

MATERIAL TYPE AND DESIGNATION	UNDER 1"		(1" - 3")		(3" - 6")		(OVER 6")	
	BLADE SPEED (SFPM)	CUTTING RATE (SQ.IN/MIN)	BLADE SPEED (SFPM)	CUTTING RATE (SQ.IN/MIN)	BLADE SPEED (SFPM)	CUTTING RATE (SQ.IN/MIN)	BLADE SPEED (SFPM)	CUTTING RATE (SQ.IN/MIN)
AUSTENITIC STAINLESS STEEL								
201, 202, 301-304, 321, 347, 348	110-130	1-2	90-110	2-4	90-120	2-4	90-110	1-3
308, 309, 310, 314, 316,317,330	55-115	1.5-2.5	45-105	2-3	35-95	1-2	35-60	1
CARBON STEELS								
AISI 1005-1013	310-370	12-15	280-320	14-17	200-230	10-14	200-230	7-10
AISI 1015-1026	275-325	6-8	265-300	7-10	210-240	8-11	210-240	8-11
AISI 1029-1055, A36	210-260	6.5-8.5	185-240	9-11	140-160	8-10	140-160	5-7
AISI 1060-1095	190-240	5-7	160-210	7-9	120-150	8-10	120-150	5-6
CAST IRON								
GRAY IRON								
CLASS 60	115-175	5-7	95-155	7-9	90-150	6-8	80-110	5-7
DUCTILE AND MALLEABLE IRON								
	165-225	8-11	145-205	9-11	140-200	7-9	140-180	4-6
COPPER BASE ALLOY								
FREE CUTTING								
BRASS								
YELLOW/RED	170-320	6-8	140-200	8-10	135-195	7-9	100-130	4-6
BRASS								
ALUMINUM BRONZE	265-325	9-11	240-300	10-14	215-275	8-12	175-200	6-10
99% COPPER	175-235	8-10	145-205	9-11	130-190	7-9	125-140	3-5
BERYLLIUM COPPER	170-230	6-8	140-200	8-10	135-195	7-9	100-130	4-6
BERYLLIUM COPPER (HARDENED)	220-280	4-6	185-245	5-7	160-220	4-6	120-135	3-5
	90-150	1-2	65-125	1-3	35-95	1-2	30-50	.5-1
CHROME MOLY STEELS								
4130-4140	230-260	4-6	175-210	5-8	130-150	8-10	130-150	3-4
4142-4161	220-250	4-6	170-210	5-8	140-170	7-9	140-170	3-4
CHROME STEELS								
5045-5046	180-210	6-8	160-190	7-10	90-130	10-12	90-130	8-10
5120-5135	250-280	5-7	220-250	7-9	140-170	8-10	140-170	7-9
5140-5160	180-210	4-6	160-190	5-7	100-120	6-8	100-120	5-7
501,005,110,052,100	190-220	4-5	160-190	5-6.5	100-130	6-7.5	100-130	3-4
CHROME VANADIUM STEELS								
6117-6210	250-280	5-7	220-250	6-8	140-160	8-10	140-160	6-8
6145-6152	180-210	4-5	160-190	5-7	120-140	6-8	120-140	5-7
FERRETIC STAINLESS STEEL								
405, 409, 430-446	75-135	2-4	65-125	3-5	55-155	2-4	50-75	1-2
FREE MACHINING CARBON STEELS								
AISI 1212-1215	325-375	13-17	320-370	12-14	280-320	11-15	280-320	10-12
AISI 1117-1144, 1211	265-320	8-11	250-300	11-13	200-230	12-14	200-230	7-10
AISI 1137-1151	255-305	8-10	235-285	8-12	150-190	8-11	150-190	5-8
FREE MACHINING STAINLESS STEELS								
203 EZ, 303	100-160	3-5	90-150	4-6	110-170	4-6	100-130	3-4
416, 420F, 430F, 440F	150-210	4-6	135-195	5-7	110-170	4-6	100-130	3-4
HIGH SPEED STEELS								
M1, M2, M3, M7, M10, T1, T2, T4	90-150	3-4	80-140	3-4	60-100	2-3	60-100	1-3
M30-M47, T5-T15, D7	75-135	2-3	65-125	2-3	50-180	2-3	50-80	1-2

