This table lists sound power levels and technical specifications of powered hand tools commonly used in construction settings. The tools were tested using the loading conditions and test jigs specified in ANSI S12.15 and the hemispherical 10-microphone array specified in ISO 3744. The loading conditions of the tools affect the measured sound power levels. Generally, the condition specified in ANSI S12.15 yields the condition for the higher sound power level. Each tool within a tool type was tested at the same loading condition as indicated in parentheses.

Differences between actual and rated electrical power consumption and tool-bit speed in the table can be attributed to loading conditions. Loading tends to reduce the tool-bit speed and increase power consumption.

The purpose of this table is to provide the necessary information for tool purchasers to Buy Quiet. This table is an excerpt of the NIOSH power tools database. To learn more about the NIOSH database and hearing conservation, please visit the website at www.cdc.gov/niosh/topics/noise/workplacesolutions/toolsDatabase_alt.html.

Reduction of noise induced hearing loss in occupational settings is a long term goal of NIOSH. To further this goal, NIOSH recommends that hearing protection be worn, when operating tools with a sound pressure level above 85 dBA. Tools with lower sound power levels pose less of a hazard than tools with a higher sound power levels.

The column headings in the table are described in more detail below.
Column 1 Manufacturer Brand Name
Column 2 Model Number
Column 3 Sound Power Level A-weighted (SWLA) dBA
Column 4 Sound Pressure Level A-weighted (SPLA) dBA
Column 5 Technical Specification Tool Bit Size, Blade Size, etc.
Column 6 Rated Electrical Power (Watts)
Column 7 Rated Speed (RPM) or Strokes Per Minute (SPM)
Column 8 Actual Electrical Power (Watts) at the specified loading condition
Column 9 Actual Speed (RPM) or Strokes Per Minute (SPM) at the specified loading condition

Disclaimer: The findings and conclusions in this report are those of the author(s) and do not necessarily represent the views of the National Institute for Occupational Safety and Health.

Circular Saw (Unloaded)

Manufacturer Brand Name	Model number	SWLA (dBA)	Technical Specification saw blade	Rated Elec. Power (Watts)	Rated Speed (RPM)	Actual Elec. Power (Watts)	Actual Speed (RPM)
Makita	5277NB	95	7 1/4 inch	1800	4300	605	4560
Porter Cable	345	95	6 inch	1080	6000	424	6335
Porter Cable	314	95	4 1/4 inch	540	4500	304	4258
DeWalt	DW378G	96	7 1/4 inch	1800	4600	744	4304
Milwaukee	6390-20	97	7 1/4 inch	1800	5800	753	6255
Makita	5007FK	98	7 1/4 inch	1800	5800	615	5006
Porter Cable	743	98	7 1/4 inch	1800	5800	596	5645
DeWalt	DW369	99	7 1/4 inch	1800	5800	651	5360
Bosch	CS20	99	7 1/4 inch	1800	5600	662	5250
Makita	4200NH	99	4 3/8 inch	1092	11000	325	12910
Hitachi	C7SB2	100	7 1/4 inch	1800	5800	616	5220
Milwaukee	6460	101	10 1/4 inch	1800	5200	642	4935
Makita	5008NB	101	8 1/4 inch	1560	5200	645	4995
DeWalt	DW368	101	7 1/4 inch	1800	5800	647	5531
Makita	5057KB	101	7 1/4 inch	1560	5800	713	5521
DeWalt	DW384	102	8 1/4 inch	1800	5800	770	5225
Milwaukee	6378	102	8 1/4 inch	1800	4400	720	4390
Milwaukee	6375-20	102	7 1/4 inch	1800	5800	882	5850
Ridgid	R3200	102	7 1/4 inch	1800	5800	775	5785
DeWalt	DW364	103	7 1/4 inch	1800	5800	762	5330
Black and Decker	FS1300CS	103	7 1/4 inch	1560	5000	591	5010
Milwaukee	6370-20	104	8 inch metal cutting	1560	3700	693	3835
Skil	5750	104	7 1/4 inch	1560	4600	749	4530
Skil	5600	104	7 1/4 inch	1560	4600	728	4615
Ryobi	CSB121	104	7 1/4 inch	1440	4600	764	4105
Skil	5400	105	7 1/4 inch	1440	4600	758	4645
Skil	5550	107	7 1/4 inch	1560	4600	763	4515
Porter Cable	324MAG	109	7 1/4 inch	1800	5800	590	6040

Drill (Unloaded)

