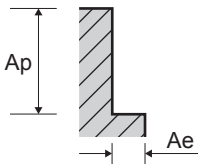
RECOMMENDED CUTTING CONDITIONS

G9F43 / G9J59 SERIES

3 FLUTE - SIDE CUTTING

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

ISO	VDI 3323	Material Description	Ae(mm)	Ap(mm)	Parameter	Diameter (Ø) 1.0	2.0	2.5	3.0	3.5	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	20.0
P	1-4	Non-alloy steel	0.05D	1D	Vc	49	53	58	62	66	70	73	77	78	74	75	81	80	79
					fz	0.005	0.012	0.014	0.017	0.024	0.030	0.037	0.048	0.068	0.077	0.078	0.075	0.075	0.075
					RPM	15450	8500	7385	6600	600	5550	4650	4100	3100	2350	2000	1850	1600	1250
					FEED	210	305	310	340	430	500	520	590	630	540	470	415	360	280
	5		0.05D	1D	Vc	29	35	37	39	41	43	43	47	46	46	47	51	50	47
					fz	0.005	0.012	0.016	0.019	0.024	0.029	0.037	0.049	0.060	0.061	0.057	0.058	0.060	0.062
					RPM	9200	5550	4710	4100	3730	3400	2750	2500	1850	1450	1250	1150	1000	750
					FEED	125	200	225	235	270	300	305	370	335	265	215	200	180	140
	6-7	Low alloy steel	0.05D	1D	Vc	49	53	58	62	66	70	73	77	78	74	75	81	80	79
					fz	0.005	0.012	0.014	0.017	0.024	0.030	0.037	0.048	0.068	0.077	0.078	0.075	0.075	0.075
					RPM	15450	8500	7385	6600	600	5550	4650	4100	3100	2350	2000	1850	1600	1250
					FEED	210	305	310	340	430	500	520	590	630	540	470	415	360	280
	8-9		0.05D	1D	Vc	29	35	37	39	41	43	43	47	46	46	47	51	50	47
					fz	0.005	0.012	0.016	0.019	0.024	0.029	0.037	0.049	0.060	0.061	0.057	0.058	0.060	0.062
					RPM	9200	5550	4710	4100	3730	3400	2750	2500	1850	1450	1250	1150	1000	750
					FEED	125	200	225	235	270	300	305	370	335	265	215	200	180	140
	10	High alloyed steel, and tool steel	0.05D	1D	Vc	49	53	58	62	66	70	73	77	78	74	75	81	80	79
					fz	0.005	0.012	0.014	0.017	0.024	0.030	0.037	0.048	0.068	0.077	0.078	0.075	0.075	0.075
					RPM	15450	8500	7385	6600	600	5550	4650	4100	3100	2350	2000	1850	1600	1250
					FEED	210	305	310	340	430	500	520	590	630	540	470	415	360	280
	11.1 ~ 11.2		0.05D	1D	Vc	29	35	37	39	41	43	43	47	46	46	47	51	50	47
					fz	0.005	0.012	0.016	0.019	0.024	0.029	0.037	0.049	0.060	0.061	0.057	0.058	0.060	0.062
					RPM	9200	5550	4710	4100	3730	3400	2750	2500	1850	1450	1250	1150	1000	750
					FEED	125	200	225	235	270	300	305	370	335	265	215	200	180	140
M	14.1	Stainless steel	0.05D	1D	Vc	24	29	30	32	34	36	36	40	39	39	40	40	38	38
					fz	0.004	0.011	0.015	0.020	0.024	0.029	0.038	0.042	0.057	0.071	0.068	0.074	0.080	0.078
					RPM	7700	4650	3820	3400	3090	2850	2300	2100	1550	1250	1050	900	750	600
					FEED	100	155	170	200	225	250	265	265	265	265	215	200	180	140
K	15-16	Grey cast iron	0.05D	1D	Vc	63	63	62	62	62	62	62	60	60	63	58	62	60	60
					fz	0.006	0.013	0.017	0.020	0.023	0.027	0.033	0.047	0.068	0.085	0.114	0.132	0.158	0.212
					RPM	20200	10100	7895	6550	5640	4950	3950	3200	2400	2000	1550	1400	1200	950
					FEED	365	395	405	395	390	395	395	455	490	510	530	555	570	605
	17-18	Nodular cast iron	0.05D	1D	Vc	63	63	62	62	62	62	62	60	60	63	58	62	60	60
					fz	0.006	0.013	0.017	0.020	0.023	0.027	0.033	0.047	0.068	0.085	0.114	0.132	0.158	0.212
					RPM	20200	10100	7895	6550	5640	4950	3950	3200	2400	2000	1550	1400	1200	950
					FEED	365	395	405	395	390	395	395	455	490	510	530	555	570	605
	19-20	Malleable cast iron	0.05D	1D	Vc	63	63	62	62	62	62	62	60	60	63	58	62	60	60
					fz	0.006	0.013	0.017	0.020	0.023	0.027	0.033	0.047	0.068	0.085	0.114	0.132	0.158	0.212
					RPM	20200	10100	7895	6550	5640	4950	3950	3200	2400	2000	1550	1400	1200	950
					FEED	365	395	405	395	390	395	395	455	490	510	530	555	570	605
H	38.1	Hardened steel	0.05D	1D	Vc	29	35	37	39	41	43	43	47	46	46	47	51	50	47
					fz	0.005	0.012	0.016	0.019	0.024	0.029	0.037	0.049	0.060	0.061	0.057	0.058	0.060	0.062
					RPM	9200	5550	4710	4100	3730	3400	2750	2500	1850	1450	1250	1150	1000	750
					FEED	125	200	225	235	270	300	305	370	335	265	215	200	180	140
	40	Chilled Cast Iron	0.05D	1D	Vc	29	35	37	39	41	43	43	47	46	46	47	51	50	47
					fz	0.005	0.012	0.016	0.019	0.024	0.029	0.037	0.049	0.060	0.061	0.057	0.058	0.060	0.062
					RPM	9200	5550	4710	4100	3730	3400	2750	2500	1850	1450	1250	1150	1000	750
					FEED	125	200	225	235	270	300	305	370	335	265	215	200	180	140