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HOT WORK STEELS SHOCK RESISTANT								
H10 – H19	185-245	4-5	160-220	3-5	130-190	3-5	130-190	2-3
H21 – H42	150-190	2-4	140-170	3-4.5	140-170	4-6	100-130	3-4
S1 – S5	150-200	3-4	125-185	3-5	90-120	2-4	90-120	2-3
L2, L6	190-220	4-5	170-200	5-6	120-180	6-8	120-180	4-6.5
MANGANESE STEELS								
AISI 1320 – 1345	225-255	7-9	225-255	8-10	150-180	9-10	150-180	8-10
AISI 1513 – 1536	270-310	10-12	120-150	13-14	150-180	15-17	150-180	14-15
AISI 1541 - 1572	200-250	5-6	190-230	5-8	130-180	4-6	130-180	3-4
MARTENSITIC STAINLESS STEEL								
403-410, 420, 420F, 422, 501, 502	115-175	2-4	100-160	3-5	80-140	3-4	70-90	2-3
440A, 440B, 440C, 414	80-150	2-4	75-135	3-5	60-120	2-4	50-80	1-2
MOLYBDENUM STEELS								
4017 – 4027	250-280	5-7	220-250	7-9	170-200	8-10	170-200	6-9
4030 – 4042	190-240	5-7	170-210	7-9	120-155	8-10	120-155	6-9
4047 – 4068	200-250	4-6	170-210	5-8	120-150	6-9	120-150	6-8
NICKEL BASE ALLOYS								
MONEL	90-110	2-3	70-100	2-3.5	70-100	3-4	55-75	2-3
R MONEL	130-150	2-3	70-100	2-4	70-100	3-4	50-60	1-2
KR MONEL, K MONEL	70-90	1-2	60-80	1-2	60-80	1-2	50-60	1
INCONEL	90-110	2-3	75-105	2-3	75-100	2-3.5	30-50	2-2.5
INCONEL X	75-100	1	60-90	1	60-90	1-1.5	60-70	1
HASTALLOY A	110-140	2-3	90-120	2-3	100-120	2.5-4	60-90	2-3
HASTALLOY B	75-115	1-2	75-105	1-2	75-115	2-3	55-85	1-2
HASTALLOY C	90-110	1-1.5	75-100	1-1.5	75-100	1-2	60-70	1
NICKEL CHROME MOLY STEELS								
4317 – 4320	250-280	5-6	220-250	6-8	150-180	7-9	150-180	5-7.5
4337 – 4340	180-210	4-6	160-190	5-7	110-130	6-8	110-130	5-7
8615 – 8627	200-235	5-6	180-210	6-7	150-170	7-9	100-130	6-7
8630 – 8645	160-190	5-6	140-170	6-7	120-140	7-9	100-120	6-7
8647 – 8660	160-190	4-5	150-180	5-6	140-160	6-7	90-120	5-6
8715 – 8750	150-190	5-6	130-160	6-7	130-160	8-9	90-130	6-7
9310 – 9317	200-220	3-4	170-190	4-5	170-190	4-5.5	100-140	3-4
9437 – 9445	260-280	5-6	220-250	6-7	220-250	7-8	180-200	5-6
9747 – 9763	250-280	4-5	220-250	5-6	220-250	6-7	170-190	5-6
9840 – 9850	250-280	4-5	220-250	5-6	220-250	6-7	170-190	5-6
NITRALLOY P2 – P6								
	210-260	6-7	180-240	4-6	130-190	4-6	130-190	3-5
OIL & AIR HARDENING DIE STEELS								
A2-A10, A8-A10	180-240	4-5	165-225	3-5	130-150	3-5	130-150	2-3
01, 02, 06, 07	80-130	2	165-225	3-5	130-150	3-5	130-150	2-3
D2, D3, A7	80-130	1-2	65-115	2-3	60-90	2-3	60-90	2
PRCP. HRD. STAINLESS STEEL								
15-5PH,17-4PH,17-7PH	65-125	2-4	50-110	3-4	35-95	2-4	35-60	1-2
SILICON STEELS								
9255 – 9262	200-240	3-5	180-210	4-6	170-200	4-5	150-180	3-4
TITANIUM BASED ALLOY								
99% TITANIUM ALPHA, BETA	100-120	1-2	80-100	1-2	80-100	1-2	50-80	.5-1.5
ALPHA BETA,	55-75	1	50-60	1	45-55	0.5	30-40	0.5