

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	1.20	180	400	1.5 to 3	0.35
			180		3.50		0.45	1.20		350		
			210		3.50		0.40	1.00		200		
Alloy Steel	2	42 CrMo 4 100 Cr 6 32 NiCrMo 14.5	180	0.50	3.50	0.21	0.40	1.00	120	300	1.5 to 3	0.30
			230		3.00		0.40	1.00		250		
			280		3.00	0.18	0.35	0.90		210		
			320		3.00		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	1.00	70	190	1.5 to 3	0.28
			280		3.00		0.40	1.00		150		
			320		2.50		0.35	0.65		130		
			350		2.50		0.35	0.65		100		
Austenitic Stainless Steel	4	303 / 304 304 L	Annealed	0.50	3.50	0.20	0.40	1.00	170	270	1.5 to 3	0.35
	5	316 / 316 L	Annealed		3.00	0.18	0.35	0.80	170	210	1.5 to 3	0.32
	6	316 Ti 630 (F16PH)	Annealed		3.00	0.18	0.35	0.60	80	130	1.5 to 3	0.28
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	140 to 230	0.50	3.50	0.15	0.60	1.50	170	280	1.5 to 3	0.35
		EN - GJL 250						1.40		250		
		EN - GJL 300						1.30		230		
Nodular Cast Iron	10	EN - GJS 400	210	0.50	3.50	0.15	0.50	1.20	120	230	1.5 to 3	0.30
		EN - GJS 600						1.10		190		
		EN - GJS 800						1.00		150		
Nickel Based Alloys	11	Inconel 625	-----	0.50	2.50	0.20	0.35	0.70	25	35	1.5 to 3	0.28
		Inconel 718						0.70		40		
		Hastelloy C						0.80		65		
Titanium Based Alloys	12	TiAl 6 V4	-----	0.50	2.50	0.18	0.35	35	60	1.5 to 3	0.30	
		T40					0.30		0.60			28

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

