

Work Material Type	Steel Specification USA (AISI)	Feet per Minute	Meters per Minute	Sq Inch per Minute	Sq cm per Minute
<b>Free Machining Carbon Steels</b>	1211-1215	230 - 310	69 - 93	12 - 18	78 - 117
	1110, 1117-1118	220 - 300	66 - 90	9 - 15	58 - 97
	1137-1151	165 - 245	50 - 74	5 - 11	32 - 71
<b>Low Carbon Steels</b>	1005-1012	220 - 300	66 - 90	9 - 14	58 - 97
	1015-1026	210 - 290	63 - 87	8 - 13	52 - 91
<b>Medium Carbon Steels</b>	1030-1055, A36	140 - 220	42 - 66	5 - 9	32 - 58
<b>High Carbon Steels</b>	1060-1095	120 - 200	36 - 60	5 - 8	32 - 52
<b>Manganese Steels</b>	1330-1345	140 - 220	42 - 66	4 - 8	26 - 52
	1513-1527	220 - 300	66 - 90	8 - 12	52 - 91
	1536-1552	165 - 245	50 - 74	6 - 10	39 - 65
	1561-1572	120 - 200	36 - 60	5 - 8	32 - 52
<b>Molybdenum Steels</b>	4012-4024	150 - 230	45 - 69	4 - 9	26 - 58
	4030-4042	140 - 220	42 - 66	4 - 8	26 - 52
	4047-4068	130 - 210	39 - 63	4 - 8	26 - 52
<b>Chrome Moly Steels</b>	4130-4140	130 - 210	39 - 63	4 - 8	26 - 58
	4142-4161	120 - 200	36 - 60	3 - 7	20 - 45
<b>Nickel Chrome Moly Steels</b>	4320	130 - 210	39 - 63	4 - 8	26 - 52
	4340	120 - 200	36 - 60	3 - 7	20 - 45
<b>Nickel Moly Steels</b>	4615-4626	140 - 220	42 - 66	4 - 8	26 - 52
	4815-4820	130 - 210	39 - 63	4 - 8	26 - 52
<b>Chrome Steels</b>	5040-5060	130 - 210	39 - 63	4 - 8	26 - 52
	5115-5120	150 - 230	45 - 69	5 - 9	32 - 56
	5130-5160	130 - 210	39 - 63	4 - 8	26 - 52
	50100, 51100, 52100	90 - 160	27 - 48	3 - 5	20 - 32
<b>Chrome Vanadium Steels</b>	6118	150 - 230	45 - 69	5 - 9	32 - 58
	6150	130 - 210	39 - 63	4 - 8	26 - 52
<b>Nickel Chrome Moly Steels</b>	8115, 8615-8622, 8720, 8820	130 - 210	39 - 63	5 - 9	32 - 58
	8145, 8625-8637	130 - 210	39 - 63	5 - 9	32 - 58
	8640-8660, 8740, 9430-9445	130 - 210	39 - 63	4 - 8	26 - 52
	9310	110 - 190	33 - 57	2 - 4	13 - 26

