

How much noise is too much?

Whether the exposure standard of 85 dB(A) averaged over eight hours is exceeded depends on the level of noise involved and how long workers are exposed to it.



Peak noise levels greater than 140 dB(C) usually occur with impact or explosive noise such as sledge-hammering or a gun shot. Any exposure above this peak can create almost instant damage to hearing.

Decibels are not like normal numbers. They can't be added or subtracted in the normal way. The decibel scale is logarithmic. On this scale, an increase of 3 dB represents a doubling or twice as much sound energy. This means that

the length of time a worker could be exposed to the noise is reduced by half for every 3 dB increase in noise level if the same noise energy is to be received.

Table 1 below demonstrates the length of time a person without hearing protectors can be exposed before the standard is exceeded.

Table 2 below lists common noise sources and their typical sound levels which can be used to compare whether noise in the workplace sounds as loud as or louder than 85 dB(A).

**Table 1: Equivalent Noise Exposures
 $L_{Aeq,8h} = 85 \text{ dB(A)}$**

Noise Level dB(A)	Exposure Time
80	16 hours
82	12 hours
85	8 hours
88	4 hours
91	2 hours
94	1 hour
97	30 minutes
100	15 minutes
103	7.5 minutes
106	3.8 minutes
109	1.9 minutes
112	57 seconds
115	28.8 seconds
118	14.4 seconds
121	7.2 seconds
124	3.6 seconds
127	1.8 seconds
130	0.9 seconds

Common noise sources and their typical sound levels

Typical Sound level in db	
140	Jet Engine at 30 m
130	Rivet Hammer
120	Rock Drill
110	Chain Saw
100	Sheet metal Workshop
90	Lawn mower
85	Frontend loader
80	Kerbside heavy traffic
70	Loud conversation
60	Normal Conversation
40	Quiet radio music
30	Whispering
0	Hearing threshold