Manufacturer Brand Name	Model number	SWLA (dBA)	Technical Specification chuck size	Rated Elec. Power (Watts)	Rated Speed (RPM)	Actual Elec. Power (Watts)	Actual Speed (RPM)
Makita	6303H	89	1/2 inch chuck	780	850	258	870
Milwaukee	0302-20	90	1/2 inch chuck	960	850	215	801
Milwaukee	0300-20	90	1/2 inch chuck	960	850	210	823
Hitachi	D10VH	90	3/8 inch chuck	680	2500	188	2512
Milwaukee	0299-20	91	1/2 inch chuck	960	850	211	821
DeWalt	DW235G	91	1/2 inch chuck	936	850	220	888
Global Machinery Company	RAD45KUL	91	3/8 inch chuck	630	1600	144	1610
Makita	6408	91	3/8 inch chuck	588	2500	201	2642
Hitachi	D13VF	92	1/2 inch chuck	1020	850	262	1005
DeWalt	DW130	93	1/2 inch chuck	840	450	386	508
Black and Decker	DR211	93	3/8 inch chuck	600	1350	223	1425
Black and Decker	DR501	94	1/2 inch chuck	720	750	275	798
Milwaukee	0375-1	95	3/8 inch chuck	420	1300	146	1243
Skil	6265	98	3/8 inch chuck	600	1700	269	1635

Grinder (Unloaded)

Manufacturer Brand Name	Model number	SWLA (dBA)	Technical Specification angle grinder wheel size	Rated Elec. Power (Watts)	Rated Speed (RPM)	Actual Elec. Power (Watts)	Actual Speed (RPM)
Ryobi	AG451	91	4 1/2 inch	660	11000	201	10271
Ryobi	AG401	93	4 inch	528	11000	270	11317
Hitachi	G12SE2	94	4 1/2 inch	1080	10000	334	9710
Hitachi	G12SR2	94	4 1/2 inch	580	11000	257	9925
Ridgid	R1000	96	4 1/2 inch	960	10000	435	9545
Bosch	1700A	96	4 1/2 inch	840	11000	346	10660
McCulloch	MG832500	97	5 inch	900	10000	222	9900
Bosch	1700	97	4 1/2 inch	840	11000	343	10650
Makita	9527NB	97	4 1/2 inch	552	10000	402	9980
Hitachi	G18MR	98	7 inch	1700	6000	710	5720
Milwaukee	6156-20	98	5 inch	1440	11000	520	10560
Milwaukee	6148-6	98	4 1/2 inch	1020	10000	404	9805
DeWalt	DW400	98	4 1/2 inch	600	10000	305	10205
Milwaukee	6154-20	99	4 1/2 inch	1440	11000	527	10010
DeWalt	DW402	99	4 1/2 inch	900	10000	327	9570
Bosch	1752	100	7 inch	1800	6000	990	5737
DeWalt	DW818	101	4 1/2 inch	936	11000	465	11060
Bosch	1752G7	102	7 inch	1800	6000	971	5748
Porter Cable	7430	103	4 1/2 inch	720	10000	311	8837

Hammer Drill (Loaded)

Manufacturer Brand Name	Model number	SWLA (dBA)	Technical Specification drill bit size	Rated Elec. Power (Watts)	Rated Speed (RPM)	Actual Elec. Power (Watts)	Actual Speed (RPM)
Hitachi	DH24PE	101	7/8 inch	620	1350	-	-
DeWalt	D25103	102	1 inch	900	1100	-	-
Bosch	11224VSR	102	7/8 inch	828	1100	-	-
DeWalt	DW505	103	1/2 inch	936	2700	-	-
Bosch	11236VS	104	1 1/8	900	850	-	-
Black and Decker	FS6000HD	104	1/2 inch	720	2750	-	-
Black and Decker	DR601	105	1/2 inch	720	3000	-	-
Makita	HP1501	105	1/2 inch	600	2800	-	-
Hitachi	FDV16VB2	106	5/8 inch	550	2900	-	-
Bosch	1194AVSR	106	3/8 inch	960	2600	-	-
Bosch	1199VSR	107	3/8 inch	1020	3000	-	-
Bosch	11235EVS	116	1 3/4 inch	1560	-	-	-

Jig Saw (Unloaded)

Manufacturer Brand Name	Model number	SWLA (dBA)	Technical Specification stroke length	Rated Elec. Power (Watts)	Rated Speed (SPM)	Actual Elec. Power (Watts)	Actual Speed (SPM)
Skil	4380	92	5/8 inch	444	3250	248	2950
Black and Decker	JS600	95	3/4 inch	540	3200	282	3333
Bosch	1590EVSK	96	1 inch	768	2800	330	3000
Milwaukee	6266-22	98	1 inch	744	3000	257	2983
DeWalt	DW318	98	1 inch	540	3100	287	3055

