

Material Group	Group No	Material Examples*	Brinell hardness	d.o.c [mm]		feed [mm/rev]		A max [mm ²]	V _c [m/min]		Optimal cutting conditions					
				min	max	min	max		min	max	d.o.c	feed				
Low Carbon Steel	1	Ck15, Ck45 1020, 1045	150	0.50	5.0	0.21	0.45	1.8	180	350	3.0	0.35				
			180		5.0		0.45			1.8			300			
			210		4.0		0.40			1.5			250			
Alloy Steel	2	42 CrMo 4 St 50-2 Ck60 1060 4140	180	0.50	5.0	0.21	0.40	120	120	280	3.0	0.30				
			230		4.0		0.40			1.2			250			
			280		4.0	0.35	1.2			210						
			320		3.5	0.35	1.0			180						
			220	0.50	4.0	0.18	0.40	1.2	70	190						
280	4.0	0.40	1.2		150											
320	3.0	0.35	0.8		130											
High Alloy Steel	3	X40 CrMoV 5 1 H 13 40 NiCrMo 6 4340 S 2-10-1-8 HSS M42	350	0.50	3.0	0.35	0.8	50	90	100	2.0	0.25				
			400		2.5					0.30			0.6	90		
			480	0.50	2.0	0.11	0.25	0.4	40	80	1.7	0.20				
			550		1.7		0.20			0.3			30	70	1.0	0.18
			210 to 250		0.50		5.0			0.20			0.40	1.0	170	270
230 to 270	4.0	0.18	0.35	0.8		160	210	3.0	0.32							
-----	4.0	0.18	0.35	0.6		70	150	2.5	0.28							
Ferritic Stainless Steel	7	X8 Cr 7 430	Annealed	0.50	4.0	0.22	0.35	0.9	170	250	3.0	0.32				
Martensitic Stainless Steel	8	X15 Cr 13 410	Annealed	0.50	4.0	0.22	0.35	0.9	170	250	3.0	0.32				
			Treated						120	190						
Grey Cast Iron	9	GG 20	140 to 230	0.50	5.0	0.15	0.60	2.0	170	250	3.0	0.35				
		GG 25						1.8		230						
		GG 30						1.8		210						
Nodular Cast Iron	10	GGG 40	210	0.50	5.0	0.15	0.50	1.5	120	230	3.0	0.30				
		GGG 50	260					1.3		190						
		GGG 70	310					1.2		150						
		G-X260NiCr42	450	0.50	1.7	0.11	0.25	0.4	30	50	1.0	0.18				
Nickel Based Alloys	11	Inconel 625	-----	0.50	3.0	0.20	0.35	0.7	25	35	2.0	0.28				
		Inconel 718						0.7		28			40			
		Hastelloy C						0.8		40			65			
Titanium Based Alloys	12	TiAl 6 V4	-----	0.50	3.0	0.18	0.35	35	60	2.0	0.30					
		T40					0.30		0.6			28	40	2.0	0.28	

Insert designation Super Finishing Finishing Semi Finishing Roughing Interrupted Cut

VNMG 160408 NN



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