

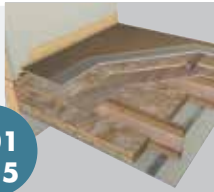
Section 4.3

Separating Floors

Timber frame floor with I-Beams

Product: Earthwool Acoustic Roll and Floorfoam Easy Edge Strip

Sf01
Sf15



Timber frame floor with solid timber joists

Product: Earthwool Acoustic Roll and Floorfoam Easy Edge Strip

Sf02
Sf11



Timber frame floor with metal web joists

Product: Earthwool Acoustic Roll and Floorfoam Easy Edge Strip

Sf03
Sf16



Concrete floor: plank and screed/cast in situ

Product: Earthwool Acoustic Floor Slab Plus and Floorfoam Easy Edge Strip

Sf04
Sf05 Sf06
Sf14



Concrete floor with screed and resilient layer

Product: Floorfoam and Floorfoam Easy Edge Strip

Sf07



Concrete floor with screed and two resilient layers

Product: Earthwool Acoustic Floor Slab Plus and Floorfoam Easy Edge Strip

Sf08



Concrete floor with screed and resilient layer

Product: Floorfoam and Floorfoam Easy Edge Strip

Sf09



Concrete floor with underfloor heating

Product: Polyfoam ECO Floorboard and Floorfoam and Floorfoam Easy Edge Strip

Sf10



Upgrading existing timber floor with new ceiling

Product: Earthwool Acoustic Roll or Earthwool Flexible Slab

Sf12



Upgrading existing timber floor with new platform floor

Product: Earthwool Acoustic Floor Slab, Floorfoam Easy Edge Strip and Earthwool Acoustic Roll or Earthwool Flexible Slab

Sf13



Insulation of internal timber floor

Product: Earthwool Acoustic Roll or Earthwool Flexible Slab

If01
If02



Concrete beam and block floor

Product: Earthwool Acoustic Roll

If03



Acoustic cavity barrier

Product: Rocksilks Smoke and Fire Barrier

Sc01



Separating floors

Separating floor design

Mineral wool products offer substantial advantages when used as both sound absorbent and resilient layers in floors that are required to provide sound insulation.

Mineral wool provides an alternative method of controlling airborne sound transmission through a floor as opposed to simply increasing the mass. The sound reduction performance of floors can be greatly increased by installing a layer of glass or rock mineral wool in floor voids to absorb energy from airborne sound waves.

A secondary benefit of glass or rock mineral wool is to provide thermal separation between floors so that dwellings can be zoned independently for heating.

When used as a resilient layer to isolate the floor surface from the structural deck, appropriate rock mineral wool products will *substantially* reduce the transmission of impact sound through a structure. Equally, extruded polyethylene offers a high level of performance when used as a resilient layer below a screed.

England and Wales

Compliance with Approved Document E for separating floors can be achieved in one of two ways:

- Construct the separating floor and show compliance by carrying out airborne and impact sound tests, in accordance with the procedures stated in the aforementioned document, proving the performance of the floor complies with the standards set out in the table below
- Construct the separating floor using a Robust Detail – no sound test is required, but a fee is payable to Robust Details Ltd

Robust Details

Monitoring of the Robust Details is carried out by Robust Details Ltd, a 'not for profit' company specifically set up for this purpose. See www.robustdetails.com. Robust Details Ltd will organise quality checking of existing Robust Details and be responsible for the future development of Robust Details.

All floating floor and ceiling treatments for separating floors, where stipulated, are to have a proven level of performance from laboratory tests before they can be used in a Robust Detail.

Scotland and Ireland

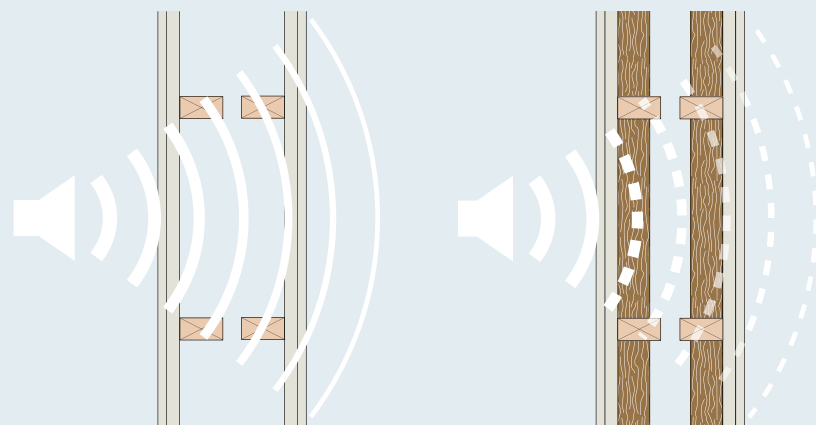
In Technical Handbook 5 of the Technical Standards in Scotland, Technical Booklet G in Northern Ireland and Part E of the Irish Regulations, compliance can be achieved either by adopting specified constructions or by testing to show that non-specified constructions meet the Performance Standards.

Note that Scotland, Northern Ireland and Ireland have not adopted the $D_{nT,w} + C_{tr}$ sound spectrum for testing that must be used in England and Wales. The performance standards are therefore not directly comparable.

The rationale for using mineral wool as noise control

The sound absorption characteristics of mineral wool make it ideal for use in modern buildings to comply with Approved Document E of the Building Regulations in England and Wales, Technical Handbook, Section 5 for Scotland and Technical booklets G and G1 for Northern Ireland. In addition, the thermal properties of mineral wool provide a secondary benefit of minimising heat loss, either between attached dwellings or between storeys within a dwelling. A further benefit is to minimise the overall mass of the construction, easing construction processes.

How glass or rock mineral wool works in a wall or floor cavity



In an unfilled cavity, the linings (plasterboard or chipboard etc) and cavity alone provide the sound insulation which can result in poor performance and a hollow sounding construction.

Adding mineral wool improves the sound insulation by absorbing reverberant sound within the cavity therefore reducing the amount of sound energy transferred from one side of the construction to the other.

Internal floors

Internal floor design

Internal floor design

The overwhelming concern of the designer when considering the internal floors of a dwelling is to ensure that the floor has the ability to support the dead and live loads that will be applied to it in the context of the whole structure of the building. Building Regulations determine the minimum standards for structure and fire resistance. Another important consideration is the spatial separation that the floors provide within a dwelling in both acoustic and thermal terms.

Quite reasonably, the occupier of a dwelling can expect there to be satisfactory acoustic separation between the various storeys within a dwelling particularly as bedrooms are normally separated from living rooms by floors. The acoustic separation provided by a new internal floor in new build dwellings is formally regulated in England and Wales by the Building Regulations.

The thermal performance of internal elements is not regulated, however, it makes sense that floors dividing spaces with different functions within buildings can help to maintain the optimum temperature required for the function of each space by installing zoning control systems which help to maximise the efficient use of the heating system.

Performance requirements

In England and Wales, the 2003 edition of Approved Document E introduced a new requirement for the sound insulation of internal floors within houses, flats and rooms for residential purposes. The requirement is for all internal floors to have a minimum sound insulation of 40 R_w dB.

Quality of detailing

A construction can only achieve its expected sound performance if it and the surrounding walls have no inherent faults in their detailing or workmanship. Performance will be impaired if there are:

- Gaps or holes in the construction – even hairline cracks can seriously impair sound insulation - seal all potential gaps with a flexible sealant
- Gaps in the absorbent layer within the cavity

Thermal insulation

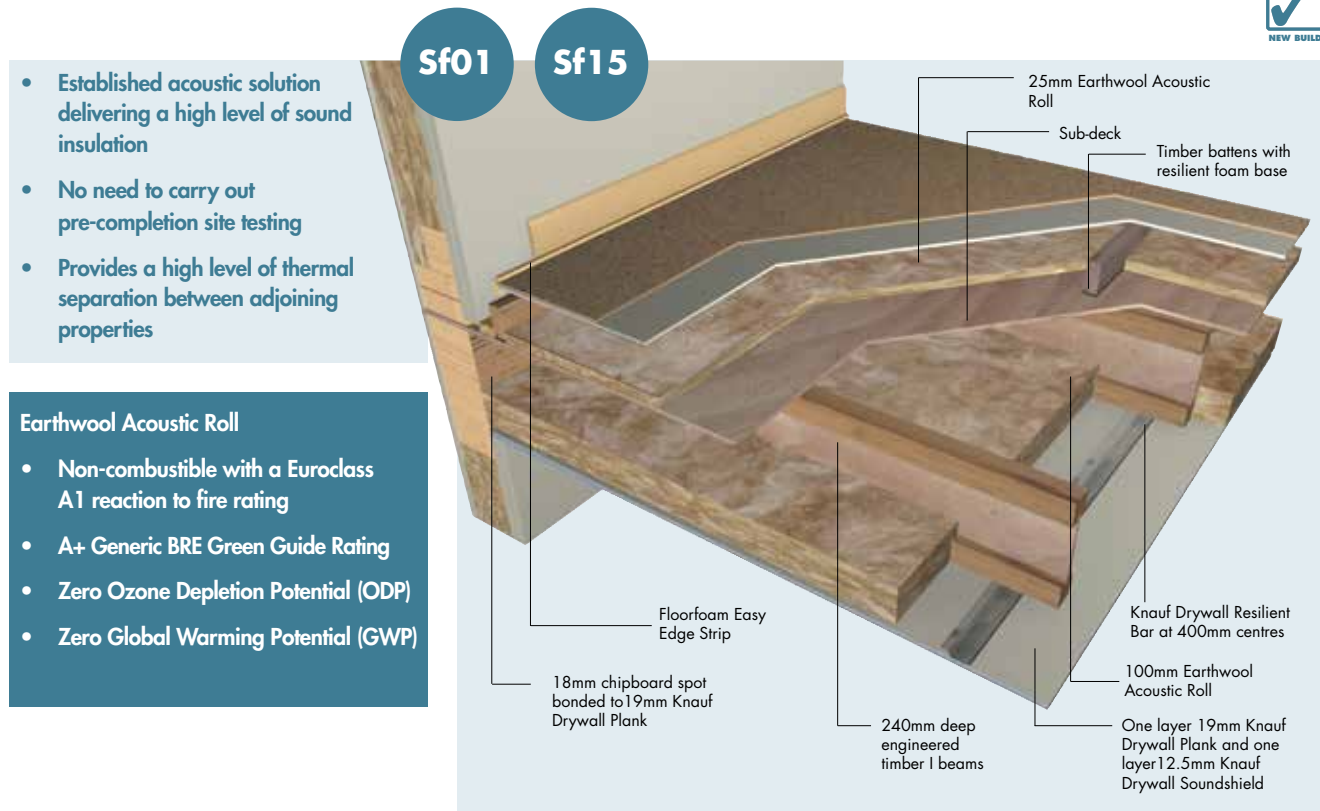
Whilst thermal insulation is not generally a regulatory requirement of floors, it may be desirable in certain circumstances. For example, insulated floors above and below rooms with high internal heat gains would help to avoid overheating in adjoining rooms in summer.



Separating floors

Timber frame floor with I-Beams (**RD** E-FT-1)

Earthwool Acoustic Roll and Floorfoam Easy Edge Strip



- Established acoustic solution delivering a high level of sound insulation
- No need to carry out pre-completion site testing
- Provides a high level of thermal separation between adjoining properties

Earthwool Acoustic Roll

- Non-combustible with a Euroclass A1 reaction to fire rating
- A+ Generic BRE Green Guide Rating
- Zero Ozone Depletion Potential (ODP)
- Zero Global Warming Potential (GWP)

Products

Earthwool Acoustic Roll is made from glass mineral wool and formed into rolls which are lightweight, flexible, resilient and non-combustible. The product's density meets the appropriate requirements of Robust Detail E-FT-1.

Floorfoam Easy Edge Strip is a strip of extruded polyethylene, pre-scored to fold around the edge of the floor deck. The 65mm wide top section is also scored at 10mm intervals to make trimming at the skirting easier. The 65mm vertical section incorporates a self adhesive strip with release tape. This enables Floorfoam Easy Edge Strip to be secured in place when the floor deck is laid.

Typical construction

Timber floor using engineered I beams with battened floor with 25mm Earthwool Acoustic Roll between resilient battens. 100mm Earthwool Acoustic Roll between the joists and a double layer ceiling of mass 24 kg/m² on Knauf Drywall resilient bars at 400mm centres.

The construction complies with Robust Detail E-FT-1. No pre-completion testing is required with Robust Details. Refer to Robust Details specification sheets and checklists for junction, flanking and other construction details.

It should be noted when considering using Robust Details in the construction of flats, that separating walls and floors must be compatible. The Robust Detail manual carries details of which walls and floors can be combined together.