Miter Saw (Loaded)

Manufacturer Brand Name	Model number	SWLA (dBA)	Technical Specification blade size	Rated Elec. Power (Watts)	Rated Speed (RPM)	Actual Elec. Power (Watts)	Actual Speed (RPM)
Hitachi	C10FCE	99	10 inch	1520	5000	-	-
Tradesman	M3052LW	102	12 inch	1800	4200	-	-
Delta	MS250	102	10 inch	1560	5200	-	-
DeWalt	DW706	103	12 inch	1800	4000	-	-
Global Machinery Company	MS1015AUL	103	10 inch	1800	5200	-	-
Tradesman	M2501W	103	10 inch	1800	4800	-	-

Orbital Sander (Loaded)

Manufacturer Brand Name	Model number	SWLA (dBA)	Technical Specification sander size	Rated Elec. Power (Watts)	Rated Speed (RPM)	Actual Elec. Power (Watts)	Actual Speed (RPM)
Black and Decker	MS500K	74	3 5/8 x 5 1/4 inch triangle	60	11000	46	-
Black and Decker	MS550GB	74	3 5/8 x 5 1/4 inch triangle	60	11000	43	-
Ryobi	CFS1501	76	5 1/2 inch disk	120	12000	92	-
Black and Decker	FS350	81	3 1/2 x 8 1/2 inch sheet	144	10000	99	-
DeWalt	DW421	83	5 inch disk	240	12000	193	-
Black and Decker	MS700G	84	4 1/4 x 6 1/2 inch triangle	168	10500	139	-
Ridgid	R2610	85	6 inch disk	456	10000	295	-
Ryobi	RS2418	86	5 inch disk	288	12500	230	-
Bosch	1295DVS	86	5 inch disk	264	12000	240	-
Ridgid	R2500	87	4 1/2 x 5 1/2 inch sheet	288	14000	163	-
DeWalt	DW411	87	4 1/2 x 5 1/2 inch sheet	240	13500	166	-
Black and Decker	FS540	87	4 1/2 x 5 1/2 inch sheet	216	13000	134	-
Porter Cable	333	88	5 inch disk	288	12000	228	-
Ryobi	RS280VS	89	5 inch disk	336	12000	300	-
Porter Cable	340	90	4 1/2 x 5 1/2 inch sheet	240	14000	161	-
Hitachi	SV12SG	91	4 1/2 x 5 1/2 inch sheet	204	14000	143	-
Makita	B04552	93	4 1/2 x 5 1/2 inch sheet	192	14000	115	-

Reciprocating Saw (Unloaded)

Manufacturer Brand Name	Model number	SWLA (dBA)	Technical Specification stroke length	Rated Elec. Power (Watts)	Rated Speed (SPM)	Actual Elec. Power (Watts)	Actual Speed (SPM)
DeWalt	DW308M	96	3/4 inch	1140	2800	520	3070
Makita	JR3030T	96	1 3/32 inch	960	2600	464	2722
Milwaukee	6524-21	96	3/4 inch	900	3000	314	3005
DeWalt	DW309K	98	1 1/4 inch	1416	2900	548	2848
Hitachi	CR13V	98	1 1/8 inch	1200	2800	414	2840
Bosch	RS5	98	1 1/8 inch	1080	2700	424	2500
Milwaukee	6509-22	99	3/4 inch	1200	2800	540	2753
Milwaukee	6519-22	99	1 1/8 inch	1200	2800	517	2743
Porter Cable	9747	100	1 1/4 inch	1380	2600	559	2571
Milwaukee	6521-21	100	1 1/4 inch	1200	3200	644	2953
Milwaukee	6537-22	101	1 1/4 inch	1200	3200	603	3006
Porter Cable	9741	101	1 1/8 inch	1080	2600	616	2616
Porter Cable	9750	103	1 1/4 inch	1380	2900	615	2800
Ridgid	R3000	103	1 1/8 inch	1080	2800	411	2942
Ryobi	RJ161VK	105	1 3/16 inch	780	2500	345	2851

Screw Driver (Unloaded)

Manufacturer Brand Name	Model number	SWLA (dBA)	Technical Specification hex drive size	Rated Elec. Power (Watts)	Rated Speed (RPM)	Actual Elec. Power (Watts)	Actual Speed (RPM)
DeWalt	DW268	90	1/4 inch	780	2500	215	-
DeWalt	DW257	91	1/4 inch	744	2500	215	-
Hitachi	W6V3	92	1/4 inch	768	4000	276	-
DeWalt	DW272	93	1/4 inch	756	4000	255	-