# CUTTING TABLE

Work Material Type	Steel Specification USA (AISI)	Feet per Minute	Meters per Minute	Sq Inch per Minute	Sq cm per Minute
<b>Silicon Steels</b>	9255-9262	130 - 210	39 - 63	4 - 8	26 - 52
<b>Nitriding Steels</b>		140 - 220	42 - 66	3 - 6	20 - 39
<b>Tool Steels (Air &amp; Oil Hardening)</b>	A2-A6, A8-A10	130 - 210	39 - 63	2 - 4	13 - 26
	O1, O2, O6, O7	130 - 210	39 - 63	2 - 6	13 - 29
	D2, D3, D7 (CUT DRY)	50 - 100	15 - 30	2 - 3	13 - 20
<b>Carbon Tool Steel</b>	W1-W5	130 - 210	39 - 63	2 - 6	13 - 39
<b>Special Purpose Shock Resistant Hot Work Steel</b>	L2, L6	120 - 200	36 - 60	2 - 6	13 - 39
	S1 - S7	90 - 160	27 - 48	2 - 4	13 - 26
	H10 - H19	130 - 210	39 - 63	2 - 5	13 - 32
	H21 - H42	90 - 160	27 - 48	2 - 4	13 - 26
<b>High Speed Steels</b>	M1, M2, M7, M10	75 - 130	22 - 39	2 - 4	13 - 26
	M3, M4, M30 - M47	50 - 100	15 - 30	1 - 3	7 - 20
	T1, T2, T6	75 - 130	22 - 39	2 - 4	13 - 26
	T4, T5	60 - 120	18 - 36	1 - 3	7 - 20
	T15	50 - 90	15 - 27	1 - 3	7 - 20
<b>Free Machining Stainless Steels</b>	303	75 - 140	22 - 42	2 - 5	13 - 32
	416, 420F, 430F	100 - 180	30 - 54	3 - 6	20 - 39
<b>Austenitic Stainless Steels</b>	201, 202, 301-304, 305, 308	70 - 120	21 - 36	2 - 4	13 - 26
	321, 347, 348	70 - 120	21 - 36	2 - 4	13 - 26
	A286, 309, 310, 314	50 - 80	15 - 24	1 - 2	7 - 13
	316, 317, 330	50 - 80	15 - 24	1 - 2	7 - 13
<b>Ferritic Stainless Steels</b>	405, 409, 430, 434	60 - 100	18 - 30	1 - 3	7 - 20
	436, 422, 446	60 - 100	18 - 30	1 - 3	7 - 20
<b>Martensitic Stainless Steels</b>	403, 410, 420, 422, 501, 502	70 - 130	21 - 39	2 - 4	13 - 26
	440A-C, 414, 431	60 - 100	18 - 30	1 - 3	7 - 20
<b>Precision Hardening Stainless Steels</b>	15-5PH, 17-4PH, 17-7PH	50 - 90	15 - 27	1 - 3	7 - 20
<b>Cast Iron</b>	CLASS 30	120 - 200	36 - 60	8 - 14	52 - 91
	CLASS 40	80 - 160	24 - 48	5 - 11	32 - 71
	DUCTILE 60-40-18 150HB	160 - 240	48 - 72	4 - 10	26 - 65
	DUCTILE 80-55-06 225HB	80 - 160	24 - 48	2 - 7	13 - 45

Work Material Type	Steel Specification USA (AISI)	Feet per Minute	Meters per Minute	Sq Inch per Minute	Sq cm per Minute
<b>Nickel Alloys</b>	INCONEL 625, 718	30 - 80	9 - 24	0.5 - 1	3 - 7
	X-750, WASPALLOY	30 - 80	9 - 24	1 - 2	7 - 13
	INCONEL 600, 601	50 - 90	15 - 27	1 - 3	7 - 20
	MONEL 400, 401	50 - 90	15 - 27	1 - 3	7 - 20
	MONEL K500	30 - 80	9 - 24	1 - 2	7 - 13
	HASTALLOY, RENE41,	30 - 70	9 - 21	0.5 - 1	3 - 7
	RENE 63, 77, 95, 100	30 - 70	9 - 21	0.5 - 1	3 - 7
<b>Titanium Alloys</b>	99% TITANIUM	50 - 90	15 - 27	0.5 - 2	3 - 13
	ALPHA, ALPHA-BETA	30 - 60	9 - 18	0.5 - 1	3 - 7
	BETA	30 - 60	9 - 18	0.5 - 1	3 - 7
<b>Refractory Metal</b>	MOLYBDENUM	60 - 100	18 - 30	0.5 - 1	3 - 7
	TANTALUM	30 - 60	9 - 18	0.5 - 1	3 - 7
	COLOMBIUM	40 - 80	12 - 24	0.5 - 1	3 - 7
<b>Copper Alloys</b>	99% COPPER	100 - 180	30 - 54	4 - 9	26 - 58
	FREE CUTTING BRASS	180 - 250	54 - 75	5 - 11	32 - 71
	YELLOW/RED BRASS	175 - 255	53 - 77	4 - 10	26 - 65
	PHOSPHOR BRONZE	90 - 180	27 - 54	4 - 10	26 - 65
	ALUMINUM BRONZE	125 - 190	37 - 57	4 - 8	26 - 52
	AS ABOVE (HARDENED)	50 - 100	15 - 30	1 - 2.5	7 - 16
	MALLORY 73 AND 100	50 - 100	15 - 30	1 - 2.5	7 - 16
	BERYLLIUM COPPER	120 - 190	36 - 57	3 - 6	20 - 39
	AS ABOVE (HARDENED)	35 - 55	10 - 16	0.5 - 1	3 - 7
<b>Aluminum</b>	ALLOY	267 - 400	80 - 120		
	CAST ALLOY	267 - 400	80 - 120	Please call	Please call
	PISTON ALLOY	267 - 400	80 - 120	for assistance	for assistance
	(USE TCT BLADES)	267 - 400	80 - 120		

**NOTE:** These feed rates are a general guide only. Please contact Starrett Technical Support for precise recommendations.