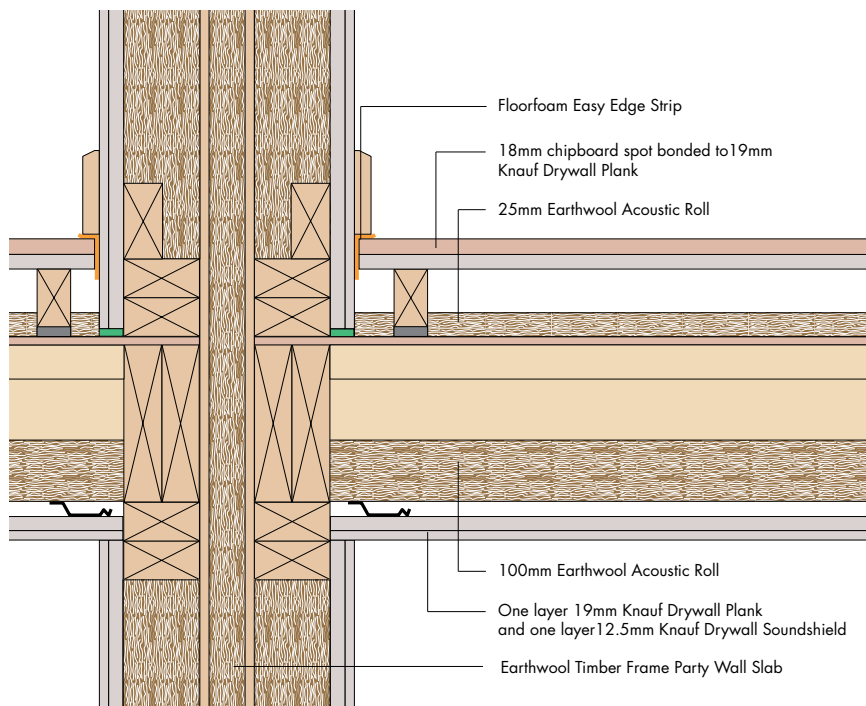
Installation

On completion of the structural timber floor, Knauf Drywall Resilient Bars are screw fixed to the underside of the joists. Lengths of Earthwool Acoustic Roll are inserted into the voids between the 'I' beams. The insulation should rest on the resilient bars and butt up against the I beams with no gaps. The plasterboard ceiling can then be fixed to the resilient bars. Ensure that the plasterboard screws do not penetrate into the timber 'I' beams.

On completion of the sub-floor deck and first fix services, resilient composite timber battens are laid out at 600mm centres. Earthwool Acoustic Roll is laid between the battens. It must be laid under any services in the sub-floor void. The plasterboard plank and chipboard floor deck are fixed to the timber battens.

Floorfoam Easy Edge Strip should be adhered to the perimeter wall with the integral self adhesive strip. The floor deck is laid and butted up to the Floorfoam Easy Edge Strip, which is later folded under the skirting to provide acoustic isolation of the floor deck from the walls.

Typical junction with timber party wall



Typical specification

Earthwool Acoustic Roll, 100mm thick, to be placed between the timber I beams.

Earthwool Acoustic Roll, 25mm thick, to be unrolled between the resilient floor battens.

Earthwool Acoustic Roll should be placed under any services running in the void between the battens.

The ceiling and floor to be as specified by the designer.



Alternatively, consult the National Building Specifications, Standard version clause/clauses...

P10/240.....

Knauf Insulation specification clauses can be downloaded from knaufinsulation.co.uk/nbs

Performance

Acoustic performance

This floor construction, if used on a building plot registered with Robust Details Limited, does not require pre-completion testing.

Fire performance

Earthwool Acoustic Roll is classified as Euroclass A1 to BS EN 13501-1.

Sf15

Although this solution was developed as a Robust Detail which can be used without on site testing in new build dwellings in England and Wales, its use with the same materials, is appropriate as a separating floor in both new build non dwellings such as student accommodation, nursing homes and hotels, constructed using light weight steel frames. Similarly, it could be used in refurbishment projects in both dwellings and non-dwellings in existing constructions which require new separating floors, providing the flanking walls are suitable. In all cases, if it is used for work other than new dwellings, its performance must be proven by the stipulated on site testing procedures that apply.

For dwellings in Scotland and Northern Ireland there are no approved engineered I-beam separating floor constructions. Performance must be proven by the stipulated on site testing procedures.

Separating floors

Timber frame floor with solid timber joists (**RD** E-FT-2)

Earthwool Acoustic Roll and Floorfoam Easy Edge Strip



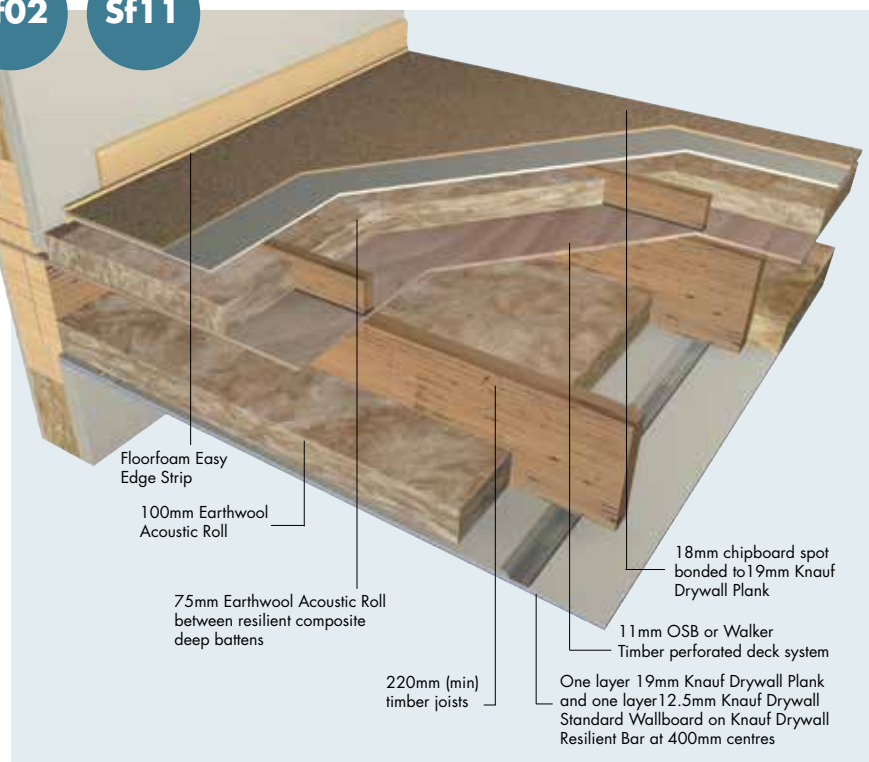
Sf02

Sf1 1

- Resilient deep battens and Floorfoam Easy Edge Strip isolate the flooring surface from the main structure
- Provides a high level of thermal separation between adjoining properties
- No need to carry out pre-completion site testing

Earthwool Acoustic Roll

- Non-combustible with a Euroclass A1 reaction to fire rating
- A+ Generic BRE Green Guide Rating
- Zero Ozone Depletion Potential (ODP)
- Zero Global Warming Potential (GWP)



Products

Earthwool Acoustic Roll is made from glass mineral wool and formed into rolls which are lightweight, flexible, resilient and non-combustible. The product's density meets the appropriate requirements of Robust Detail E-FT-2.

Floorfoam Easy Edge Strip is a strip of extruded polyethylene, pre-scored to fold around the edge of the floor deck. The 65mm wide top section is also scored at 10mm intervals to make trimming at the skirting easier. The 65mm vertical section incorporates a self adhesive strip with release tape. This enables the Floorfoam Easy Edge Strip to be secured in place when the floor deck is laid.

Typical construction

A new timber floor using solid timber joists with battened floor with 75mm Earthwool Acoustic Roll between resilient battens. 100mm Earthwool Acoustic Roll between the joists and a ceiling of double layer plasterboard on Knauf Drywall resilient bars at 400mm centres.

The construction complies with Robust Detail E-FT-2. No pre-completion testing is required with Robust Details. Refer to Robust Detail specification sheets and checklists for junction, flanking and other construction details.

It should be noted when considering using Robust Details in the construction of flats that separating walls and floors must be compatible. The Robust Detail manual carries details of which walls and floors can be combined together.

Installation

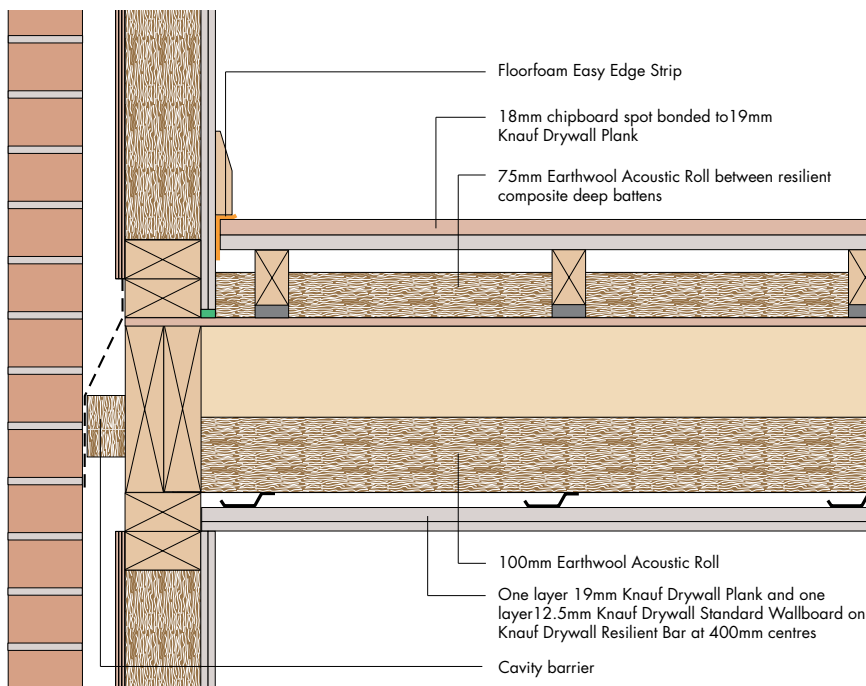
On completion of the structural timber floor, Knauf Drywall Resilient Bars are screw fixed to the underside of the joists. Lengths of Earthwool Acoustic Roll are inserted into the voids between the timber joists. The insulation should rest on the resilient bars and butt up against the timber joists with no gaps.

The plasterboard ceiling can then be fixed to the resilient bars. Ensure that the plasterboard screws do not penetrate into the timber joists.

On completion of the sub-floor deck and first fix services, resilient composite timber battens are laid out at 600mm centres. Earthwool Acoustic Roll is laid between the battens. It must be laid under the services in the sub-floor void. The plasterboard plank and chipboard floor deck are fixed to the timber battens.

Floorfoam Easy Edge Strip should be adhered to the perimeter wall with the integral self adhesive strip. The floor deck is laid and butted up to the Polyfoam Easy Edge Strip, which is later folded under the skirting to provide acoustic isolation of the floor deck from the walls.

Typical junction with external wall



Typical specification

Earthwool Acoustic Joist Roll, 100mm thick, to be placed between the timber joists.

Earthwool Acoustic Roll, 75mm thick, to be unrolled between the resilient floor battens. Earthwool Acoustic Roll should be placed under any services running in the void between the battens.

The ceiling and floor to be as specified by the designer.



Alternatively, consult the National Building Specifications, Standard version clause/clauses... P10/240.....

Knauf Insulation specification clauses can be downloaded knaufinsulation.co.uk/nbs

Performance

Acoustic performance

This floor construction, if used on a building plot registered with Robust Details Limited, does not require pre-completion testing.

Fire performance

Earthwool Acoustic Roll is classified as Euroclass A1 to BS EN 13501-1.

Sf11

Although this solution was developed as a Robust Detail which can be used without on site testing in new build dwellings in England and Wales, its use with the same materials, is appropriate as a separating floor in both new build non-dwellings such as student accommodation, nursing homes and hotels, constructed using light weight steel frames. Similarly, it could be used in refurbishment projects in both dwellings and non-dwellings in existing constructions which require new separating floors, providing the flanking walls are suitable. In all cases, if it is used for work other than new dwellings, its performance must be proven by the stipulated on site testing procedures that apply.

For dwellings in Scotland and Northern Ireland there are no approved timber separating floor constructions that directly reflect this solution. It may be used, but performance must be proven by the stipulated on site testing procedures.

