

Hand Held Tools – Vibration Ratings

The below information has been taken from the figures supplied by the HSE website and from in-use data measurements provided by the manufacturer's website. The figures below **MUST be used** to manage and record HAV exposure onsite. The list below includes the common tools used onsite.

If a tool is being used onsite that isn't listed below, then please take the following steps:

Check the manufacturers technical data sheet for the vibration level

- Use this data to calculate the EAV and ELV via the following link ([Vibration Calculator](#))
- If there is no in-use data available for the chosen tool, then please consider using an alternative tool (as listed below) and contact your SHEQ representative who can advise on data, using the [HSE Vibration Data](#)
- Ensure all exposure to vibration is recorded daily ([HAVs Daily Exposure Record](#))

NOTE: If site works involve continued HAV exposure the SHEQ team can arrange for onsite active monitoring of tool use to determine accurate exposure for site operatives

Angle Grinder	Type	Vibration Magnitude m/s ²	Exposure points per hour	Time to each EAV (Exposure Action Value)	Time to reach ELV (Exposure Limit Value)
	Makita 9 Inch Grinder GA9050	Grinding 5.5 / Surface Grinder	60	1 hr 39 mins	6 hrs 36 mins
	Makita 9 Inch Grinder GA9050/2	Typical Use 5.5	60	1 hr 39 mins	6 hr 36 mins
	Makita 9 Inch Grinder GA9020	Typical Use 5.3	56	1 hr 47 mins	7 hrs 7 mins
	Makita Grinder 125mm GA5021C	Cutting 9.6	184	32 mins	2 hrs 10 mins
		Surface Grinding 8.5	145	41 mins	2 hr 46 mins
	Makita 100mm Grinder GA4030R GA4030R/1 GA4030R/2	7	98	1.01 mins	4 hrs 04 mins
	Hilti Grinder 230 DCG	5.8	61	1 hr 39 mins	6 hrs 36 mins

Reciprocating Saw	Type	Vibration Magnitude m/s ²	Exposure points per hour	Time to reach EAV (Exposure action value)	Time to reach ELV (Exposure Limit value)
	Hilti Cordless WSR 22-A	25	1220	5 mins	20 mins
	Makita DJR186Z	13.4	359	17 mins	1hr 7 mins
	Makita DJR186RME	14.5	421	14 mins	57 mins
	Makita BJR181	16.3	531	11 mins	45 mins
	Makita DJR187Z	16.5	545	11 mins	44 mins
	Makita JR3050T	22	968	6 mins	25 mins

Breakers	Type	Vibration Magnitude m/s ²	Exposure points per hour	Time to reach EAV (Exposure action value)	Time to reach ELV (Exposure Limit value)
	Hilti TE300-AVR	11 Chiseling in concrete	242	24 mins	1 hr 39 mins
	Hilti TE500-AVR	8.2	204	29 mins	1hr 58 mins
	Hilti TE700-AVR	6.9	95	1 hr 3 mins	4 hrs 12 mins
	Hilti TE706 AVR	5.5	61	139	6 hrs 36 Mins
	Hilti TE800-AVR	9	95	1 hr 3 mins	4 hr 12 mins
	Hilti TE1000-AVR	5.9	70	1 hr 26 mins	5 hrs 44 mins
	Hilti Breaker TE 3000 AVR	8.5	98	1hr 1 min	4 hr 5 mins

Impact Drills / Driver	Type	Vibration Magnitude m/s ²	Exposure points per hour	Time to reach EAV (Exposure action value)	Time to reach ELV (Exposure Limit value)
 	Makita Cordless Percussion Driver Drill BHP453RFE	Drilling into metal 2.5	13	8 hrs	>24 hrs
	Makita cordless drill DTD 152	11	242	25 mins	1 hr 39 mins
	Makita cordless drill DTD 153	11	242	25 mins	1 hr 39 mins
	Makita cordless drill DTD 154	12.5	313	19 mins	1 hr 16 mins
	Makita cordless drill DTD 154RTJ	14	392	15 mins	1 hr 1 min
	Makita cordless drill DTD 154Z	14	392	15 mins	1 hr 1 min
	Makita 18v ImpactDriver BL LXT DTD 155	11	242	25 mins	1 hr 39 mins
	Makita 18v ImpactDriver BL LXT DTD 155Z	15.5	481	12 mins	50 mins
	Makita 18v Impactdriver DTD 482	11	242	25 mins	1 hr 39 mins
	Hilti Cordless drill SF6H-A22	1.1	2	>24 hr	>24 hr

