

CIRCULAR SAW SPEEDS

Diam. of Saw (Inches)	Rim Speed- Feet per Minute				
	8,000	9,000	10,000	12,000	14,000
12"	2,546	2,864	3,183	3,819	4,456
14"	2,182	2,455	2,728	3,274	3,819
16"	1,909	2,148	2,387	2,864	3,342
18"	1,697	1,909	2,122	2,546	2,970
20"	1,527	1,718	1,910	2,292	2,674
22"	1,388	1,562	1,736	2,083	2,430
24"	1,273	1,432	1,592	1,910	2,228
26"	1,175	1,322	1,469	1,763	2,056
28"	1,091	1,227	1,364	1,637	1,910
30"	1,018	1,146	1,273	1,528	1,782
32"	954	1,074	1,193	1,432	1,671
34"	898	1,011	1,123	1,348	1,572
36"	848	954	1,061	1,273	1,485
38"	804	904	1,005	1,206	1,407
40"	763	859	915	1,146	1,337
42"	728	818	910	1,091	1,273
44"	694	781	868	1,041	1,215
46"	664	747	830	996	1,162
48"	636	716	796	955	1,114
50"	611	687	764	916	1,069
52"	587	661	734	881	1,028
54"	566	637	707	849	990
56"	546	614	682	818	955
58"	526	593	658	790	922
60"	509	573	636	764	891
62"	493	554	616	740	862
64"	477	537	597	716	836
66"	462	521	579	694	810
68"	449	505	562	674	786
70"	436	491	546	655	764
72"	424	477	530	636	742
74"	413	464	516	619	722
76"	402	452	502	603	704
78"	392	440	490	587	685
80"	382	429	477	573	668
82"	373	419	465	559	652
84"	364	409	455	546	636
96"	318	358	398	477	557
108"	283	318	354	424	495

SAW GAUGE EQUIVALENT CHART

Gauge	Thousandths	Fraction
4	.238	15/64"
5	.220	7/32"
6	.203	13/64"
7	.180	3/16" scant
8	.165	5/32" full
9	.148	5/32" scant
10	.134	1/8" full
11	.120	1/8" scant
12	.109	7/64"
13	.095	3/32"
14	.083	5/64" full
15	.072	5/64" scant
16	.065	1/16" full
17	.058	1/16" scant
18	.049	3/64"
19	.042	—
20	.035	—

DECIMAL EQUIVALENTS

Frac.	Dec.	Gauge	Frac.	Dec.	Gauge
1	1.000			.259	3
31/32	.9687		1/4	.250	
15/16	.9375			.238	4
29/32	.9062			.220	5
7/8	.875		7/32	.2187	
27/32	.8437			.203	6
13/16	.8125		3/16	.1875	
25/32	.7812			.180	7
3/4	.750			.165	8
23/32	.7187		5/32	.1562	
11/16	.6875			.148	9
21/32	.6562			.134	10
5/8	.625		1/8	.125	
19/32	.5937			.120	11
9/16	.5625			.109	12
17/32	.5312			.095	13
1/2	.500		3/32	.0937	
15/32	.4687			.083	14
7/16	.4375			.072	15
13/32	.4062			.065	16
	.380	00	1/16	.0625	
3/8	.375			.058	17
11/32	.3437			.049	18
	.340	0		.042	19
5/16	.3125			.035	20
	.300	1		.032	21
	.284	2	1/32	.0312	
9/32	.2812			.028	22

Useful Formulas

Rim Speed (feet/minute)	=	$\frac{\text{R.P.M.} \times \text{Saw Diameter (inches)}}{3.8197}$
Chip Load per Tooth (in.)	=	$\frac{\text{Feed Rate (F.P.M.)} \times 12}{\text{R.P.M.} \times \text{Teeth}}$
Number of Teeth	=	$\frac{\text{Feed Rate (R.P.M.)} \times 12}{\text{Chip Load} \times \text{R.P.M.}}$
Feed Rate	=	$\frac{\text{Feed Roll Dia.} \times 11 (3.1417) \times \text{Feed Roll R.P.M.}}{\text{Chip Load} \times \text{R.P.M.}}$
Circumference	=	$3.1417 \times \text{Diameter}$
Diameter	=	$\frac{\text{Circumference}}{3.1417}$
Required Gullet Capacity	=	$(\text{Tooth Bite} \times \text{Depth of Cut}) \times 2.5$
Driven Pulley RPM	=	$\frac{\text{Driver Pulley O} \times \text{R.P.M.}}{\text{Driven Pulley O}}$
Driver Pulley RPM	=	$\frac{\text{Driven Pulley O} \times \text{Driven Pulley R.P.M.}}{\text{Driver Pulley O}}$
Horsepower per Saw	=	$\frac{\text{Depth of Cut} \times \text{Kerf} \times \text{R.P.M.} \times \text{Factor}}{144}$
Factor:	A = 35 (soft wood) B = 40 (southern pine) C = 45 (hardwood)	
Tooth Bite Parameters	=	Gang Edger Saws (Carbide or Stellite): .030-.045 Board Edger Saws (Carbide): .030-.050 (Stellite): .030-.060



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