



### 11. Acoustic Caulk

Acoustic Caulk A complementary soundproofing solution which is intended to seal overlaps of materials, fill small gaps, cracks, or spaces in a room.

Sound can travel through even the smallest areas, and so it is important to seal off a room completely for the best possible results.

Acoustic caulk is a must where plasterboard or drywall is installed to reduce possible weakness but should not be relied upon to achieve acoustic levels by themselves. Areas like corners between walls, lines where walls and ceilings meet, and doors and windows must be completely sealed.

Uses: to fill any gaps easily to ensure best soundproofing results

Pros: inexpensive, easy to apply

Cons: a complementary soundproofing option and will not soundproof a room in isolation

### 12. Acoustic Putty

Acoustic Putty Flexible acoustic and intumescent putty is designed to maintain a building separation and wall partitions structural integrity and acoustic properties.

AcoustiPutty pads are designed to maintain the integrity and acoustic properties of flexible wall assemblies.

Uses: suitable for most flexible wall partitions constructed from timber and steel studs with all types of finishing board. For acoustic, fire and insulation resistance.

Pro: quick and easy to apply, fire resistant

Cons: a complementary soundproofing material and will not soundproof a room in isolation

### 13. Acoustic Plaster

Acoustic Plaster Like acoustic plasterboard, acoustic plaster finishes have been around for years.

Varying ingredients, compounds and systems can increase or decrease weight and flexibility to further reduce surface reflections and in doing so help with equalisation of the internal acoustics.

Uses: shopping centres and theatres, universities, restaurants, office spaces, entrance halls, museums, libraries, dining areas as well as some very exclusive private residences.

Pros: can further help to reduce surface reflection and resonance.

Cons: although increased depth and weight can add to deflection of sound waves, these are invariably used for increased acoustic calibration.

### 14. Soundproof Spray

Soundproof Spray Soundproof or sound deadening spray is used mainly for spot treatments.

Floor mats for example, may have been installed to

reduce unwanted noise yet microscopic gaps between the matt and the adjoining surface can still allow vibrations to occur.

Using a sound deadening spray will minimise those gaps and as such one would expect some improvement on overall acoustic performance, – the saying, ‘every little counts’ could be applied here.

Uses: used mostly in doors, car boots and compartments

Pros: easy to apply, quite effective

Cons: a complementary product only to improve soundproofing performance

### 15. Soundproof Paint

Soundproof Paint

Soundproof paint, sometimes also referred to as sound deadening paint, is exactly what it says on the tin! As a paint it can be applied either by means of a roller or sprayed on.

The concept is that the thicker the layer of paint, the better the result.

Spraying will naturally lead to a thicker coating and so it is generally the recommended method of application for soundproof paint.

Having said that, soundproof paint is not the most effective soundproofing method and won't produce significant results.

Due to its lack of mass once applied, the resulting soundproofing effects can be mixed.

Since it contains latex, similar to rubber, it is definitely better to apply rather than regular paint where breathability of the wall is not a concern.

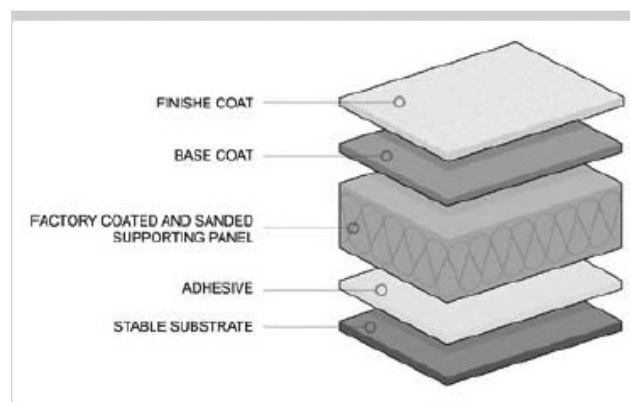
Latex has a tendency to settle into cracks, just like silicone caulk, so will perform better than standard water-based paints, although again is non breathable.

Uses: applied to walls to reduce sound transmission

Pros: simple and affordable option

Cons: not the most effective of methods as it does not rely either on the principle of mass nor decoupling.

**End of the first part...**





Soundproof Floor Underlay Floor underlayments are a great way to reduce sound transmission that naturally occurs between engineered floors and hardwoods.

There are different kinds of soundproof floor underlayment but felt underlayment is among the most popular options for floors of various kinds, including laminate floors, hardwood and engineered wood.

They are typically made from fibres which are compressed and treated with heat, so as to form a dense sound absorbing material.

A great example of this is Acoustiblok AcoustiWool Acoustic Underlay, which comes available in rolls and works best if installed in conjunction with Acoustiblok Isolation Membranes.

Uses: ideal for most kinds of wood or engineered floors in both residential and commercial premises.

