

Noise: vibration isolation



Environment
Protection
Authority Victoria



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Hazard control guidance sheet

Using vibration isolation to eliminate or reduce the risk of harm from noise

Description

Vibration isolation is the process of isolating a machine or piece of equipment that vibrates. This can be important as vibration can cause surrounding objects to emit high levels of noise and make the machinery or piece of equipment itself noisier.

Vibration isolation can be passive, where isolation methods like springs that absorb vibration from the machine are used. It is active when technology like sensors and actuators produce vibrations back at the source to cancel it out.



Figure 1. Mechanical equipment on individual stands with vibration isolation to reduce noise emissions.

Type of control

Physical.

When to use this control

If your business or site uses machinery or equipment that can produce vibrations. Examples include fans, motors, pumps, heating, ventilation and air conditioning systems.

Suitable for: any business or site that has machinery or equipment that can vibrate or rattle.

Industries that would use this: hardware stores, timber mills, paper products manufacturing, sheet metal works that use guillotines, mechanics, auto parts recyclers, manufacturers, etc.

Details and considerations

The type of vibration isolation you implement will depend on the type of vibration your machinery or equipment can produce, and on its installation and operating conditions.

We recommend you consult a suitably qualified person before implementing vibration isolation to ensure you are getting the control you need.

The table on page 2 describes passive and active vibration isolation control options.

More information

See our website: epa.vic.gov.au/for-business/find-a-topic/noise

Contact us:
1300 372 842 (1300 EPA VIC) or
contact@epa.vic.gov.au

The actions you take and the controls you decide to implement will support you to comply with your general environmental duty and other duties under the *Environment Protection Act 2017*.



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Type	Details and things to consider
Passive vibration isolation	<p>This refers to vibration isolation using products such as rubber pads or mechanical springs.</p> <p>Passive vibration isolation comes in many forms including:</p> <ul style="list-style-type: none">• pads or mats made from materials such as elastic, rubber, cork, foam• rubber mounts• mechanical springs• air bags. <p>Passive vibration isolation can be used in varying scales, from small scale home 'do-it-yourself' equipment to building scale technology.</p>
Active vibration isolation	<p>This refers to vibration isolation using technology such as sensors, control switches, and actuators that use electricity.</p> <p>Active vibration isolation has limited application in commercial, industrial, and residential situations. It is instead commonly found in specialist applications such as meteorology, medical, and microchip manufacturing processes.</p>



Engaging an acoustic consultant

An acoustic consultant will typically be a person who is eligible for membership of the [Australian Acoustical Society](#). The business a consultant works for will typically be a member of the [Association of Australasian Acoustical Consultants](#).

See [Work with an environmental consultant](#) (EPA website) for general information about how to engage a consultant.



This control is an *example or option only* of what you could put in place to eliminate or reduce the risk of harm to human health and the environment. You can implement other controls, so long as you can demonstrate you have eliminated or reduced the risk of harm as far as [reasonably practicable](#) (EPA website).

Disclaimer

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