Separating floors

Timber frame floor with metal web joists (RD E-FT-3)

Earthwool Acoustic Roll and Floorfoam Easy Edge Strip



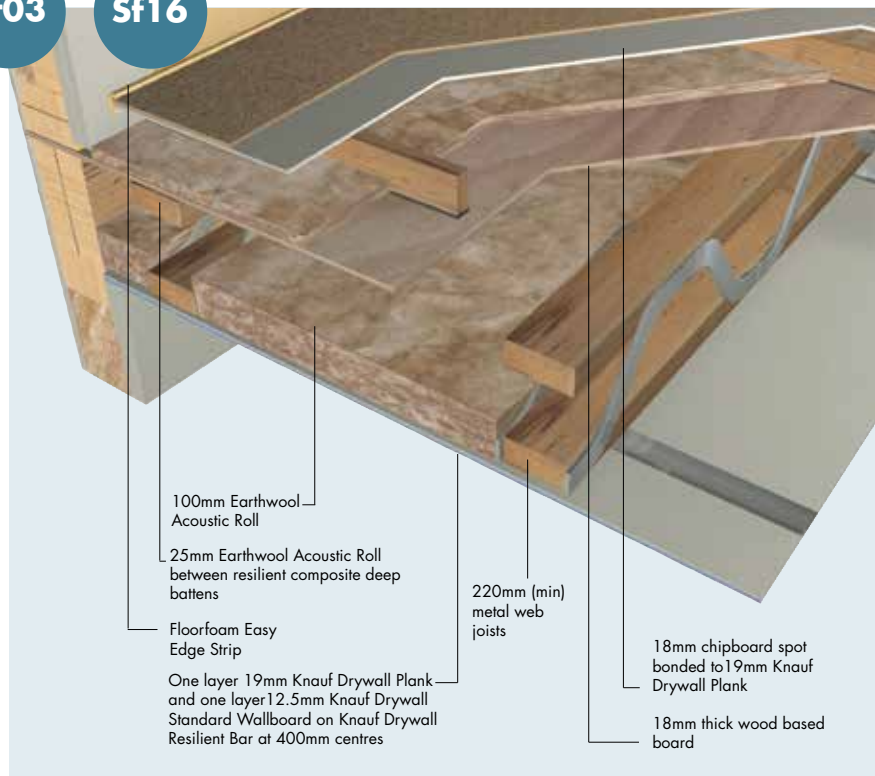
Sf03

Sf16

- Resilient deep battens and Floorfoam Easy Edge Strip isolate the floor surface from the main structure
- Provides a high level of thermal separation between adjoining properties
- No need to carry out pre-completion site acoustic tests

Earthwool Acoustic Roll

- Non-combustible with a Euroclass A1 reaction to fire rating
- A+ Generic BRE Green Guide Rating
- Zero Ozone Depletion Potential (ODP)
- Zero Global Warming Potential (GWP)



Products

Earthwool Acoustic Roll is made from glass mineral wool and formed into rolls which are lightweight, flexible, resilient and non-combustible. The product's density meets the appropriate requirements of Robust Detail E-FT-3.

Floorfoam Easy Edge Strip is a strip of extruded polyethylene, pre-scored to fold around the edge of the floor deck. The 65mm wide top section is also scored at 10mm intervals to make trimming at the skirting easier. The 65mm vertical section incorporates a self adhesive strip with release tape. This enables the Floorfoam Easy Edge Strip to be secured in place when the floor deck is laid.

Typical construction

A new timber floor using metal web joists built into frame to support floor. 100mm Earthwool Acoustic Roll is installed between the metal web joists and a ceiling of double layer plasterboard on Knauf Drywall resilient bars at 400mm centres, above which is a resilient battened floor with 25mm Earthwool Acoustic Roll between the resilient composite deep battens.

The construction complies with Robust Detail E-FT-3. No pre completion testing is required with Robust Details. Refer to Robust Details specification sheets and checklists for junction, flanking and other construction details.

It should be noted when considering using Robust Details in the construction of flats that separating walls and floors must be compatible. The Robust Detail manual carries details of which walls and floors can be combined together.

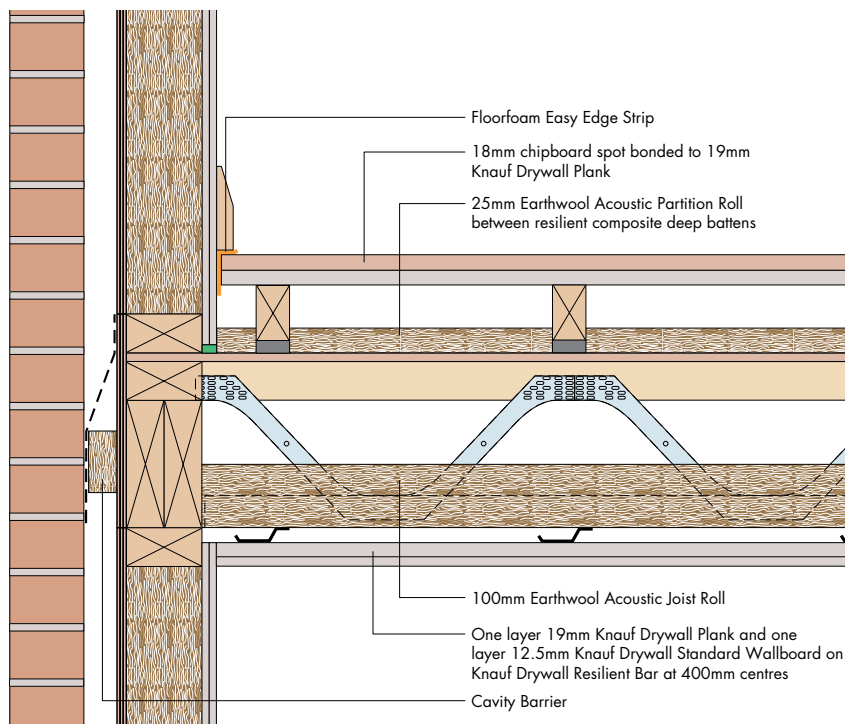
Installation

On completion of the structural timber floor, Knauf Drywall Resilient Bars are screw fixed to the underside of the metal web joists. Lengths of Earthwool Acoustic Roll are inserted into the voids between the web joists. The insulation should rest on the resilient bars and butt up against the joists with no gaps. The plasterboard ceiling can then be fixed to the resilient bars.

On completion of the sub-floor deck and first fix services, resilient composite timber battens are laid out at 600mm centres. Earthwool Acoustic Roll is laid between the battens. It must be laid under the services in the sub-floor void. The plasterboard plank and chipboard floor deck are fixed to the timber battens.

Floorfoam Easy Edge Strip should be adhered to the perimeter wall with the integral self adhesive strip. The floor deck is laid and butted up to the Floorfoam Easy Edge Strip, which is later folded under the skirting to provide acoustic isolation of the floor deck from the walls.

Typical junction with external wall



Performance

Acoustic performance

This floor construction, if used on a building plot registered with Robust Details Limited, does not require pre completion testing.

Fire performance

Earthwool Acoustic Roll is classified as Euroclass A1 to BS EN 13501-1.

Sf16

Although this solution was developed as a Robust Detail which can be used without on site testing in new build dwellings in England and Wales, its use with the same materials, is appropriate as a separating floor in both new build non-dwellings such as student accommodation, nursing homes and hotels, constructed using light weight steel frames. Similarly, it could be used in refurbishment projects in both dwellings and non-dwellings in existing constructions which require new separating floors, providing the flanking walls are suitable. In all cases, if it is used for work other than new dwellings, its performance must be proven by the stipulated on site testing procedures that apply.

For dwellings in Scotland and Northern Ireland there are no approved timber separating floor constructions that directly reflect this solution. It may be used, but performance must be proven by the stipulated on site testing procedures.

Typical specification

Earthwool Acoustic Roll, 100mm thick, to be placed between the timber joists.

Earthwool Acoustic Roll, 25mm thick, to be unrolled between the resilient floor battens. Earthwool Acoustic Roll should be placed under any services running in the void between the battens.

The ceiling and floor to be as specified by the designer.



Alternatively, consult the National Building Specifications, Standard version clause/clauses... P10/240.....

Knauf Insulation specification clauses can be downloaded from knaufinsulation.co.uk/nbs

Separating floors

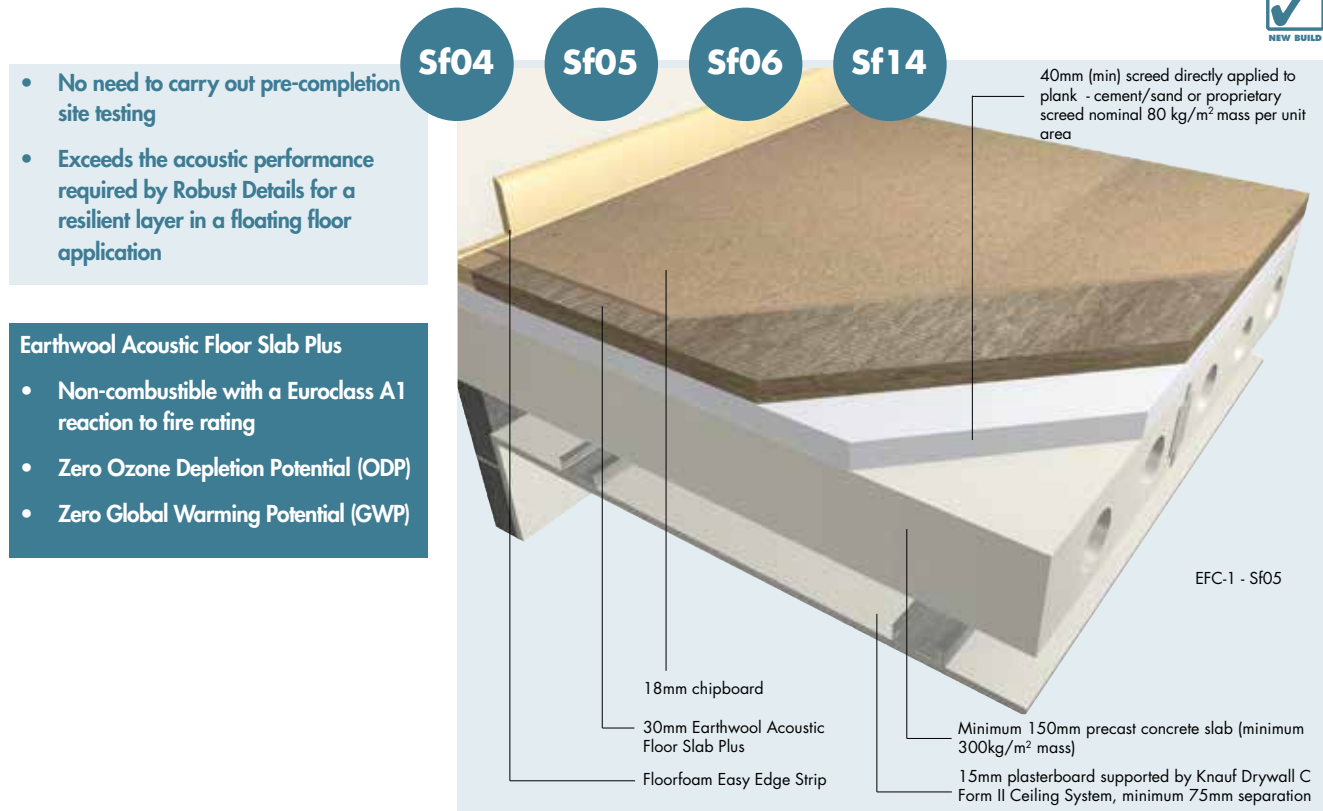
Concrete floor: plank and screed/cast in situ (RD E-FC-1, E-FC-2 and E-FS-1)



Earthwool Acoustic Floor Slab Plus



Earthwool Acoustic Floor Slab Plus and Floorfoam Easy Edge Strip



Products

Earthwool Acoustic Floor Slab Plus is a dense, rigid, non-combustible slab of rock mineral wool which is highly compression resistant.

Floorfoam Easy Edge Strip is a 10mm thick strip of extruded polyethylene, pre-scored to fold around the edge of a floating floor deck.

Typical construction

A precast concrete floor slab with a 40mm (min) screed directly applied to plank (cement/sand or proprietary screed nominal 80 kg/m² mass per unit area) and a floating floor of 18mm chipboard on 30mm Earthwool Acoustic Floor Slab Plus. A ceiling of 15mm plasterboard supported on the Knauf Drywall C Form II ceiling system.

The construction complies with Robust Standard Detail E-FC-1 with FFT4 floating floor treatment. No pre-completion testing is required with Robust Details. Refer to Robust Detail specification sheets and checklists for junction, flanking and other construction details.

It should be noted when considering using Robust Details in the construction of flats, that separating walls and floors must be compatible.

The Robust Detail manual carries details of which walls and floors can be combined together.

Earthwool Acoustic Floor Slab Plus is also suitable for Robust Standard Details E-FC-2 (Sf06) and E-FS-1 (Sf04), as illustrated on the page opposite.

Installation

The surface of the screed should be smooth and flat within 5mm when measured with a 2 metre straight edge.

When the screed has dried out, fix Floorfoam Easy Edge Strip to the perimeter wall with the integral self adhesive strip.

Install timber battens on resilient strips at the floor perimeter and thresholds then lay Earthwool Acoustic Floor Slab Plus over the entire floor area. The slabs should be tightly butted together with no open joints.

Lay the tongued and grooved chipboard over the insulation and glue all joints. Ensure that the Floorfoam Easy Edge Strip isolates the boards from the walls. Turn the top edge of the Floorfoam Easy Edge Strip onto the surface of

the chipboard and trim once the skirting has been fixed in position.

