

Multi-Carb

			DCON	6		8		10		12		16	
			Ae max	0,20	0,45	0,25	0,55	0,30	0,60	0,35	0,65	0,40	0,70
			Diameter	3,0	6,0	4,0	8,0	5,0	10,0	6,0	12,0	8,0	16,0
													
Metric	Hardness (HRC)	Vc (m/min)	Cut Zone	RE	RE2	RE	RE2	RE	RE2	RE	RE2	RE	RE2
P Alloy Steels	≤28 (155-232)	194	RPM	20583	10292	15438	7719	12350	6175	10292	5146	7719	3859
			Fz	0,013	0,030	0,017	0,040	0,021	0,050	0,025	0,060	0,033	0,080
			Feed (mm/min)	1029	1235	1029	1235	1544	1853	1544	1853	1544	1853
	≤40 (88-132)	110	RPM	11671	5836	8753	4377	7003	3501	5836	2918	4377	2188
			Fz	0,008	0,020	0,013	0,030	0,017	0,040	0,021	0,050	0,029	0,070
			Feed (mm/min)	389	467	438	525	700	840	729	875	766	919
P Tool Steels	≤35 (69-118)	93	RPM	9867	4934	7400	3700	5920	2960	4934	2467	3700	1850
			Fz	0,013	0,030	0,017	0,040	0,021	0,050	0,025	0,060	0,033	0,080
			Feed (mm/min)	493	592	493	592	740	888	740	888	740	888
	≤45 (51-77)	64	RPM	6790	3395	5093	2546	4074	2037	3395	1698	2546	1273
			Fz	0,008	0,020	0,013	0,030	0,017	0,040	0,021	0,050	0,025	0,060
			Feed (mm/min)	226	272	255	306	407	489	424	509	382	458
M Stainless Steels	≤28 (94-141)	117	RPM	12414	6207	9310	4655	7448	3724	6207	3103	4655	2328
			Fz	0,013	0,030	0,017	0,040	0,021	0,050	0,025	0,060	0,029	0,070
			Feed (mm/min)	621	745	621	745	931	1117	931	1117	815	978
	≤35 (87-130)	108	RPM	11459	5729	8594	4297	6875	3438	5729	2865	4297	2149
			Fz	0,008	0,020	0,013	0,030	0,017	0,040	0,021	0,050	0,025	0,060
			Feed (mm/min)	382	458	430	516	688	825	716	859	645	773
S High Temperature Alloys	≤32 (26-38)	32	RPM	3395	1698	2546	1273	2037	1019	1698	849	1273	637
			Fz	0,008	0,020	0,013	0,030	0,017	0,040	0,021	0,050	0,025	0,060
			Feed (mm/min)	113	136	127	153	204	244	212	255	191	229
	≤43 (21-31)	26	RPM	2759	1379	2069	1034	1655	828	1379	690	1034	517
			Fz	0,004	0,010	0,008	0,020	0,013	0,030	0,017	0,040	0,021	0,050
			Feed (mm/min)	46	55	69	83	124	149	138	166	129	155
S Titanium Alloys	≤35 (85-133)	109	RPM	11565	5782	8674	4337	6939	3469	5782	2891	4337	2168
			Fz	0,013	0,030	0,017	0,040	0,021	0,050	0,025	0,060	0,029	0,070
			Feed (mm/min)	578	694	578	694	867	1041	867	1041	759	911
	≤45 (44-61)	53	RPM	5623	2812	4217	2109	3374	1687	2812	1406	2109	1054
			Fz	0,008	0,020	0,013	0,030	0,017	0,040	0,021	0,050	0,025	0,060
			Feed (mm/min)	187	225	211	253	337	405	351	422	316	380

$rpm = (Vc \times 1000) / (DC \times 3.14)$

$Feed = Fz \times \text{No. of teeth} \times rpm$

Adjust speed and feed according to material hardness

Consider rpm according to cutting area of tool being utilized

Avoid using tip of the tool where possible due to reduced chip space

Be aware of max cut Ae, especially on the lower portion of the tool

Medical applications:

- Titanium can be cut dry while keeping cut size to a minimum and providing good chip evacuation (air blast)
- For cobalt chrome applications, a surface speed of 45M/min is a guide (It can also be cut dry as per cobalt)

Refer to the SGS Tool Wizard® for complete technical information (www.kyocera-sgstool.com)