Demolition or Rotary hammer drill	Type	Vibration Magnitude m/s ²	Exposure points per hour	Time to reach EAV (Exposure action value)	Time to reach ELV (Exposure Limit value)
	MAKITA HR 3210c Hammer Drilling concrete Chiseling	9.2	169	35 mins	2 hrs 21 mins
		7.5	113	53 mins	3 hrs 33 mins
	MAKITA HR2610	Drilling Concrete 15.5	481	12 mins	49 mins
		Drilling Metal 2.5	13	8 hrs	>24 hrs
	Hilti TE 6 A22	Drilling Concrete 10.7	229	26 mins	1 hrs 44 mins
		Chiseling concrete 5.5	5.5	1 hrs 39 mins	6.36 hrs
	Hilti TE 30	14.4 Concrete	288	21 mins	1 hr 23 mins
	Hilti TE 30 AVR	Drilling concrete 9.7	188	31 mins	2 hrs 07 mins
		Chiseling concrete 8.8	155	38 mins	2 hrs 34 mins
	Hilti TE6 -A36	Drilling Concrete 16.8	564	10 mins	42 mins
		Chiseling concrete 8.1	131	45 mins	3 hrs 2mins

Demolition or Rotary Hammer Drill	Type	Vibration Magnitude m/s ²	Exposure Points Per Hour	Time To Reach Eav (Exposure Action Value)	Time To Reach ELV (Exposure Limit Value)
	Hilti TE6-A36-AVR	Concrete 10.5	221	27 mins	1 hr 49 mins
		Metal 4	32	3 hrs 8 mins	12 hrs 30 mins
	Hilti TE 60-ATC-AVR	Drilling Concrete	104	57 mins	3 hrs 51 mins
		Chiseling concrete 6.2	77	1 hrs 18 mins	5hrs 12 mins
	Hilti TE AVR 70	Drilling concrete 8.6	148	40 mins	2 hrs 42 hrs
		Chiseling concrete 7.8	122		3hrs 17 mins
	Hilti TE 76P	15	450	13 mins	53 min
	Hilti Combi Hammer TE 80-ATC-AVR	Drilling concrete 10.8	233	25 mins	1 hr 42 mins
		Chiseling concrete 9	162	37mins	2 hrs 28 mins

Demolition or Rotary Hammer Drill	Type	Vibration Magnitude m/s ²	Exposure Points Per Hour	Time To Reach Eav (Exposure Action Value)	Time To Reach ELV (Exposure Limit Value)
	Hilti TE-80-AVR	7.5	113	53 mins	3 hrs 33 mins
	Hilti TE 700 AVR 01	8	128	47 mins	3 hrs 8 mins
	Hilti TE-1000-AVR	6.5	85	1 h 11 mins	4 hrs 44 mins
	Makita 10.8v Rotary Hammer 14mm CXT HR140DSMJ	7	98	1 hr 1 mins	4 hrs 4 mins
	Makita SDS-Max AVT Demolition Hammer HM0871C	12.8	328	18 mins	1 hr 13 mins

Saws/ Cut Off Saws / Circular Saws	Type	Vibration Magnitude m/s ²	Exposure points per hour	Time to reach EAV (Exposure action value)	Time to reach ELV (Exposure Limit value)
	Stihl SawT5 410	3.9	30	3 hr 17 mins	13 hr 9 mins
	Makita Cordless Circular Saw BSS611Z	2.8	16	6 hrs 23 mins	>24 hrs
	Makita Cordless Circular Saw DH5680	2.5	13	8 hrs	>24 hrs
	Makita 270mm Circular Saw HS0600	2.5	13	8 hrs	>24 hrs
	Husqvarna Model K760 (Low vibration)	2.4	12	8 hrs 41 mins	>24 hrs

Water Jetting Guns	Type	Vibration Magnitude m/s ²	Exposure points per hour	Time to reach EAV (Exposure action value)	Time to reach ELV (Exposure Limit value)
	N/A	4	32	3 hrs 8 mins	12 hrs 30 mins

Nail Gun's	Type	Vibration Magnitude m/s ²	Exposure points per hour	Time to reach EAV (Exposure action value)	Time to reach ELV (Exposure Limit value)
	DeWalt 18v Heavy Duty 16 Gauge Cordless Nail Gun DC618KB HSE	9 (HSE)	162	37 mins	2 hr 28 mins
	Makita 18v Jigsaw LXT DJV182Z	7 (Tool Advisor)	98	1 hr 1 min	4 hrs 5 mins