No services should be installed in the floor system.

Performance

Acoustic performance

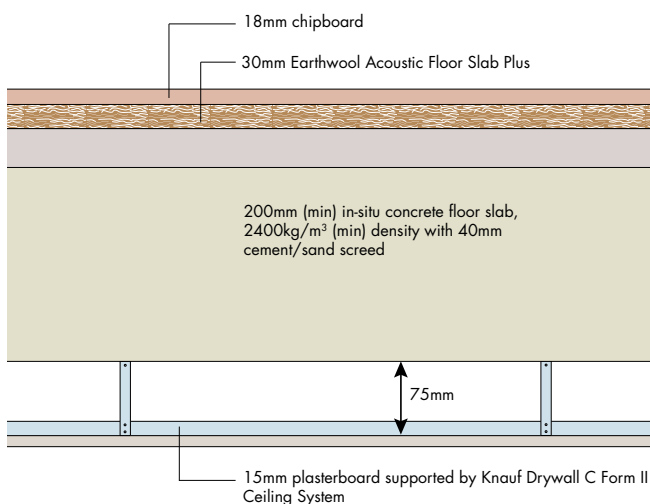
Earthwool Acoustic Floor Slab Plus has been tested with standard 18mm chipboard in accordance with the requirements of Robust Detail Appendix D to exceed the minimum requirement for acoustic performance for floating floor treatments for use with concrete and steel composite separating floors.

This floor construction, if used on a building plot registered with Robust Details Limited, does not require pre completion testing.

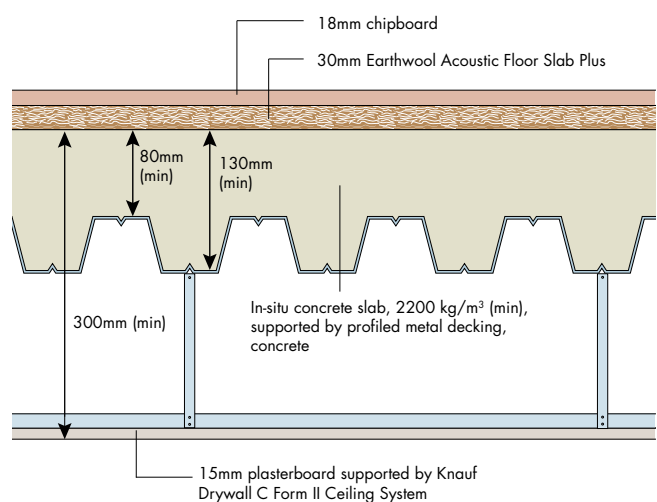
Fire performance

Earthwool Acoustic Floor Slab Plus is classified as Euroclass A1 to BS EN 13501-1.

Sf06 Cast in-situ separating floor (E-FC-2)



Sf04 Permanent formwork separating floor (E-FS-1)



Sf06 This is Robust Detail E-FC-2, which utilises the same floating floor treatment (FFT4) as Sf05, the solution described in the details on the opposite page. This floating floor treatment utilises 30mm Earthwool Acoustic Floor Slab Plus as the resilient layer and is installed in the same manner in this type of floor.

Sf04 This is Robust Detail E-FS-1, which utilises the same floating floor treatment (FFT4) as Sf05, the solution described in the details on page 238. This floating floor treatment utilises 30mm Earthwool Acoustic Floor Slab Plus as the resilient layer and is installed in the same manner in this type of floor.

Sf14 This is a generic solution for all concrete and steel/concrete decks based on Robust Details. The Robust Details can be used without on site testing in new build dwellings in England and Wales. This generic solution is also appropriate as a separating floor in both new build non-dwellings such as student accommodation, nursing homes and hotels constructed using appropriate constructions. Whether the floor is precast plank, cast in-situ slab, or concrete on permanent steel formwork, the floating floor treatment is the same. It utilises 30mm

Earthwool Acoustic Floor Slab Plus as the resilient layer and is installed in the same manner. Similarly, it could be used in refurbishment projects in both dwellings and non-dwellings in existing constructions which require new separating floors, providing the flanking walls are suitable. In all cases, if it is used for work other than new dwellings, its performance must be proven by the stipulated on site testing procedures that apply. For dwellings in Scotland and Northern Ireland there are no approved concrete floor constructions that directly reflect this solution. It may be used, but performance must be proven by the stipulated on site testing procedures.

Typical specification

Earthwool Acoustic Floor Slab Plus, 30mm thick, to be placed over the structural floor.

The slabs should be tightly butted together with no open joints.

18mm floating t and g chipboard floor as specified by the designer.



Alternatively, consult the National Building Specifications, Standard version clause/ clauses...K11/225.....

Knauf Insulation specification clauses can be downloaded from knaufinsulation.co.uk/nbs

Separating floors

Concrete floor with screed and resilient layer

Floorfoam and Floorfoam Easy Edge Strip

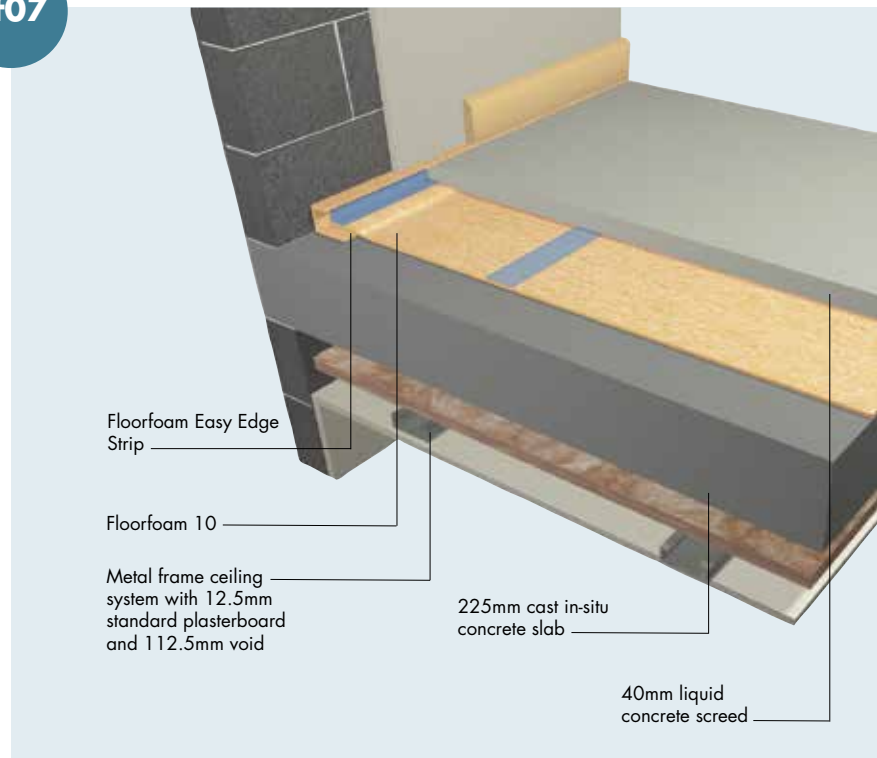


Sf07

- Special perimeter products make it easy to correctly install the edge detail - the most common failure in the installation of this type of system
- Robust resilient layer provides good acoustic absorption to improve impact sound performance

Floorfoam and Floorfoam Easy Edge Strip

- Zero Ozone Depletion Potential (ODP)
- Global Warming Potential (GWP) <5



Products

Floorfoam 10 is a 10mm thick extruded polyethylene resilient layer.

Floorfoam Easy Edge Strip is a 10mm thick strip of extruded polyethylene, pre-scored to fold around the edge of a floating floor screed.

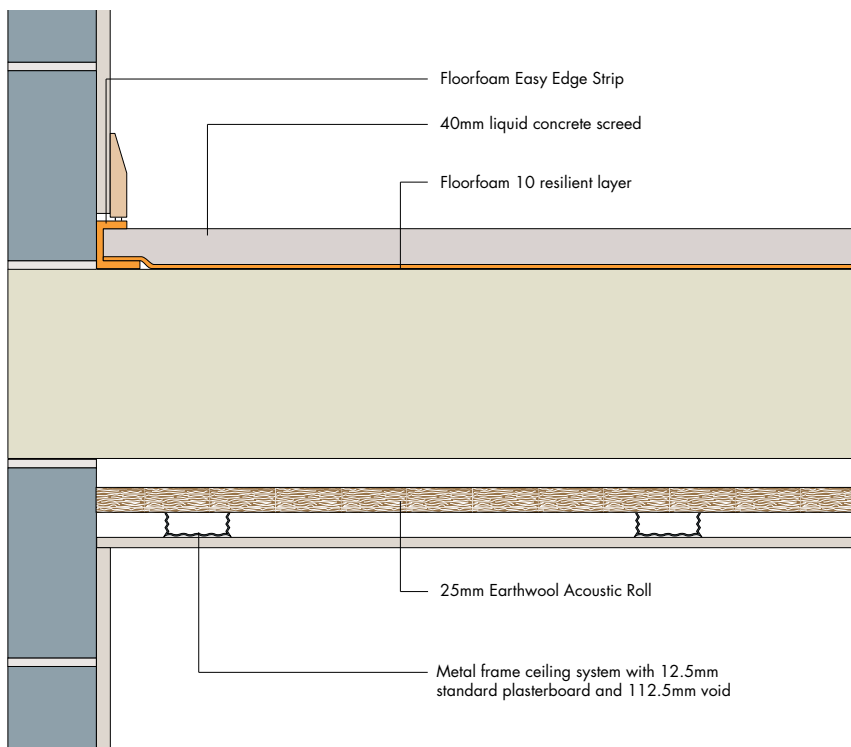
Typical construction

A cast in-situ solid concrete floor slab with a 40mm liquid concrete screed separated by a 10mm polyethylene foam resilient layer with junctions formed using a prefabricated edge strip. A ceiling of 8kg/m² standard 12.5mm plasterboard fixed to a metal frame system with a 112.5mm void.

Installation

A 225mm thick concrete floor slab (density of 1800kg/m³) is cast in-situ and then overlaid with Polyfoam Floorfoam 10 ensuring that all joints are butted together and taped. Place strips of Floorfoam Easy Edge Strip around the perimeter of the floor, using the self adhesive backing strip to hold it in place against the wall and tape the joints. Lay the Floorfoam 10 over the 'heel' of the Floorfoam Easy Edge Strip and tape the joint. The floor is then screeded to finish, taking care to ensure that the screed remains totally isolated from the main structure to prevent any acoustic transfer. Finally, the top part of the Floorfoam Easy Edge Strip is folded down over the screed. Place the skirting on the edge strip and fix to the wall, ensuring the edge strip is between the skirting and the floor screed. Trim the edge strip flush to the face of the skirting.

Typical junction with external wall



Performance

Acoustic performance

Floorfoam 10 and Easy Edge Strip have been developed for cushioning vibrations. Their closed cell construction makes them excellent at absorbing impact sound. This construction requires testing to show compliance with Building Regulations.

Fire performance

When Floorfoam is installed in a concrete floor construction it will not contribute to the development stages of a fire.

Density

Floorfoam 10 and Floorfoam Easy Edge Strip have a minimum density of 30 kg/m³.

Compression resistance

The closed cell nature of Floorfoam makes it resistant to compression.

Typical specification

An unfolded strip of Floorfoam Easy Edge Strip to be placed against the wall at the floor perimeter.

Overlay concrete floor slab with Floorfoam 10, closely butt jointing and taping joints, including overlap over heel of Floorfoam Easy Edge Strip.

Minimum 40mm liquid screed laid over the resilient layer. The screed to be isolated from the wall and structural elements in the floor.

Floorfoam Easy Edge Strip to be folded back over screed and fixed between skirting board and wall.



Alternatively, consult the National Building Specifications, Standard version clause/clauses... M10/290.....

