

APKT 1705 PETR LT 30

Material Group	Gr. N°	VDI Group	Material Examples*	Hardness	D.O.C. [mm]		Feed [mm/tooth]		V _c [m/min]		Optimal cutting conditions				
					min	max	min	max	min	max	D.O.C.	Feed	V _c		
Steel	Non-alloyed	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	15.0	0.18	0.40	190	330	4.0	0.28	250		
		2		190 HB		15.0		0.40		300			220		
		3		250 HB		15.0		0.40		250			200		
	Low alloyed	2	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	15.0	0.15	0.31	150	240	4.0	0.24	200		
		4,6		230 HB		15.0		0.31		150			210	180	
		5,7		280 HB		15.0		0.27		130			190	150	
		8		350 HB		15.0		0.27		130			170	140	
	High alloyed	3	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	10.7	0.12	0.27	90	150	3.0	0.22	130		
		10		280 HB		10.7		0.27		90			130	120	
		11		320 HB		10.7		0.22		60			110	100	
		11		350 HB		10.7		0.22		60			90	80	
Stainless Steel	Austenitic	4	304, 316, X5CrNi18-9	180 HB	0.5	15.0	0.15	0.31	190	250	4.0	0.24	220		
		14		240 HB		15.0		0.12		0.27			160	210	190
	Duplex	5	X2CrNiN23-4, S31500	290 HB	0.5	10.7	0.12	0.22	70	130	3.0	0.19	100		
		14		310 HB		10.7		0.22		120			90		
	Ferritic & Martensitic	6	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	15.0	0.15	0.31	150	210	4.0	0.24	190		
		13		42 HRC		10.7		0.25		90			150	3.0	0.19
Cast Iron	Grey	7	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	15.0	0.18	0.40	150	240	4.0	0.28	200		
		15		200 HB		15.0		0.40		220			180		
		16		250 HB		15.0		0.40		190			160		
	Malleable & Nodular	8	GGG40, GGG70, 50005	150 HB	0.5	15.0	0.15	0.35	100	200	4.0	0.24	180		
		17,19		200 HB		15.0		0.35		180			150		
		18,20		250 HB		15.0		0.35		150			130		
High Temp. Alloys	Fe, Ni & Co based	9	Incoloy 800, Inconel 700, Stellite 21	240 HB	0.5	10.7	0.12	0.22	25	45	3.0	0.19	32		
		33		250 HB		10.7		0.22		45			30		
		34		350 HB		10.7		0.22		45			30		
	Ti based	10	TiAl6V4, T40	-	0.5	10.7	0.12	0.25	40	65	3.0	0.22	55		
		37		-		10.7		0.22		30			55	0.19	40
Hardened Mat.	Steel	11	X100CrMo13, 440C, G-X260NiCr42	45 HRC	0.5	5.4	0.10	0.22	40	80	2.0	0.17	60		
		38		50 HRC		3.2		0.20		70			1.5	0.16	55
		38		55 HRC		1.6		0.17		60			1.0	0.14	50
	Chilled Cast Iron	40	Ni-Hard 2	400 HB	0.5	4.3	0.10	0.22	40	80	1.5	0.17	50		
	White Cast Iron	41	G-X300CrMo15	55 HRC	0.5	1.6	0.10	0.17	30	60	1.0	0.14	40		
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	15.0	0.18	0.40	200	400	4.0	0.30	280	