	21	22	24	23	23	23	23	23	24		
				fz	0.028	0.04	0.045	0.06	0.071	0.082	0.091	0.101	0.1		
				RPM	1114	875	764	610	523	458	407	366	306		
				FEED	94	105	138	146	149	150	148	148	153		
M		14.1	Stainless steel	0.5D	1.5D	Vc	33	36	36	36	37	36	37	36	37
						fz	0.025	0.039	0.045	0.064	0.074	0.085	0.093	0.106	0.102
						RPM	1751	1432	1146	955	841	716	654	573	471
						FEED	131	168	206	244	249	244	243	243	240
K		15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.5D	1.5D	Vc	50	57	57	54	55	57	61	57	57
						fz	0.027	0.04	0.053	0.069	0.078	0.087	0.092	0.109	0.106
						RPM	2653	2268	1814	1432	1251	1134	1079	907	726
						FEED	215	272	385	395	390	395	397	396	385
H		40	Chilled Cast Iron	0.3D	1.5D	Vc	21	22	24	23	23	23	23	23	24
						fz	0.028	0.04	0.045	0.06	0.071	0.082	0.091	0.101	0.1
						RPM	1114	875	764	610	523	458	407	366	306
						FEED	94	105	138	146	149	150	148	148	153



**MILLING
TOOLS**

SHORT LENGTH	SHORT LENGTH	SHORT LENGTH (Center Cut)
Y-Coating	Y-Coating	Y-Coating



Perfect solution to protect Carbide
chipping problems under vibrations



Please visit
globalyg1.com/mat
for material search

◎ : Excellent ○ : Good

Recommended cutting conditions : P 628

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			
	Cured			280	30				
	33		Ni or Co Based	Annealed	250	25			
	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			

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