Knauf Insulation specification clauses can be downloaded from knaufinsulation.co.uk/nbs

Separating floors

Concrete floor with screed and two resilient layers

Earthwool Acoustic Floor Slab Plus and Floorfoam Easy Edge Strip



Earthwool Acoustic Floor Slab Plus



Sf08

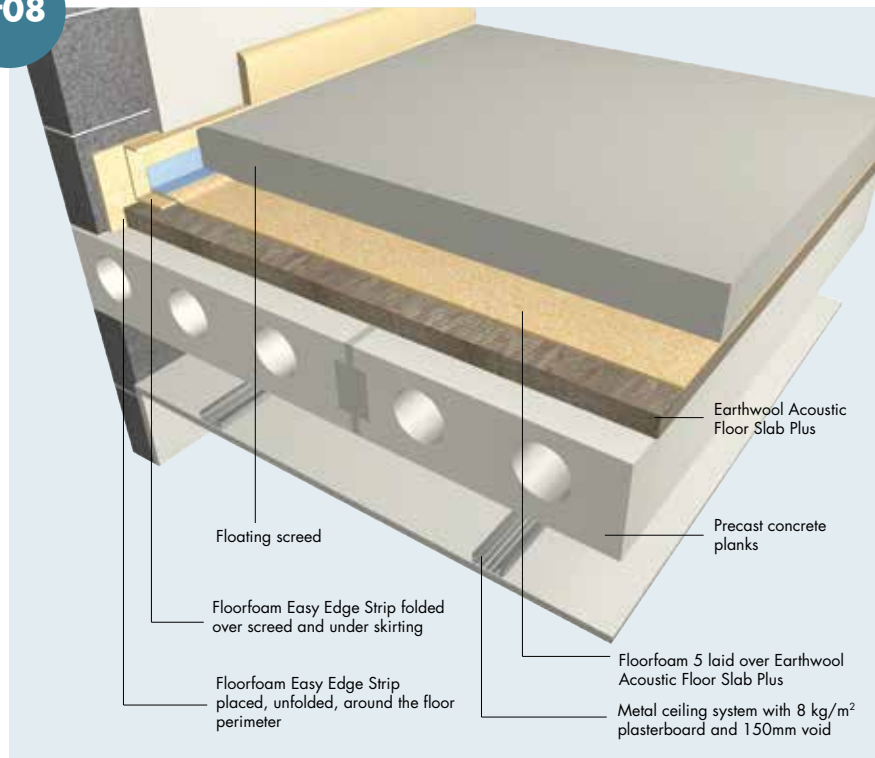
- Special perimeter products make it easy to correctly install the edge detail - the most common failure in the installation of this type of system
- Robust resilient layer provides good acoustic absorption to improve impact sound performance

Earthwool Acoustic Floor Slab Plus

- Non-combustible with a Euroclass A1 reaction to fire rating
- Zero Ozone Depletion Potential (ODP)
- Global Warming Potential (GWP)

Floorfoam and Floorfoam Easy Edge Strip

- Zero Ozone Depletion Potential (ODP)
- Global Warming Potential (GWP) <5



Products

Earthwool Acoustic Floor Slab Plus is a dense, rigid, non-combustible slab of rock mineral wool which is highly compression resistant.

Floorfoam 5 is a 5mm thick extruded polyethylene resilient layer.

Floorfoam Easy Edge Strip is a 10mm thick strip of extruded polyethylene, pre-scored to fold around the edge of a floating floor screed.

Typical construction

A precast concrete floor slab with a 65mm sand/cement screed or 40mm liquid screed (with a minimum mass of 80 kg/m²) on 5mm Floorfoam 5 and 25mm Earthwool Acoustic Floor Slab Plus. A ceiling of 15mm plasterboard supported on the Knauf Drywall C Form II ceiling system.

This construction requires testing to show compliance with Building Regulations.

Installation

All the joints between the precast planks should be grouted and sealed.

Place unfolded strips of Floorfoam Easy Edge Strip around the perimeter of the floor, using the self adhesive backing strip to hold it in place against the wall.

Lay the Earthwool Acoustic Floor Slab Plus over the entire floor area. The slabs should be tightly butted together with no open joints.

Place folded strips of Floorfoam Easy Edge Strip on top of the Earthwool Acoustic Floor Slab Plus at the floor perimeter.

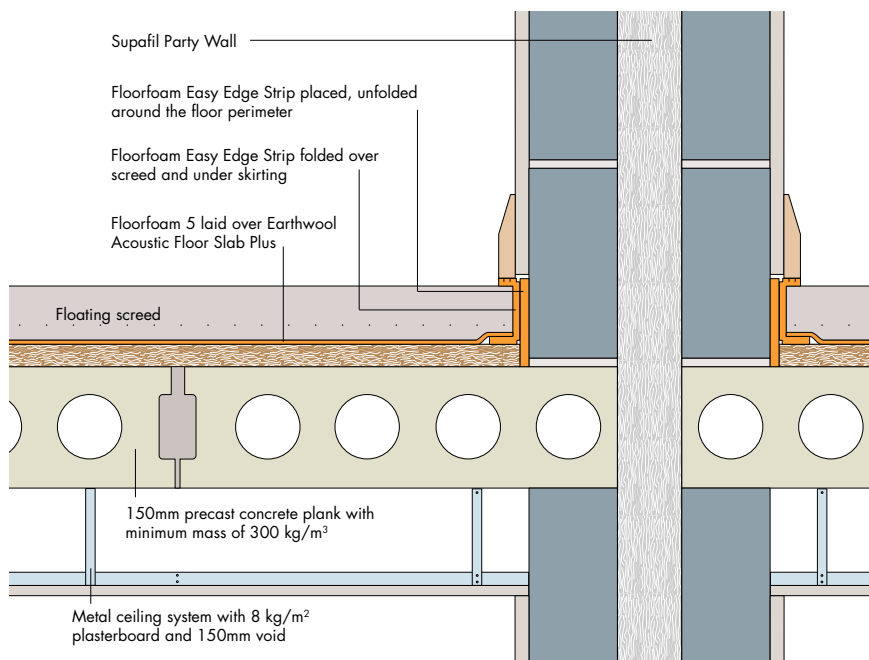
Overlay the Earthwool Acoustic Floor Slab Plus with the Floorfoam 5, with joints overlapped a minimum of 150mm and ensuring they do not coincide with the joints of the insulation slabs. Turn the Floorfoam 5 over the 'heel' of the Floorfoam Easy Edge Strip and tape the joint.

The floor is then screeded to finish, taking care to ensure that the screed remains totally isolated from the main structure to prevent any acoustic transfer.

Finally, the top part of the Floorfoam Easy Edge Strip is folded down over the screed.

Place the skirting on the edge strip and fix to the wall, ensuring the edge strip is between the skirting and the floor screed. Trim the edge strip flush to the face of the skirting.

Typical junction with party wall



Performance

Acoustic performance

Earthwool Acoustic Floor Slab Plus has excellent sound absorption characteristics.

Floorfoam has been developed for cushioning vibrations. Its closed cell construction makes it excellent at absorbing impact sound.

Fire performance

Earthwool Acoustic Floor Slab Plus is classified as Euroclass A1 to BS EN 13501-1.

When Floorfoam is installed in a concrete floor construction it will not contribute to the development stages of a fire.

Density

Floorfoam 5 and Floorfoam Easy Edge Strip have a minimum density of 30 kg/m³.

Compression resistance

Earthwool Acoustic Floor Slab Plus is manufactured to provide a very high level of compression resistance.

The closed cell nature of Floorfoam makes it resistant to compression.

Typical specification

An unfolded strip of Floorfoam Easy Edge Strip to be placed against the wall at the floor perimeter.

Earthwool Acoustic Floor Slab Plus, 25mm thick, to be placed over the structural floor. The slabs should be tightly butted together with no open joints.

Place a second, folded strip of Floorfoam Easy Edge Strip at the junction of the floor perimeter and the Earthwool Acoustic Floor Slab Plus.

Overlay Earthwool Acoustic Floor Slab Plus with Floorfoam 5, taped to the heel of the Floorfoam Easy Edge Strip.

Minimum 65mm cement/sand screed*/ minimum 40mm proprietary screed* laid over the resilient layers. The screed to be isolated from the wall and structural elements in the floor.

(* delete as appropriate)



Alternatively, consult the National Building Specifications, Standard version clause/clauses... M10/290.....

Knauf Insulation specification clauses can be downloaded from knaufinsulation.co.uk/nbs

Separating floors

Concrete floor with screed and resilient layer

Floorfoam and Floorfoam Easy Edge Strip

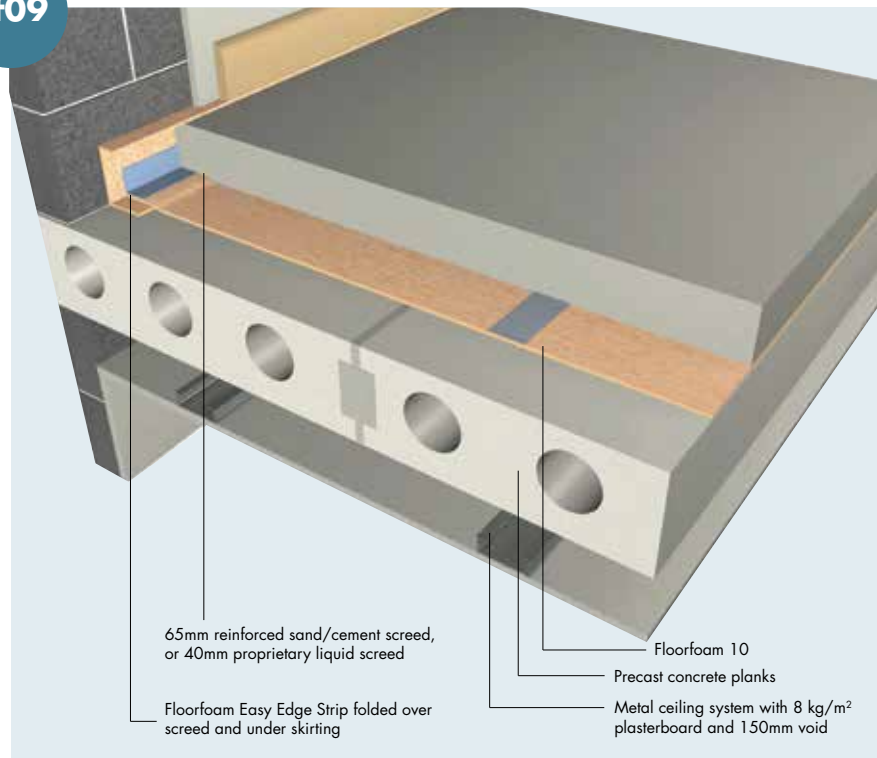


Sf09

- Special perimeter products make it easy to correctly install the edge detail - the most common failure in the installation of this type of system
- Robust resilient layer provides good acoustic absorption to improve impact sound performance

Floorfoam and Floorfoam Easy Edge Strip

- Zero Ozone Depletion Potential (ODP)
- Global Warming Potential (GWP) <5



Products

Floorfoam 10 is a 10mm thick extruded polyethylene resilient layer.

Floorfoam Easy Edge Strip is a 10mm thick strip of extruded polyethylene, pre-scored to fold around the edge of a floating floor screed.

Typical construction

A precast concrete floor slab with either a 65mm sand/cement screed or 40mm liquid screed (with a minimum mass of 80 kg/m²) on Floorfoam 10 and isolated from the perimeter walls with Floorfoam Easy Edge Strip. A ceiling of 8 kg/m² plasterboard is suspended on a metal frame system 150mm below the floor slab.

Installation

All the joints between the precast planks should be grouted and sealed.

Place folded strips of Floorfoam Easy Edge Strip at the floor perimeter.

Lay Floorfoam 10, with joints tightly butted and tape all joints. Tightly butt the Floorfoam 10 over the 'heel' of the Floorfoam Easy Edge Strip at wall junctions and tape the joint. Ensure there are no gaps.

The floor is then screeded to finish, taking care to ensure that the screed remains totally isolated from the main structure to prevent any acoustic transfer.

Finally, the top part of the Floorfoam Easy Edge Strip is folded down over the screed.

Plasterboard is installed on the wall and rested on top of the Easy Edge Strip.

When fixing the skirting, place it on the Easy Edge Strip and fix to the wall, ensuring the Easy Edge Strip is between the skirting and the floor screed. Trim the Easy Edge Strip flush to the face of the skirting and seal with acoustic sealant.

Performance

Acoustic performance

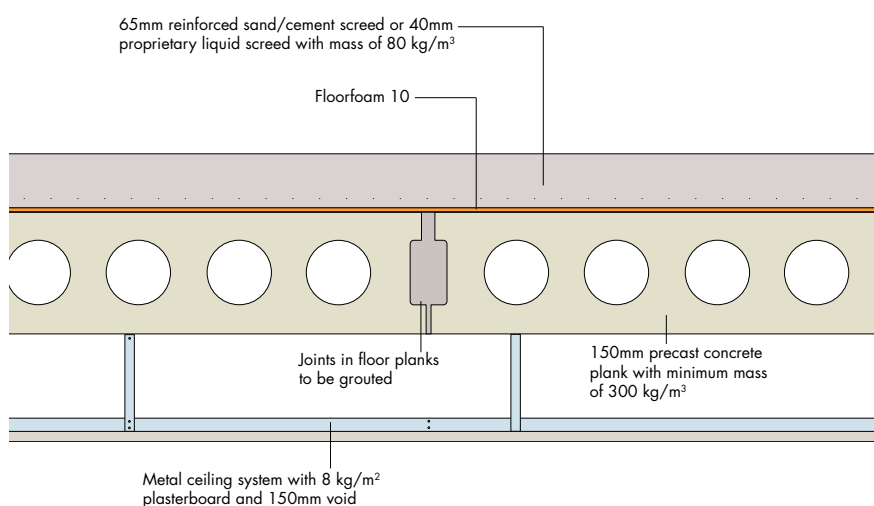
Floorfoam has been developed for cushioning vibrations. Its closed cell construction makes it excellent at absorbing impact sound.

