



Acoustic Insulation Guide

This is a guide to acoustic insulation that will help you to decide the right soundproof insulation to meet your requirements. If you haven't had to use insulation slabs before, knowing which acoustic insulation slabs you should be using can be tricky. In this guide, we will show you how to choose the correct thickness and density of acoustic insulation slab.

Thermal insulation versus acoustic insulation

Acoustic slabs are manufactured to a higher density than other forms of insulation, unlike thermal insulation which is lower in density and supplied in rolls. sound insulation slabs start at a minimum density of 45kg/m³. Acoustic slabs are supplied at a standard size of 1200mm x 600mm. These slabs have a U-value which means that they have the additional benefit of thermal insulation as well as sound insulation.

Is your acoustic insulation fire rated?

All the slabs of insulation we supply have a Euro Class A1 fire rating. This means the sound insulation slabs are non combustible and they will offer no contribution to fire.

What thickness of acoustic insulation should I use?

The correct thickness of insulation is determined by the application you are using the insulation for. If you are soundproofing floors with timber floor joists, the minimum requirement would be 100mm thickness. Building Regulations stipulate the requirement for separating floors is 100mm thickness of insulation between the floor joists. **We recommend that domestic floors requiring sound insulation use 100mm sound insulation slabs between the joists.**

Using acoustic insulation to soundproof walls is a great way of blocking airborne sound transfer through a wall. If you are sound insulating a stud wall, the depth of insulation you choose will be determined by the depth of the stud frame. Always use a thickness that is no deeper than the depth of the frame. Acoustic slabs have very little compression and will not squeeze between sheets of plasterboard. **Acoustic insulation slabs are available in a variety of thicknesses ranging from 25mm, 50mm, 75mm and 100mm.**

You do not have to completely fill the stud frame, leaving a gap between the insulation and the boarding is better than compressing the insulation.

If you are building an acoustic wall and want to use acoustic insulation inside the frame, choose the slabs according to the depth of stud work and how much room you can afford to lose. We would recommend a minimum thickness of 50mm for stud wall applications. If you can go thicker, the additional thickness of the insulation will offer better levels of sound insulation. **It is important to remember that doubling up on thicknesses will not offer double the level of soundproofing.**

Choosing the correct density kg/m³ of acoustic insulation

Knowing which density to choose is probably the most challenging part of selecting acoustic insulation. Acoustic insulation is available in a variety of densities which range from 45kg up to 140kg per slab. It's the density that marks out this type of soundproof insulation from other slabs of insulation.

kg/m³ explained

kg/m³ is the weight of the slabs if they were manufactured in a block of one metre cube (1m x 1m x 1m). In order for them to be identified, they are given a density rating which refers to the weight of a metre cube, displayed as kg/m³.

Acoustic insulation slabs are available in the following densities:

- 45 kg/m³
- 60 kg/m³
- 80 kg/m³
- 100 kg/m³
- 140kg/m³

45kg/m³ acoustic insulation

- A low level density slab
 - Complies with Part E Building Regulations for separating floors
- It is easy to fit into tight spaces around pipes and electrical wiring inside wall and floor cavities

60-80kg/m³ acoustic insulation

- Mid range density slabs will return the best levels of soundproofing for the cost
 - This is the recommended density for most domestic soundproofing applications that require
 - airborne sound insulation for walls and ceilings
- Part E compliant and suitable for noisy neighbour soundproofing

100-140kg/m³ acoustic insulation

- High density slabs offer the highest level of sound insulation
 - The increase in the density from 80kg to 140kg does not double the soundproofing performance of the insulation
 - The increase in sound insulation diminishes the higher the density
- Use these slabs for studio level soundproofing and industrial applications