Pros: quite affordable, easy to install, hardwearing and effective at absorbing sound as well as moisture.

Cons: simply an acoustic underlay and will only offer a moderate level of acoustic performance.

### 9. Anti-Vibration Soundproof Floor Mats

Soundproof Floor Mats Soundproof floor mats are another interesting option to arrest impact sound and vibration leading to structural airborne noise.

It is a known fact that certain appliances and machines create a lot of vibration and noise.

Anti-vibration soundproof mats help to kill annoying humming sounds and vibrations.

These types of mats are effective at reducing noise, and since they eliminate vibration they are also ideal for installation beneath and inside machinery and appliances, as well as to soundproof cars.

They can also offer a level of acoustic absorption on a surface or within a room to help reduce unwanted regeneration/resonance and enhance high-end audio performance.

Uses: beneath or behind appliances or machines, to reduce the transmission of noise and vibrations.

Pros: simple and effective soundproofing solution when the source of the noise is from machines or appliances.

Cons: ideally used in conjunction with other soundproofing methods for best results.

### 10. Acoustic Sealants

Acoustic Sealants Acoustiblok Acoustical Sound Sealant is one of a number of well-known brands on the marketplace that is most renowned as a reliable soundproofing compound which works on the principle of decoupling..

It comes in dispensing tubes like sealant products, and so

is very easy to apply. This product is meant to be used as a sound dampening method that maintains Sound Transmission Class (STC) in applications where required, yet remains permanently flexible. It is mostly used during the construction of walls that require soundproofing as it can be applied directly between layers of differing materials, Acoustiblok Isolation Membrane, drywall or plasterboard. It works to dissipate sound vibrations that would otherwise manage to pass through walls. Essentially this is a form of sealant that reduces leakage considerably and can be used on countersinking the heads of mechanical fixings.

Uses: used on walls and ceilings as well as any gaps or open spaces such as seams, seal holes and screw holes.

Pros: a product that is easy to apply, affordable and quite effective, eco-friendly

Cons: a complementary soundproofing option and will not soundproof a room in isolation

### 11. Acoustic Caulk

Acoustic Caulk A complementary soundproofing solution which is intended to seal overlaps of materials, fill small gaps, cracks, or spaces in a room. Sound can travel through even the smallest areas, and so it is important to seal off a room completely for the best possible results.

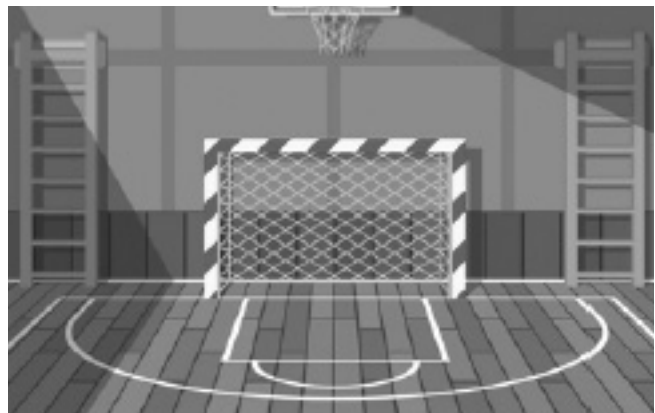
Acoustic caulk is a must where plasterboard or drywall is installed to reduce possible weakness but should not be relied upon to achieve acoustic levels by themselves. Areas like corners between walls, lines where walls and ceilings meet, and doors and windows must be completely sealed.

Uses: to fill any gaps easily to ensure best soundproofing results

Pros: inexpensive, easy to apply

Cons: a complementary soundproofing option and will not soundproof a room in isolation.

**End of the first part...**





diminishing noise that enters or leaves a room, and also improves internal acoustics. There are different types which you can choose from with differing thicknesses, densities and strengths. For example 703 boards are best for reducing high frequency noises whilst 705 boards are more suited to low frequency bass noises.

Uses: in recording studios, home cinemas, theatres and anywhere where soundproofing is needed, extremely versatile.

Pros: suitable for various frequency ranges, come in different thicknesses, easy to cut.

Cons: known to be an irritant so protective gear must be worn when handling.

#### 4. Resilient Channels

Resilient Channels Resilient sound channels are the main way of decoupling drywall from internal structures of buildings. This system can also be installed with acoustic hangers or gaskets which further reduce the vibration.

Resilient sound channels are strips of metal or timber that are installed to the walls so that the soundproof insulation within the walls can be kept firmly in place, whilst providing a platform onto which all finishing systems can be attached. This eliminates the direct contact that there would otherwise be through the layers of structure – walls, ceiling, floors.

Screws can pass through several holes or gaps found in these channels to ensure easier screwing, making them easy to install. Any sounds that pass through will basically keep vibrating against the resilient sound channels, and so they are isolated from the room.