The construction shown should achieve the sound insulation performance required by Approved Document E when Floorfoam 10 is used in conjunction with Floorfoam Easy Edge Strip.

The construction shown meets the requirements of Floor type 2 with floating layer F2 in Scotland (where a 12.5mm thick product is used) together with a levelling screed to the concrete floor and a separating membrane above the Floorfoam to prevent screed entering the resilient layer.

Fire performance

When Floorfoam is installed in a concrete floor construction it will not contribute to the development stages of a fire.



Typical specification

Place Floorfoam Easy Edge Strip at the floor perimeter.

Lay Floorfoam 10, and tape to the heel of the Floorfoam Easy Edge Strip. Tape all joints in Floorfoam 10.

Minimum 65mm cement/sand screed* / minimum 40mm proprietary screed* laid over the resilient layer. The screed to be isolated from the wall and all structural elements in the floor.

(* delete as appropriate)

Alternatively, consult the National Building Specifications, Standard version clause/clauses... M10/290.....

Knauf Insulation specification clauses can be downloaded from knaufinsulation.co.uk/nbs

Density

Floorfoam 10 and Floorfoam Easy Edge Strip have a minimum density of 30 kg/m³.

Compression resistance

The closed cell nature of Floorfoam makes it resistant to compression.

Table 21 - Results of acoustic test data – lab testing with Floorfoam

| Thickness (mm) | Screed type | Airborne R _w (C, C _{tr}) | Impact L _{n,w} |
|-------------------|--------------------|--|----------------------------|
| 12.5 | 65mm sand/cement | 57 dB (-1; -5) | 57 dB |
| 12.5 | 40mm liquid screed | 57 dB (-1; -5) | 56 dB |

Test method: BS EN ISO 140-3: 1995-TP15 and BS EN ISO 140-6: 1998-TP12.

Results interpretation: BS EN ISO 717-1: 1997 and BS EN ISO 717-2.

Table 22 - Results of acoustic test data – site testing

| Thickness (mm) | Screed type | Airborne R _w (C, C _{tr}) | Impact L _{n,w} |
|-------------------|--------------------|--|----------------------------|
| 10 | 65mm sand/cement | 53 dB | 54 dB |
| 10 | 40mm liquid screed | 51 dB | 55 dB |

Test method: BS EN ISO 140-4: 1995-TP15 and BS EN ISO 140-7.

Results interpretation: BS EN ISO 717-1: 1997 and BS EN ISO 717-2.

Separating floors

Concrete floor with underfloor heating

Polyfoam ECO Floorboard and Floorfoam and Floorfoam Easy Edge Strip

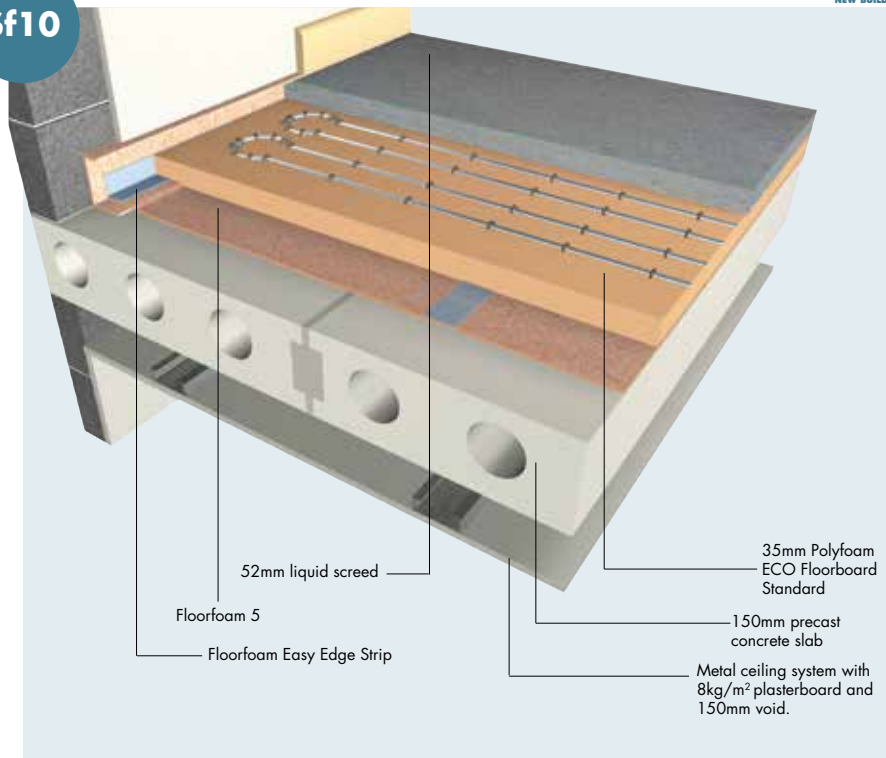


Sf10

- Allows underfloor heating to be used in upper floor flats whilst complying with the requirements of Part E of the Building Regulations
- Heating system and installation can be carried out by one contractor

Polyfoam ECO Floorboard, Floorfoam and Floorfoam Easy Edge Strip

- Zero Ozone Depletion Potential (ODP)
- Global Warming Potential (GWP) <5



Products

Floorfoam 5 is a 5mm thick extruded polyethylene resilient layer.

Floorfoam Easy Edge Strip is a 10mm thick strip of extruded polyethylene, pre-scored to fold around the edge of a floating floor screed.

Polyfoam ECO Floorboard Standard is a 100% ozone friendly extruded polystyrene rigid board. It is lightweight yet has excellent structural strength and long term effectiveness.

Typical construction

A precast concrete floor slab with a proprietary liquid screed on Polyfoam ECO Floorboard Standard with stapled underfloor heating system separated by Floorfoam 5 with junctions formed using Floorfoam Easy Edge Strip.

A ceiling of 8kg/m² plasterboard fixed to a metal frame system with a 150mm void.

The precast concrete hollow core slab should be 150mm thick and have a minimum mass of 300 kg/m². Joints between planks should be filled with a sand cement mix grout.

The heating pipes are stapled to the Polyfoam ECO Floorboard Standard, all boards should be closely butted together with all joints closed and taped.

Installation

All the joints between the precast planks should be grouted and sealed.

Place folded strips of Floorfoam Easy Edge Strip at the floor perimeter.

Lay Floorfoam 5, with joints butted together and taped. Lay the Floorfoam 5 over the heel of the edge strip and tape the joint.

Lay the Polyfoam ECO Floorboard Standard over the Floorfoam 5 and tape the joints.

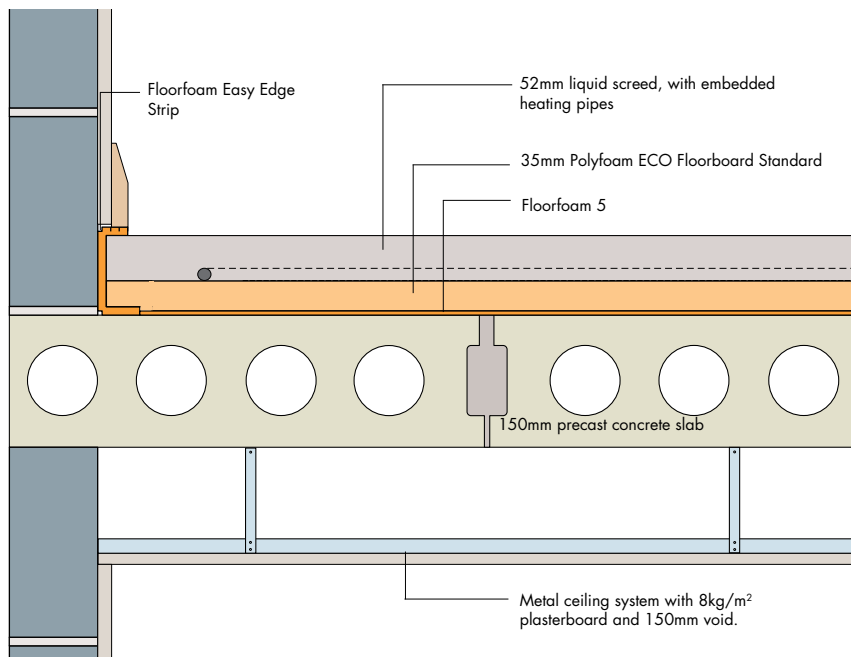
Install the heating pipes in accordance with the manufacturer's instructions.

The floor is then screeded to finish, taking care to ensure that the screed remains totally isolated from the main structure to prevent any acoustic transfer.

Finally, the top part of the Floorfoam Easy Edge Strip is folded down over the screed, the plasterboard is installed and rested on top of the Easy Edge Strip.

Place the skirting on the edge strip and fix to the wall, ensuring the edge strip is between the skirting and the floor screed. Trim the edge strip flush to the face of the skirting.

Where a greater level of compressive strength is required Polyfoam ECO Floorboard Extra should be used in place of Polyfoam ECO Floorboard Standard.



Typical specification

Place Floorfoam Easy Edge Strip at the floor perimeter.

Lay Floorfoam 5, butt joint and tape to the heel of the Floorfoam Easy Edge Strip.

Lay Polyfoam ECO Floorboard Standard all boards should be closely butted together with all joints closed and taped.

Minimum 52mm proprietary liquid screed laid over the resilient layers. The screed to be isolated from the wall and structural elements in the floor.



Alternatively, consult the National Building Specifications, Standard version clause/clauses... M10/290.....

Knauf Insulation specification clauses can be downloaded from knaufinsulation.co.uk/nbs

Performance

Acoustic performance

Floorfoam has been developed for cushioning vibrations. Its closed cell construction makes it excellent at absorbing impact sound.

The construction shown should achieve the sound insulation performance required by Approved Document E.

Fire performance

When Floorfoam and Polyfoam ECO Floorboard are installed in a concrete floor construction they will not contribute to the development stages of a fire.

Density

Floorfoam and Floorfoam 5 Easy Edge Strip have a minimum density of 30 kg/m³.

Compression resistance

The closed cell nature of Floorfoam makes it resistant to compression.

Table 23 - Results of acoustic test data

| Screed type | Airborne | Impact |
|--------------------|-------------------|-----------|
| | $R_w (C, C_{tr})$ | $L_{n,w}$ |
| 52mm liquid screed | 57dB (-1; -5) | 54dB |

Test method: BS EN ISO 140-3: 1995-TP15 and BS EN ISO 140-6: 1998-TP12

Results interpretation: BS EN ISO 717-1: 1997 and BS EN ISO 717-2

Table 24 - Compressive creep results for Polyfoam ECO Floorboards

| Product | Load applied (kPa) | Initial compression (%) | Further compression after 50 years (%) |
|----------------------------------|--------------------|-------------------------|--|
| Polyfoam ECO Floorboard Standard | 60 | 2 | 1.5 |
| Polyfoam ECO Floorboard Extra | 120 | 2 | 1.5 |

Separating floors

Upgrading existing timber floor with new ceiling

Earthwool Acoustic Roll or Earthwool Flexible Slab

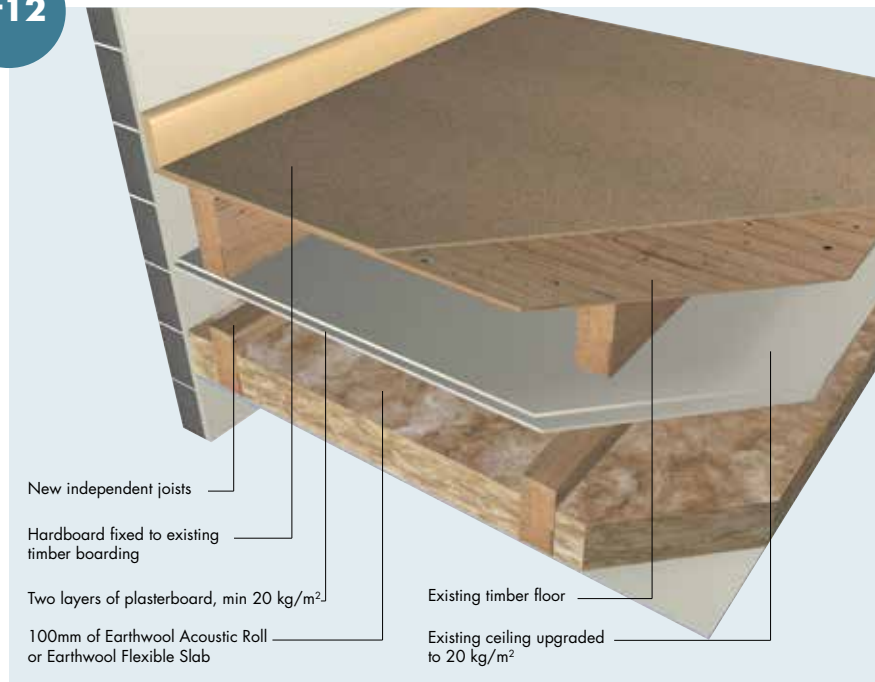


Sf12

- Product knits together and closes joints to help ensure sound insulation performance is achieved
- Provides a high level of thermal separation between adjoining properties

Earthwool Acoustic Roll and Earthwool Flexible Slab

- Non-combustible with a Euroclass A1 reaction to fire rating
- A+ Generic BRE Green Guide Rating
- Zero Ozone Depletion Potential (ODP)
- Zero Global Warming Potential (GWP)



Products

Earthwool Acoustic Roll is made from glass mineral wool and formed into rolls which are lightweight, flexible, resilient and non-combustible.

