



CARBIDE SPEED CHART

FPM = Feet Per Minute | MPM = Meters Per Minute *For metal cutting saws run between 275 and 350 FPM. **Typically for hardened and case hardened carbon steels up to 61 Rc.

MATERIALS		LENOX VERSA PRO® & LENOX MAX CT		TRI-TECH™ & GEN-TECH™		TRI-MASTER®		CAST MASTER™ & CAST MASTER™ XL		LENOX HRC®	
TYPE	GRADE	FPM	MPM	FPM	MPM	FPM	MPM	FPM	MPM	FPM	MPM
Aluminum Alloys	2024, 5052, 6061, 7075	200-8,500*	60-2600	200-8,500	60-2,600	200-8,500*	60-2600	200-8,500*	60-2600		
Copper Alloys	CDA 220 CDA 360 Cu Ni (30%) Be Cu	240 300 220 180	75 90 65 55	240 300 220 180	73 91 67 55	210 295 200 160	65 90 60 50	210 295 200 160	65 90 60 50	280	85
Bronze Alloys	AMPCO 18 AMPCO 21 AMPCO 25 Leaded Tin Bronze Al Bronze 865 Mn Bronze 932 937	205 180 115 300 200 220 300 300	60 55 35 90 60 65 90 90	205 180 115 300 180 220 300 300	62 55 35 91 55 67 91 91	180 160 110 290 150 215 280 250	55 50 35 90 45 65 85 75	180 160 110 290 150 215 280 250	55 50 35 90 45 65 85 75		
Brass Alloys	Cartridge Brass Red Brass (85%) Naval Brass	260 230	80 70	240 230	73 70	220 200	65 60			220 200	65 60
Leaded, Free Machining Low Carbon Steels	1145 1215 12L14	290 325 350	88 99 107	290 325 350	88 99 107	290 325 350	90 100 105				
Structural Steel	A36	240	73								
Low Carbon Steels	1008, 1018 1030	300 260	90 80	250 240	76 73	250 240	75 75			270** 250**	80 75
Medium Carbon Steels	1035 1045	240 240	73 73	230 220	70 67	230 220	70 65			240** 230**	75 70
High Carbon Steels	1060 1080 1095									200** 195** 185**	60 60 55
Mn Steels	1541 1524										
Cr-Mo Steels	4140 41L50 4150H	230 230 230	70 70 70	220 250	67 76						
Cr Alloy Steels	6150 52100 5160	230 290 230	70 88 70	190 190	58 58						
Ni-Cr-Mo Steels	4340 8620 8640 E9310	230 280 240 190	70 85 73 60	190 190	58 58						
Low Alloy Tool Steel	L-6	240	75	240	73	190	60				
Water-Hardening Tool Steel	W-1	240	65	220	67	175	55				
Cold-Work Tool Steel	D-2	210	65	210	64	170	50				
Air-Hardening Tool Steels	A-2 A-6 A-10	230 220 160	70 65 50	230 220 160	70 67 49	185 175 130	55 55 40				
Hot Work Tool Steels	H-13 H-25	220 150	55 45	220 150	67 46	175 120	55 35				
Oil-Hardening Tool Steels	O-1 O-2	240 220	75 65	240 220	73 67	190 175	60 55				
High Speed Tool Steels	M-2, M-10 M-4, M-42 T-1 T-15	110 105 100 80	35 30 30 25	110 105 100 80	34 32 30 24	90 85 80 65	25 25 25 20				
Mold Steels	P-3 P-20	200 160	60 50	200 160	61 49	160 130	50 40				
Shock Resistant Tool Steels	S-1 S-5, S-7	190 190	60 60								
Stainless Steels	304 316 410, 420 440A 440C	220 180 250 200 200	65 55 75 60 60	190 180 250 200 200	58 55 76 61 61	155 125 175 140 140	45 40 55 45 45			220 180 250 200 200	65 55 75 60 60
Precipitation Hardening Stainless Steels	17-4 PH 15-5 PH	160 140	50 45	160 160	49 49	110 100	35 30			160 140	50 45
Free Machining Stainless Steels	420F 301	270 230	80 70	270 230	82 70	190 160	60 50			270 230	80 70
Nickel Alloys	Monel® K-500 Duranickel® 301	90 80	25 25	90 80	27 24	90 80	25 25				
Iron-Based Super Alloys	A286, Incoloy® 825 Incoloy 600 Pyromet® X-15	80 75 90	25 25 25	105 85 90	32 26 27	80 75 90	25 25 25				
Nickel-Based Alloys	Inconel® 600, Inconel 718 Nimonic® 90 NI-SPAN-C® 902, RENE 41 Inconel® 625 Hastelloy® B, Waspaloy Nimonic® 75, RENE 88	85 85 115 75 75	25 25 35 25 25	105 100 105 100 105	32 30 32 32 32	85 85 115 75 75	25 25 35 25 25				
Titanium Alloys	CP Titanium Ti-6Al-4V	180 180	55 55	180 180	55 55	150 150	45 45				
Cast Irons	A536 (60-40-18) A536 (120-90-02) A48 (Class 20) A48 (Class 40) A48 (Class 60)									300 150 220 160 160	90 45 65 50 50

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