

# BI-METAL SPEED CHART

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FOR CUSTOMIZED BAND SAW RECOMMENDATIONS

		MATERIALS		BAND SPEED	
		TYPE	GRADE	FEET/ MIN	METER/ MIN
<b>ALUMINUM / NON-FERROUS</b>	Aluminum Alloys		2024, 5052, 6061, 7075	300+	85+
	Copper Alloys		CDA 220 CDA 360 Cu Ni (30%) Be Cu	210 295 200 160	65 90 60 50
	Bronze Alloys		AMPCO 18 AMPCO 21 AMPCO 25 Leaded Tin Bronze Al Bronze 865 Mn Bronze 932 937	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	220 200	65 60
	Carbon Steels	Leaded, Free Machining Low Carbon Steels	1145 1215 12L14	270 325 350	80 100 105
<b>CARBON STEELS</b>	Low Carbon Steels	1008, 1018 1030	270 250	80 75	
	Medium Carbon Steels	1035 1045	240 230	75 70	
	High Carbon Steels	1060 1080 1095	200 195 185	60 60 55	
	<b>STRUCTURAL STEEL</b>	Structural Steel	A36	250	75
<b>ALLOY STEEL</b>	Mn Steels	1541 1524	200 170	60 50	
	Cr-Mo Steels	4140 41L50 4150H	225 235 200	70 70 60	
	Cr Alloy Steels	6150 5160	190 195	60 60	
	Ni-Cr-Mo Steels	4340 8620 8640 E9310	195 215 185 160	60 65 55 50	
<b>BEARING STEEL</b>	Cr Alloy Steels	52100	160	50	
<b>MOLD STEEL</b>	Mold Steels	P-3 P-20	180 165	55 50	
<b>STAINLESS STEEL</b>	Stainless Steels	304 316 410, 420 440A 440C	115 90 135 80 70	35 25 40 25 20	
	Precipitation Hardening Stainless Steels	17-4 PH 15-5 PH	70 70	20 20	
	Free Machining Stainless Steels	420F 301	150 125	45 40	
<b>TOOL STEEL</b>	Low Alloy Tool Steel	L-6	145	45	
	Water-Hardening Tool Steel	W-1	145	45	
	Cold-Work Tool Steel	D-2	90	25	
	Air-Hardening Tool Steels	A-2 A-6 A-10	150 135 100	45 40 30	
	Hot Work Tool Steels	H-13 H-25	140 90	40 25	
	Oil-Hardening Tool Steels	O-1 O-2	140 135	40 40	
	High Speed Tool Steels	M-2, M-10 M-4, M-42 T-1 T-15	105 95 90 60	30 30 25 20	
	Shock Resistant Tool Steels	S-1 S-5, S-7	140 125	40 40	
	<b>TITANIUM ALLOY</b>	Titanium Alloys	CP Titanium Ti-6Al-4V	85 65	25 20
<b>NICKEL BASED ALLOY</b>	Nickel Alloys	Monel® K-500 Duranickel 301	70 55	20 15	
	Iron-Based Super Alloys	A286, Incoloy® 825 Incoloy® 600 Pyromet X-15	80 55 70	25 15 20	
	Nickel-Based Alloys	Inconel® 600, Inconel® 718, Nimonic 90, NI-SPAN-C 902, RENE 41 Inconel® 625 Hastalloy B, Waspalloy Nimonic 75, RENE 88	60 60 80 55 50	20 20 25 15 15	
<b>OTHER</b>	Cast Irons	A536 (60-40-18) A536 (120-90-02) A48 (Class 20) A48 (Class 40) A48 (Class 60)	225 110 160 115 95	70 35 50 35 30	

The Speed Chart recommendations apply when cutting 4" wide (100mm), annealed material with a bi-metal blade and flood sawing fluid:

### ADJUST BAND SPEED FOR DIFFERENT SIZED MATERIALS

MATERIAL	BAND SPEED
1/4" (6mm)	Chart Speed + 15%
3/4" (19mm)	Chart Speed + 12%
1-1/4" (32mm)	Chart Speed + 10%
2-1/2" (64mm)	Chart Speed + 5%
4" (100mm)	Chart Speed - 0%
8" (200mm)	Chart Speed - 12%

### ADJUST BAND SPEED FOR DIFFERENT FLUID TYPES

FLUID TYPES	BAND SPEED
Spray lube	Chart Speed - 15%
No fluid	Chart Speed - 30-50%

### ADJUST BAND SPEED FOR HEAT TREATED MATERIALS

ROCKWELL	BRINELL	DECREASE BAND SPEED
Up to 20	226	-0%
22	237	-5%
24	247	-10%
26	258	-15%
28	271	-20%
30	286	-25%
32	301	-30%
36	336	-35%
38	353	-40%
40	371	-45%

*Reduce band speed 50% when sawing with carbon blades*