Earthwool Flexible Slab is a semi-rigid non-combustible rock mineral wool slab designed for friction fitting between timber joists.

Typical construction

Existing timber joist floor with existing boarding overlaid with hardboard. A new independent timber joist ceiling with 100mm Earthwool Acoustic Roll or 100mm Earthwool Flexible Slab between the joists and a double layer plasterboard ceiling of at least 20 kg/m² overall mass.

Where the existing ceiling is being retained, it should be upgraded to achieve an overall mass of at least 20 kg/m².

The construction is as recommended for Floor treatment 1 in Approved Document E and is for use where flats are formed by material change of use. Pre-completion testing is required.

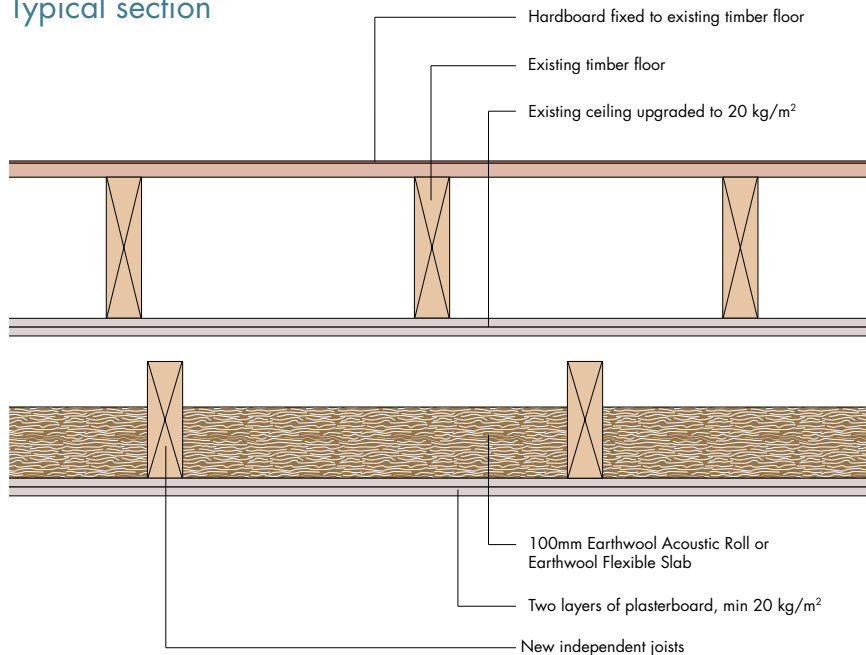
Installation

Any remedial work necessary to the existing ceiling should be carried out before installation of the new independent ceiling.

After installing the new independent ceiling joists, friction fit 100mm Earthwool Acoustic Roll or 100mm Earthwool Flexible Slab between the joists. The insulation should butt up tightly against the sides of each joist, with no gaps between the rolls/slabs.

Install the double layer plasterboard ceiling as specified. Seal the perimeter of the new ceiling with tape or sealant. Leave at least 25mm clearance between the top of the new ceiling joists and the underside of the existing ceiling.

Typical section



Typical specification

Earthwool Acoustic Roll*/Earthwool Flexible Slab*, 100mm thick, to be placed between the timber joists of the independent ceiling.



Alternatively, consult the National Building Specifications, Standard version clause/clauses... P10/240.....

Knauf Insulation specification clauses can be downloaded from knaufinsulation.co.uk/nbs

Performance

Acoustic performance

This construction has the potential to comply with the requirements of the Building Regulations when forming a separating floor from an existing floor by material change of use. Compliance can only be demonstrated by a package of sound testing agreed with Building Control.

Earthwool Acoustic Roll and Earthwool Flexible Slab have excellent sound absorption characteristics. For optimum performance, the insulation rolls/slabs should be tightly butted together with no open joints.

Fire performance

Earthwool Acoustic Roll and Earthwool Flexible Slab are classified as Euroclass A1 to BS EN 13501-1.

Generally, this type of floor construction will be required to provide 30 minutes fire resistance. This will be provided by the plasterboard ceiling.

Density

Both Earthwool Acoustic Roll (100mm) and Earthwool Flexible Slab have a density in excess of 10 kg/m³.

Separating floors

Upgrading existing timber floor with new platform floor

Earthwool Acoustic Floor Slab, Floorfoam Easy Edge Strip and Earthwool Acoustic Roll or Earthwool Flexible Slab



Earthwool Acoustic Floor Slab



- Product knits together and closes joints to help ensure sound insulation performance is achieved
- Provides a high level of thermal separation between adjoining properties

Earthwool Acoustic Roll and Earthwool Flexible Slab

- Non-combustible with a Euroclass A1 reaction to fire rating
- A+ Generic BRE Green Guide Rating
- Zero Ozone Depletion Potential (ODP)
- Zero Global Warming Potential (GWP)



Products

Earthwool Acoustic Floor Slab is a rigid, non-combustible, compression resistant slab of rock mineral wool.

Earthwool Acoustic Roll is made from glass mineral wool and formed into rolls which are lightweight, flexible, resilient and non-combustible.

Earthwool Flexible Slab is a semi-rigid non-combustible rock mineral wool slab designed for friction fitting between timber joists.

Floorfoam Easy Edge Strip is a strip of extruded polyethylene, pre-scored to fold around the edge of the floating floor deck.

Typical construction

Existing timber joist floor with new floating platform (min 25kg/m²) on a resilient layer of 25mm Earthwool Acoustic Floor Slab. 100mm Earthwool Acoustic Roll or 100mm Earthwool Flexible Slab to be installed between the joists of the existing floor.

The existing ceiling should be upgraded to achieve an overall mass of at least 20 kg/m².

The construction is as recommended for Floor treatment 2 in Approved Document E and is for use where flats are formed by material change of use. Pre-completion testing is required.

Installation

Before installing the floating platform, lay 100mm Earthwool Acoustic Roll or place 100mm Earthwool Flexible Slab between the joists of the existing floor. The insulation should butt up tightly against the sides of each joist, with no gaps between the rolls/slabs.

Refix the floor deck and fix Floorfoam Easy Edge Strip to the perimeter wall with the integral self adhesive strip.

Install timber battens on resilient strips at the floor perimeter and thresholds.

Lay Earthwool Acoustic Floor Slab to cover the entire floor. The joints between slabs should be tightly butted together.

Lay sheets of 19mm plasterboard over the resilient layer and butt up to the Floorfoam Easy Edge Strip. Spot bond 18mm tongue and groove chipboard to the plasterboard and glue the tongue and groove joints. The joints between the two layers should be staggered. Floorfoam Easy Edge Strip is folded under the skirting to provide acoustic isolation of the floor deck from the walls.

Internal partitions should be built off the structural timber floor. No services should be placed within, or penetrate the resilient layer.

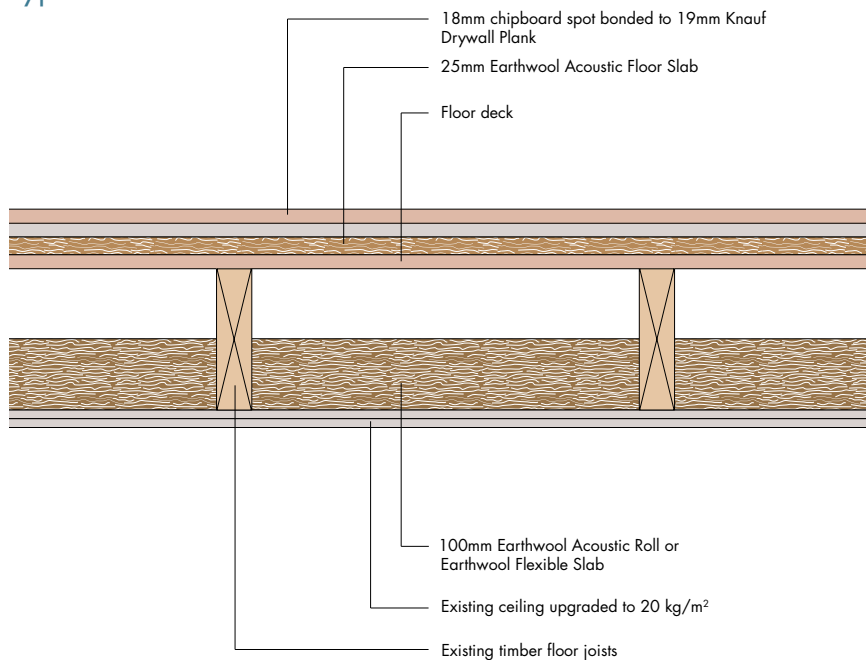
Performance

Acoustic performance

This construction has the potential to comply with the requirements of the Building Regulations when forming a separating floor from an existing floor by material change of use. Compliance can only be demonstrated by a package of sound testing agreed with Building Control.

Earthwool Acoustic Floor Slab, Earthwool Acoustic Roll and Earthwool Flexible Slab have excellent sound absorption characteristics.

Typical section



Typical specification

Earthwool Acoustic Roll*/Earthwool Flexible Slab* 100mm thick, to be placed between the existing floor joists.

(*Delete as appropriate).

Earthwool Acoustic Floor Slab, 25mm thick, to be placed over the existing floor deck. All joints to be close butted and taped.

The floating platform floor to be as specified by the designer.



Alternatively, consult the National Building Specifications, Standard version clause/clauses...

P10/240 and

K11/225.....

Knauf Insulation specification clauses can be downloaded from knaufinsulation.co.uk/nbs

Fire performance

Earthwool Acoustic Roll, Earthwool Acoustic Floor Slab and Earthwool Flexible Slab are classified as Euroclass A1 to BS EN 13501-1.

Generally, this type of floor construction will be required to provide 30 minutes fire resistance. This will be provided by the plasterboard ceiling.

Density

Earthwool Acoustic Floor Slab has a density of 100 kg/m³.

Both Earthwool Acoustic Roll and Earthwool Flexible Slab have a density in excess of 10 kg/m³.

Compression resistance

Earthwool Acoustic Floor Slab is manufactured to provide a high level of compression resistance.

Internal floors

Insulation of internal timber floor

Earthwool Acoustic Roll or Earthwool Flexible Slab



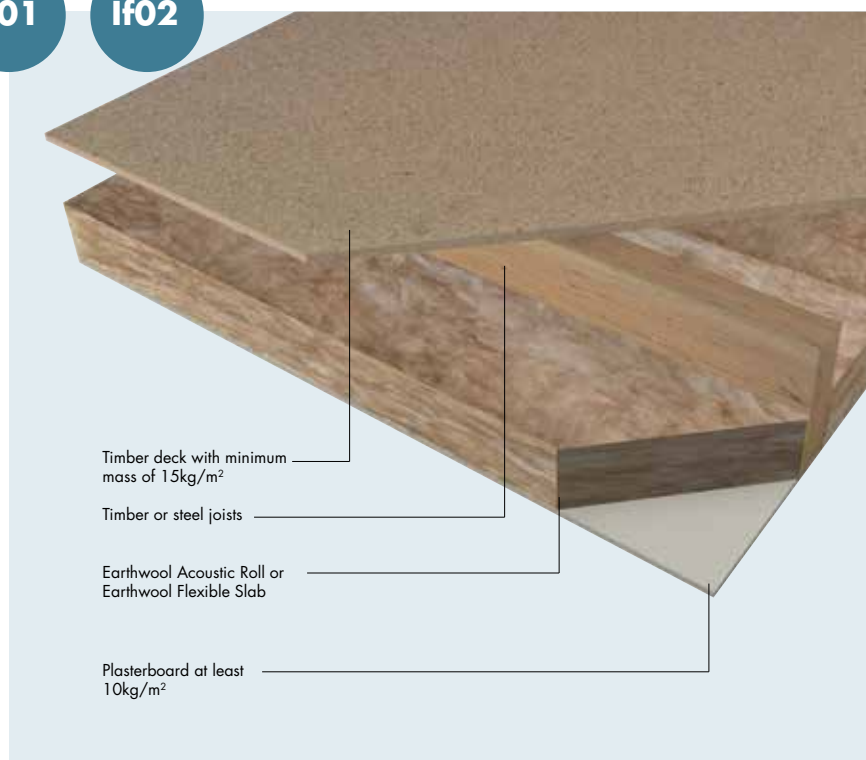
If01

If02

- Improved acoustic performance with no increase in floor depth and minimal increase in floor weight
- Product knits together and closes joints to help ensure sound insulation performance is achieved
- Provides a high level of thermal separation between adjoining properties

Earthwool Acoustic Roll and Earthwool Flexible Slab

- Non-combustible with a Euroclass A1 reaction to fire rating
- A+ Generic BRE Green Guide Rating
- Zero Ozone Depletion Potential (ODP)
- Zero Global Warming Potential (GWP)



Products

Earthwool Acoustic Roll is made from glass mineral wool and formed into rolls which are lightweight, flexible, resilient and non-combustible.