Uses: generally used during construction as they help to achieve very good soundproofing in a building due to decoupling principles.

Pros: relatively easy to install, come with practical gaps/holes

Cons: low cost, will take considerable time to install if there's a large surface area to cover.

#### 5. Acoustic Hangers (Mounts)

Acoustic Hangers Sound isolation clips are designed to

allow a decoupling separation between the walls and ceiling from the underlying framing studs and joists.

These moulded rubber and steel isolation clips are used to control sound and are designed to reduce vibration through a structure. Uses: in wall, ceiling and floor applications for treating both airborne and impact noise.

#### 6. Soundproof Drywall (Plasterboard)

Soundproof Drywall Apart from the common varieties of drywall which can be purchased at most DIY stores, there is also a more specialised form of drywall, namely soundproof drywall.

This comes in different thicknesses, and promotes having an increased sound transmission class than the other types of common drywall used in everyday construction, due to its increased density and mass.

Soundproof drywall typically combines several layers of gypsum boards, along with steel, with the main aim being to increase its density and mass so as to block sound effectively. Having said that, any type of drywall can work well for soundproofing as long as decoupling is at the back of one's mind.

To achieve good results in terms of soundproofing, it is important to choose thick drywall in conjunction with some other soundproofing methods, such as Acoustiblok 3mm Isolation Membrane, sealants, tapes and caulks for example.

Uses: can be used in any building or room

Pros: quite effective

Cons: increased weight over effect, expensive option, requires professional installation

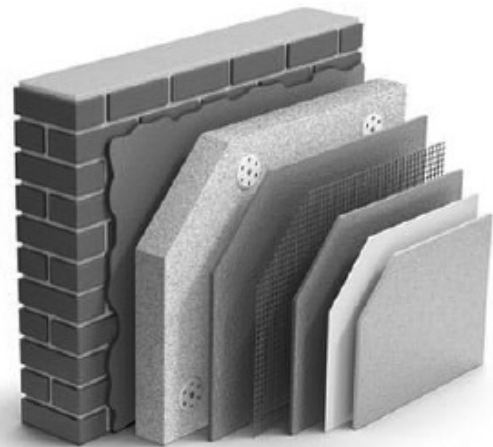
#### 7. Dense Board (OSB, Plywood, Particle Board, Fire Board)

Oriented Strand Board OSB or Oriented Strand Board is a versatile and durable building board.

An alternative, plywood can be used as the construction is similar with multiple layers of opposing-oriented wood fibres that creates rigidity and strength with increased mass and density.

#### 8. Soundproof Floor Underlay





Dr. F Nayeb Morad

# Best Soundproofing Materials

Soundproofing materials come in all forms and kinds, as we have already outlined.

However, it is important to be aware of how and where they should be applied for best results.

Needless to say, it's also important to consider the quality of the particular soundproofing material you intend to use to achieve the very best possible results.

Here's a rundown of the 30 best soundproofing materials available on the marketplace and how best to use them:

## 1. Acoustic Membrane

Acoustic Membrane There are different types of acoustic membrane on the market, some much heavier than others and some higher performing than others.

These will be rated by different dB reduction levels across differing Hz frequencies and are available in different thicknesses.

The thicknesses and weight will affect their application and effectiveness, so it's important to choose well.

Uses: ideal as a sound insulation membrane as it works well when it comes to reducing sound transference.

Pros: minimal depth to existing structures such as walls and ceiling, easy to install, long lasting.

Cons: some are rather heavy with increased mass which in turn provides a contra effect. Some brands are more expensive but as the saying goes, you get what you pay for.

## 2. Acoustic Mineral Wool Cavity Insulation

Acoustic Mineral Wool Mineral, rock or stone wool insulation, such as QuietFibre, are essentially open cell insulation materials which work very well at absorbing acoustic and thermal energies.

Invariably used in cavities such as stud walls, this rather

rigid material comes in different thicknesses and densities and is used in both households and commercial projects as it is quite affordable.

Not only good at acoustic and thermal energy absorption but almost as important if not more so, it is very useful for filling cavities. This prevents the cavity from being an open and resonant 'cave' like hole which can lead to an amplification of acoustic energy.

Despite being quite rigid, it is easy to cut.

Uses: to soundproof walls and ceilings, make acoustic panels and bass traps, and as soundproofing insulation in various places, from residential to commercial spaces.

Pros: affordable, natural material, fire and moisture resistant.

Cons: need a lot of depth of the material to be effective by itself. Protective breathing gear must be worn as cutting causes slivers which lodge in the skin, or may be inhaled and irritate the lungs.

## 3. Fibreglass

Fibreglass Soundproof fibreglass comes in boards / slabs rather than rolls and can be used in various places and applications including to make acoustic panels in home studios, theatres and commercial buildings.

This soundproofing material is very effective in

