

Material Group	Group No.	Material Examples*	Brinell hardness HB	d.o.c [mm]		feed [mm/rev]		A max [mm <sup>2</sup> ]	V <sub>c</sub> [m/min]		Optimal cutting conditions		
				min	max	min	max		min	max	d.o.c	feed	
Low Carbon Steel	1	Ck15 9SMnPb28	150	0.50	3.50	0.21	0.45	1.44	180	400	1.5 to 3	0.35	
			180		3.50		0.45	1.44		350			
			210		3.00		0.40	1.20		200			
Alloy Steel	2	42 CrMo 4 100 Cr 6 32 NiCrMo14.5	180	0.50	3.50	0.21	0.40	0.96	120	300	1.5 to 3	0.30	
			230		3.00		0.40	0.96		250			
			280		3.00	0.18	0.35	0.96		210			
			320		3.50	0.18	0.35	0.80		180			
High Alloy Steel	3	X38 CrMoV 5 X210 CrW 12 X90 CrMoV 8	220	0.50	3.00	0.18	0.40	0.96	70	190	1.5 to 3	0.28	
			280		3.00		0.40	0.96		150			
			320		2.50		0.35	0.64		130			
			350		2.50		0.35	0.64		100			
Austenitic Stainless Steel	4	303 / 304 304 L	210 to 250	0.50	3.50	0.20	0.40	1.00	170	270	1.5 to 3	0.35	
			230 to 270		3.00		0.18	0.35		0.80			210
			316 Ti 630 (F16PH)		3.00		0.18	0.35		0.60			80
Ferritic Stainless Steel	7	430 / 439 / 444	Annealed	0.50	3.00	0.22	0.35	0.90	170	250	1.5 to 3	0.32	
Martensitic Stainless Steel	8	410 / 420	Annealed Treated	0.50	3.00	0.22	0.35	0.90	170 120	250 210	1.5 to 3	0.32	
Grey Cast Iron	9	EN - GJL 200 EN - GJL 250 EN - GJL 300	140 to 230	0.50	3.50	0.15	0.60	1.50	170	280	1.5 to 3	0.35	
			1.44					250					
			1.44					230					
Nodular Cast Iron	10	EN - GJS 400 EN - GJS 600 EN - GJS 800	210	0.50	3.50	0.15	0.50	1.20	120	230	1.5 to 3	0.30	
			260					1.04		190			
			310					0.96		150			
Nickel Based Alloys	11	Inconel 625 Inconel 718 Hastelloy C	-----	0.50	2.50	0.20	0.35	0.70	25	35	1.5 to 3	0.28	
			-----					0.70		40			
			-----					0.80		65			
Titanium Based Alloys	12	TiAl 6 V4 T40	-----	0.50	2.50	0.18	0.35	35	60	1.5 to 3	0.30		
			-----				0.30		0.60			28	40

\*For all material types and standards, see pages 155 to 158.