Earthwool Flexible Slab is a semi-rigid non-combustible rock mineral wool slab designed for friction fitting between timber joists.

Typical construction

Timber or metal joist floor with a plasterboard (10kg/m² minimum) ceiling and 100mm Earthwool Acoustic Roll or 100mm Earthwool Flexible Slab between the joists. Floor deck to be timber or wood based board with a minimum mass of 15 kg/m², e.g. 22mm chipboard. The insulation should butt up tightly against the sides of each joist, with no gaps between the rolls/slabs.

Performance

Acoustic performance

The construction complies with internal floor type C in Approved Document E2.

Fire performance

Earthwool Acoustic Roll and Earthwool Flexible Slab are classified as Euroclass A1 to BS EN 13501-1.

Density

Both Earthwool Acoustic Roll and Earthwool Flexible Slab have a density in excess of 10 kg/m³.

Typical specification

Earthwool Acoustic Roll*/Earthwool Flexible Slab*, 100mm thick, to be placed between the floor joists.

(*Delete as appropriate)

The ceiling and floor deck to be as specified by the designer.



Alternatively, consult the National Building Specifications, Standard version clause/clauses... P10/240.....

Knauf Insulation specification clauses can be downloaded from knaufinsulation.co.uk/nbs

If02

If02 is an alternative solution to If01. It replaces Earthwool Acoustic Roll with Earthwool Flexible Slab.

Internal floors

Concrete beam and block floor

Earthwool Acoustic Roll



If03

- Mineral wool in void absorbs sound and improves acoustic performance
- High mass of concrete floor units provides good acoustic performance
- The independent ceiling provides good acoustic isolation and space for services

Earthwool Acoustic Roll

- Non-combustible with a Euroclass A1 reaction to fire rating
- A+ Generic BRE Green Guide Rating
- Zero Ozone Depletion Potential (ODP)
- Zero Global Warming Potential (GWP)



Products

Earthwool Acoustic Roll is made from glass mineral wool and formed into rolls which are lightweight, flexible, resilient and non-combustible.

Typical construction

Concrete beam and block floor with a minimum mass per unit area of 220kg/m² finished with a bonded 40mm sand/cement screed. Plasterboard ceiling with a minimum mass of 10kg/m² fixed to the Knauf Drywall C-Form II ceiling system with 25mm Earthwool Acoustic Roll in the ceiling void.

Contact the manufacturer of the beam and block floor system to determine the correct method of mechanically fixing channels to the beams.

Performance

Acoustic performance

The construction complies with internal floor type B in Approved Document E2.

Fire performance

Earthwool Acoustic Roll is classified as Euroclass A1 to BS EN 13501-1.

Density

25mm Earthwool Acoustic Roll has a density of 19.5 kg/m³.

Typical specification

Earthwool Acoustic Roll, 25mm thick, to be supported by the horizontal members of the Knauf Drywall C-Form II ceiling system.

The plasterboard ceiling to be as specified by the designer.



Alternatively, consult the National Building Specifications, Standard version clause/clauses...

K10/235.....

Knauf Insulation specification clauses can be downloaded from knaufinsulation.co.uk/nbs

Suspended ceilings

Acoustic cavity barrier

Rocksilk Smoke and Fire Barrier

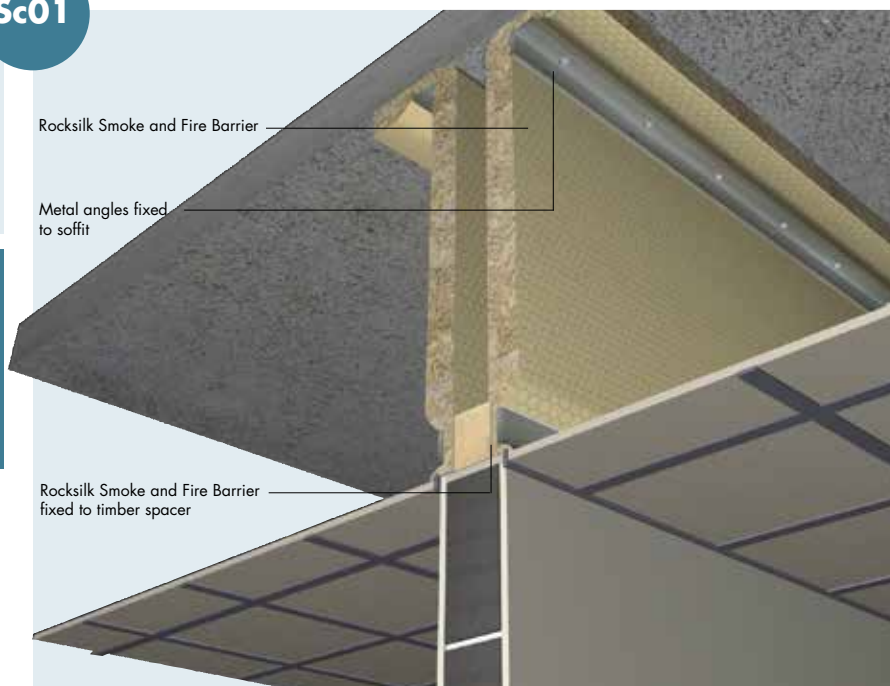


Sc01

- High levels of sound insulation performance can be achieved
- System uses standard metal components
- Solution delivers both fire and acoustic performance

Rocksilk Smoke and Fire Barrier

- Non-combustible with a Euroclass A1 reaction to fire rating
- Zero Ozone Depletion Potential (ODP)
- Zero Global Warming Potential (GWP)



Products

Rocksilk Smoke and Fire Barrier is made from rock mineral wool and formed into a flexible mattress faced on one side with galvanised wire mesh stitched in position.

Rocksilk Smoke and Fire Barrier is also available foil faced on one or both sides.

Typical construction

A single or double layer of 50mm Rocksilk Smoke and Fire Barrier, applied as a hanging curtain, supported continuously from above and both sides. At the base it is either lapped freely on to the back of a suspended ceiling or fixed to a partition head. Suitable for drops up to 7 metres.

Always use foil faced Rocksilk Smoke and Fire Barrier when the ceiling void is used as an air plenum.

Installation

See pages 288 - 289 for installation details.

Performance

Acoustic performance

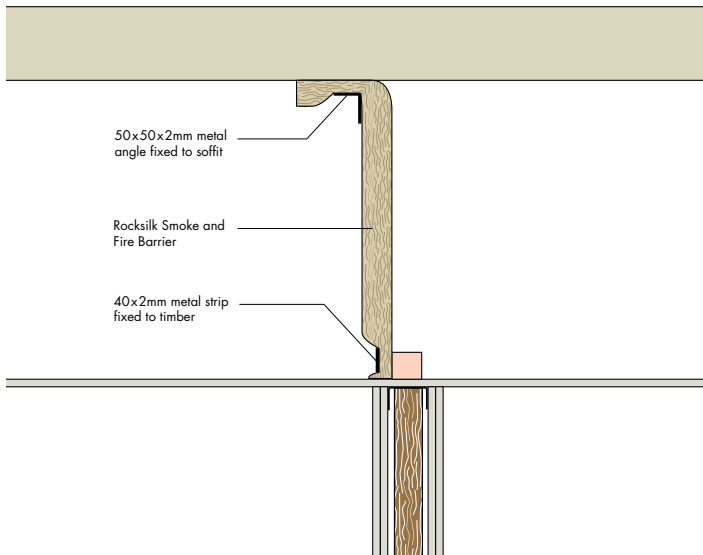
A cavity barrier comprised of one layer of foil faced 50mm Rocksilk Smoke and Fire Barrier will offer significant sound reduction. When coupled with a ceiling system offering at least 32dB sound reduction, the partition offering 44dB sound reduction, the flanking path through the ceiling and cavity barrier can also achieve a sound reduction of 44dB. If a double layer (foil faced) is installed, the room to room sound reduction is 50dB, for a single unfaced layer the value is 42dB.

Fire performance

Rocksilk Smoke and Fire Barrier is classified as non-combustible to BS 476: Part 4: 1970. Rocksilk Smoke and Fire Barrier has a Class 1 surface spread of flame to BS 476: Part 7: 1997 and is Class 'O' to the Building Regulations.

Table 25 - Acoustic performance

| Thickness | Ceiling performance | Room to room sound reduction |
|------------------------------|---------------------|------------------------------|
| (mm) | R_w | R_w |
| 50mm (unfaced) | 32dB | 42dB |
| 50mm foil faced (one side) | 32dB | 44dB |
| 2x50mm foil faced (one side) | 32dB | 50dB |



Typical specification

A single*/double* layer of 50mm Rocksilks Smoke and Fire Barrier (*foil faced) to be installed in the positions marked on the drawings, and fixed in accordance with the manufacturer's recommendations. All joints either tightly butted, overlapped, or with edges returned, and stitched in a continuous spiral loop with 1mm diameter galvanised lacing wire.

(* delete as required)

nbsPlus Alternatively, consult the National Building Specifications, Standard version clause/clauses... K10/545A.....

Knauf Insulation specification clauses can be downloaded from knaufinsulation.co.uk/nbs

Flanking sound

The void above a suspended ceiling is a potential route for flanking sound above partitions. This is especially true where a lightweight, modular ceiling is installed.

The sound absorbent characteristics of mineral wool can be employed to minimise the 'acoustic weakness' of suspended ceilings by installing mineral wool cavity barriers above partitions.

Sound absorbent cavity barriers

There are many situations, such as hospital consulting rooms, where it is important that the sound performance of a partition is not compromised by the void above the suspended ceiling. In these cases, a mineral wool cavity barrier, in combination with the suspended ceiling, can limit flanking sound – see illustrations below.

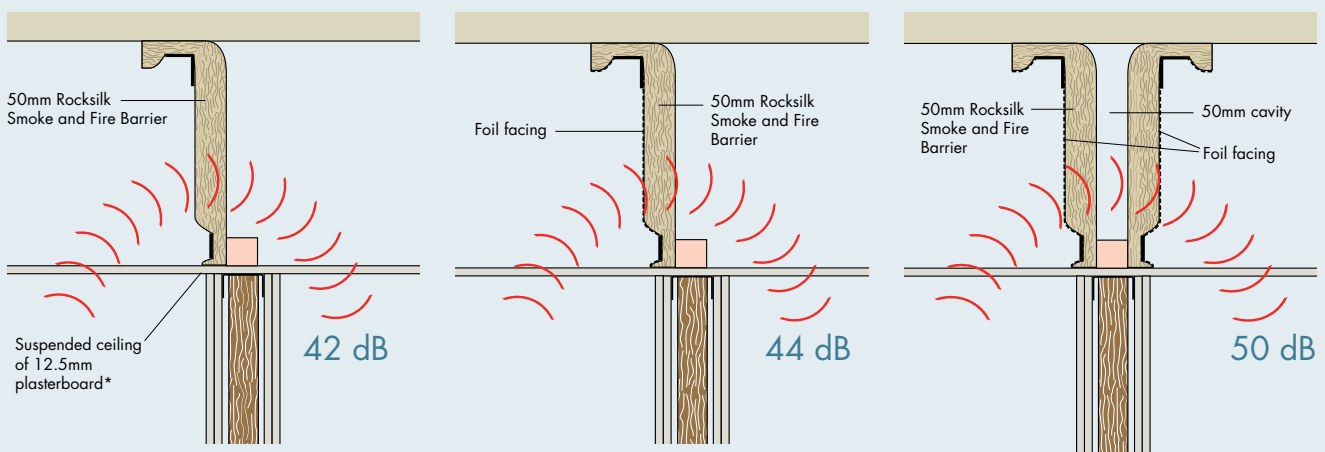
To achieve the sound reduction figures in the illustrations below, the partition must have at least the same level of sound insulation as the cavity barrier and ceiling combined.

Fire protection

Concealed spaces or cavities, particularly those above a suspended ceiling, provide a ready made route for smoke and flame spread. Cavity barriers above suspended ceilings are used to prevent smoke and flame from bypassing fire resisting walls and partitions.

The Building Regulations require cavity barriers to be provided above suspended ceilings in non-domestic buildings where the fire resisting construction is not carried full storey height. See pages 282 - 289 for more details of cavity barriers in ceiling voids to prevent fire spread.

Typical sound performance of Rocksilks Smoke and Fire Barrier above partitions



* The sound reduction values for the flanking route above the partition will be achieved when the ceiling achieves approximately 32 dB in its own right.

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Literature
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