

Noise Levels Created By Common Construction Tools

Workers in the construction industries use a variety of tools in the course of their work. One of the safety aspects in the use of these tools, or, in being around people who use them, is noise.

Prolonged exposure to loud noise can cause permanent hearing loss. It is not a general loss of hearing, rather you lose the ability to hear some frequencies of sound. It is a bit like listening to music with the treble control turned all the way down. Although you can hear people talking, it becomes more difficult to understand what they are saying.

The work environment on many construction sites makes it difficult to control noise. You may put on hearing protectors when you use your own power tools, but other workers from different companies can use their tools without any warning.

OSH has carried out noise tests on common construction tools to give an estimate of how loud they are. This is shown in Table 1, and the chart on the next page.

Note that the 'average' levels will change depending on where you use tools. Used outside in the open, you will be exposed to the lower end of the range shown. Used inside or in enclosed situations, you will be exposed to the higher end of the range.

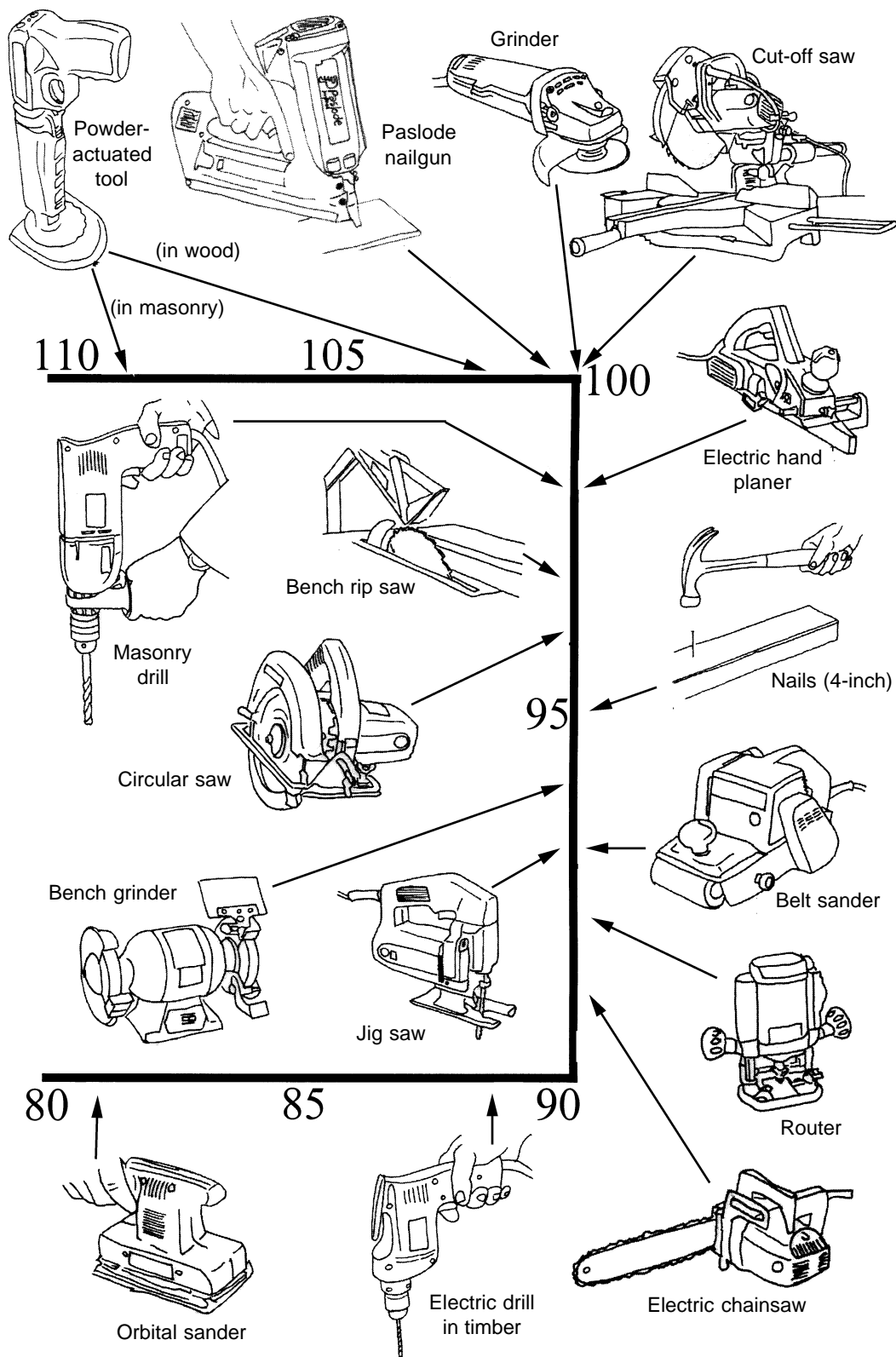
In New Zealand, the 'average' exposure limit is 85 dBA over an 8-hour period. You can be exposed to more noise than 85 dBA, but only if the time you are exposed to it is reduced. Table 1 shows allowable exposure times based on the upper part of the range.

Peak readings measure short duration impact noise. In New Zealand, the exposure standard for peak noise is 140 dB. A peak level of 140 dB compresses the same amount of sound energy as 85 dBA Leq over 8 hours into 0.09 seconds. Table 1 shows you can exceed the daily noise exposure by firing a powder-actuated gun once, or driving a few nails with a hammer. Always wear hearing protection for these tasks.

Table 1: Sound Levels of Common Construction Hand Tools

| Tools | Average | Peak | Longest Exposure Without Hearing Protection (each day) |
|--------------------------------------|-----------|------|--|
| Powder-actuated tool into masonry | 107 - 110 | 147 | Nil (based on peak) |
| Powder-actuated tool into timber | 100 - 104 | 143 | Nil (based on peak) |
| Paslode nailgun | 97 - 104 | 138 | Nil (based on peak) |
| Electric grinder (on aluminium) | 98 - 102 | 123 | 8 minutes |
| Cut-off saw | 98 - 102 | 118 | 8 minutes |
| Hand-held planer | 96 - 100 | 114 | 15 minutes |
| Masonry drill (timber then concrete) | 96 - 100 | 111 | 15 minutes |
| Bench rip saw | 95 - 99 | 116 | 15 minutes |
| Circular saw | 94 - 98 | 113 | 15 minutes |
| Hammer on nail into timber | 93 - 97 | 131 | Nil (based on peak) |
| Bench grinder | 92 - 96 | 113 | 30 minutes |
| Jigsaw | 91 - 95 | 112 | 30 minutes |
| Belt sander | 91 - 95 | 105 | 30 minutes |
| Router | 90 - 94 | 108 | 1 hour |
| Electric chainsaw | 89 - 93 | 112 | 1 hour |
| Electric drill into timber | 87 - 91 | 100 | 2 hours |
| Electric sander (1/3 sheet) | 79 - 83 | 103 | 8 hours |

Noise Levels of Selected Tools in dB



Note: Noise levels shown are indicative averages only. Each tool can produce a range of different noise levels in different circumstances.