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RECOMMENDED CUTTING CONDITIONS

G9F43 / G9J59 SERIES — 3 FLUTE - SLOTTING

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

ISO	VDI 3323	Material Description	Ae(mm)	Ap(mm)	Parameter	Diameter (Ø)													
						1	2	2.5	3	3.5	4	5	6	8	10	12	14	16	20
P	1-4	Non-alloy steel	1D	0.5D (Up to Ø3 : 0.2D)	Vc	49	53	58	62	66	70	73	77	78	74	75	81	80	79
					fz	0.004	0.010	0.012	0.014	0.019	0.025	0.031	0.040	0.056	0.064	0.065	0.062	0.063	0.062
					RPM	15450	8500	7385	6600	6000	5550	4650	4100	3100	2350	2000	1850	1600	1250
					FEED	175	255	265	285	340	415	435	490	525	450	390	345	300	235
	5		1D	0.5D (Up to Ø3 : 0.2D)	Vc	29	35	37	39	41	43	43	47	46	46	47	51	50	47
					fz	0.004	0.010	0.013	0.016	0.020	0.024	0.031	0.041	0.050	0.050	0.048	0.048	0.050	0.050
					RPM	9200	5550	4710	4100	3730	3400	2750	2500	1850	1450	1250	1150	1000	750
					FEED	105	165	185	195	225	250	255	310	280	220	180	165	150	115
	6-7	Low alloy steel	1D	0.5D (Up to Ø3 : 0.2D)	Vc	49	53	58	62	66	70	73	77	78	74	75	81	80	79
					fz	0.004	0.010	0.012	0.014	0.019	0.025	0.031	0.040	0.056	0.064	0.065	0.062	0.063	0.062
					RPM	15450	8500	7385	6600	6000	5550	4650	4100	3100	2350	2000	1850	1600	1250
					FEED	175	255	265	285	340	415	435	490	525	450	390	345	300	235
	8-9		1D	0.5D (Up to Ø3 : 0.2D)	Vc	29	35	37	39	41	43	43	47	46	46	47	51	50	47
					fz	0.004	0.010	0.013	0.016	0.020	0.024	0.031	0.041	0.050	0.050	0.048	0.048	0.050	0.050
					RPM	9200	5550	4710	4100	3730	3400	2750	2500	1850	1450	1250	1150	1000	750
					FEED	105	165	185	195	225	250	255	310	280	220	180	165	150	115
	10	High alloyed steel, and tool steel	1D	0.5D (Up to Ø3 : 0.2D)	Vc	49	53	58	62	66	70	73	77	78	74	75	81	80	79
					fz	0.004	0.010	0.012	0.014	0.019	0.025	0.031	0.040	0.056	0.064	0.065	0.062	0.063	0.062
					RPM	15450	8500	7385	6600	6000	5550	4650	4100	3100	2350	2000	1850	1600	1250
					FEED	175	255	265	285	340	415	435	490	525	450	390	345	300	235
	11.1 - 11.2		1D	0.5D (Up to Ø3 : 0.2D)	Vc	29	35	37	39	41	43	43	47	46	46	47	51	50	47
					fz	0.004	0.010	0.013	0.016	0.020	0.024	0.031	0.041	0.050	0.050	0.048	0.048	0.050	0.050
