

# Hearing Protection: Measuring Sound



Loudness is measured in decibels (dB). As decibels rise, loudness quickly increases. A 10-dB rise is a 10-time leap in loudness. That means an 80-dB sound (a vacuum cleaner) is 10 times louder than a 70-dB sound (a telephone ringing). And it's 100 times louder than a 60-dB sound (normal conversation).

## When you need protection

At the workplace, your employer measures noise with sound level meters and dosimeters. If the average noise exposure over an 8-hour work shift is 85 dB or higher, you need protection. OSHA requires your employer to have a hearing conservation program. From 85 dB to 125 dB, you can lose hearing painlessly. Over 125 dB, you may feel pain. As loudness and pitch rise, you may get acoustic trauma. That means a single exposure can cause permanent hearing loss.

## Barely audible

0-9 dB Weakest sounds you can hear

10-19 dB Rustle of leaves

## Soft sounds

20-29 dB Quiet bedroom at night

30-39 dB Whispered conversation; milk poured on dry cereal

40-49 dB Soft music; average suburban home during the day

50-59 dB Large business office; light freeway traffic

## Daily sounds

60-69 dB Normal conversation; household washing machine

70-79 dB Ringing telephone; alarm clock; noisy restaurant; moderate freeway traffic; light assembly plant

## Harsh sounds

80-89 dB Vacuum cleaner; shouted conversation; busy city streets; welding equipment

90-99 dB Small woodworking shop; portable sander; automatic screw machine; drill press; subway train; 20-ton truck; newspaper printing press

## Intense sounds

100-109 dB Lawn mower; outboard motor; snowmobile; bulldozer; chain saw; circular saw; weaving room; riveting machine; helicopter

110-139 dB Motorcycle; loud music; 120-watt stereo system at high volume; car horn; thunderclap; ship engine room; punch press; sand blaster; turbine generator; .357 magnum gun

## Deafening sounds

140-149 dB Jet engine at takeoff; high-powered shotgun blast

**150+ dB     Intense explosion; rocket liftoff**

© 2000-2027 The StayWell Company, LLC. All rights reserved. This information is not intended as a substitute for professional medical care. Always follow your healthcare professional's instructions  
This information is not intended as a substitute for professional medical care. Always follow your Healthcare professional's instructions. Copyright Krames LLC.