					RPM	9200	5550	4710	4100	3730	3400	2750	2500	1850	1450	1250	1150	1000	750
					FEED	105	165	185	195	225	250	255	310	280	220	180	165	150	115
M	14.1	Stainless steel	1D	0.5D (Up to Ø3 : 0.2D)	Vc	24	29	30	32	34	36	36	40	39	39	40	40	38	38
					fz	0.004	0.009	0.012	0.016	0.020	0.025	0.032	0.039	0.053	0.058	0.057	0.061	0.067	0.063
					RPM	7700	4650	3820	3400	3090	2850	2300	2100	1550	1250	1050	900	750	600
					FEED	85	130	140	165	185	210	220	220	220	220	180	165	150	115
K	15-16	Grey cast iron	1D	1D	Vc	63	63	62	62	62	62	62	60	60	63	58	62	60	60
					fz	0.005	0.012	0.015	0.018	0.021	0.024	0.030	0.043	0.061	0.078	0.103	0.120	0.144	0.192
					RPM	20200	10100	7895	6550	5640	4950	3950	3200	2400	2000	1550	1400	1200	950
					FEED	330	360	355	360	355	360	360	415	445	465	480	505	520	550
	17-18	Nodular cast iron	1D	1D	Vc	63	63	62	62	62	62	62	60	60	63	58	62	60	60
					fz	0.005	0.012	0.015	0.018	0.021	0.024	0.030	0.043	0.061	0.078	0.103	0.120	0.144	0.192
					RPM	20200	10100	7895	6550	5640	4950	3950	3200	2400	2000	1550	1400	1200	950
					FEED	330	360	355	360	355	360	360	415	445	465	480	505	520	550
	19-20	Malleable cast iron	1D	1D	Vc	63	63	62	62	62	62	62	60	60	63	58	62	60	60
					fz	0.005	0.012	0.015	0.018	0.021	0.024	0.030	0.043	0.061	0.078	0.103	0.120	0.144	0.192
					RPM	20200	10100	7895	6550	5640	4950	3950	3200	2400	2000	1550	1400	1200	950
					FEED	330	360	355	360	355	360	360	415	445	465	480	505	520	550
H	38.1	Hardened steel	1D	0.5D (Up to Ø3 : 0.2D)	Vc	29	35	37	39	41	43	43	47	46	46	47	51	50	47
					fz	0.004	0.010	0.013	0.016	0.020	0.024	0.031	0.041	0.050	0.050	0.048	0.048	0.050	0.050
					RPM	9200	5550	4710	4100	3730	3400	2750	2500	1850	1450	1250	1150	1000	750
					FEED	105	165	185	195	225	250	255	310	280	220	180	165	150	115
	40	Chilled Cast Iron	1D	0.5D (Up to Ø3 : 0.2D)	Vc	29	35	37	39	41	43	43	47	46	46	47	51	50	47
					fz	0.004	0.010	0.013	0.016	0.020	0.024	0.031	0.041	0.050	0.050	0.048	0.048	0.050	0.050
					RPM	9200	5550	4710	4100	3730	3400	2750	2500	1850	1450	1250	1150	1000	750
					FEED	105	165	185	195	225	250	255	310	280	220	180	165	150	115