

Insulation for use in Internal Walls and Floors

Internal Walls and Floors Design & Installation Guide
URSA ACOUSTIC ROLL





URSA. Insulation for a better tomorrow.

URSA have been specialists in innovative, award-winning insulation since 1959 - and a leading European manufacturer of glass mineral wool for over 50 years.

Our headquarters are in Madrid, Spain, although our business spans more than 40 countries, with 11 production sites and over 1,500 employees. Our team in the UK are dedicated to providing glass mineral wool insulation solutions, whatever the project.

Part of the Etex Group

In 2022 URSA became part of Etex - a global group comprising of 160 facilities across 45 countries and the name behind many other construction product brands in the building materials sector including Superglass, a leading UK glass mineral wool insulation manufacturer. In 2025, the Superglass and URSA brands came together to form Etex UK Insulation Ltd.

URSA TERRA

Developed in 2009, URSA TERRA showcases the latest in glass mineral wool technology. Our distinctive production methods and product formulation define the character of our extensive insulation product range.



URSA ACOUSTIC ROLL
is a non-combustible glass
mineral wool insulation
roll. The roll is supplied at
1200mm & 2x600mm widths
to allow friction fitting
between common stud/joist
spacings, minimising gaps at
joints and reducing on-site
cutting & waste.

Design

Noise pollution, especially from noisy neighbours or adjacent buildings, is not only a nuisance but can also be a major public health issue.

The Building Regulations, Approved Document E (England & Wales) and the Building Regulations Technical Book Section 5 (Scotland) set minimum standards for acoustic insulation, depending on whether noise protection is required within the building or from external sources.

Acoustic insulation can prevent unwanted sound being transmitted either from room to room within a building or from external sources. The transmission of noise within a building is by two main routes (Figure 1):

- Airborne Noise - as the name suggests, generally this is noise transmission through the air. However, this noise may also generate vibrations in walls, floors or ceilings which then transmit the airborne sound to other parts of the building. The use of absorbent layers and/or the addition of mass to the structure will help reduce airborne noise transmission.
- Impact Noise - the most common instance of impact noise is footsteps on floors in blocks of flats and similar buildings. Adding resilient and absorbent layers and/or mass to the structure helps to reduce impact noise transmission.

As well as direct routes for sound transmission buildings are also prone to flanking transmission (Figure 2 where both airborne and impact sound energy may be transmitted indirectly through the structure (for example at the junctions of floors and walls).

Minimising flanking transmission requires great care in detailing and the isolation of elements. Air gaps passing through the structure offer a direct route for sound transmission, so great care should be taken to seal joints between and around elements and around service penetrations.

Glass mineral wool is a proven, effective material for acoustic insulation as its open, porous structure helps to dissipate sound energy whilst denser products can be used as resilient layers in floors.

In summary, the four governing factors of acoustic insulation are:

1. Mass of the element
2. Structural isolation
3. Air tightness
4. Sound absorption characteristics of materials in the construction

Figure 1
Sound Transmission

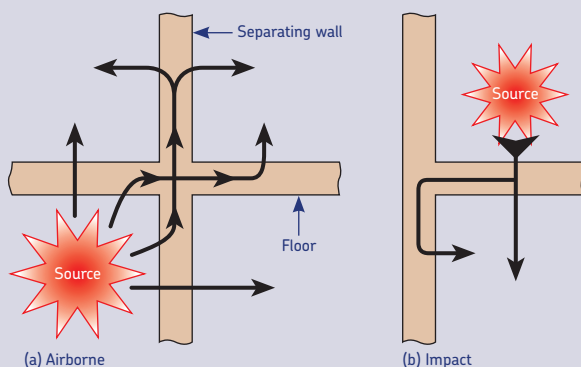
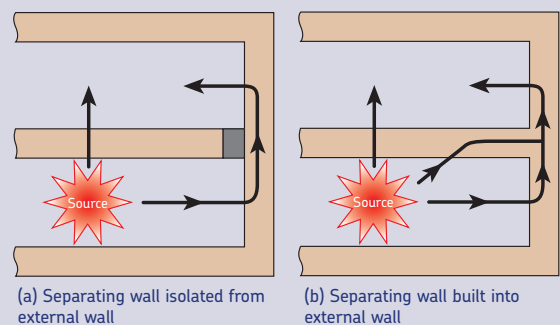


Figure 2
Flanking Sound Transmission



Acoustic Performance

Workmanship & Detailing

The acoustic performance of any element depends to a large extent on detailing and workmanship. The following must always be considered:

- Ensure **URSA ACOUSTIC ROLL** covers the whole area, fitting tightly between the studs without sagging or creating gaps.
- Avoid over-compressing the insulation.
- Ensure cavity closers are flexible and fixed to one frame only.
- Stagger all joints in linings to avoid direct air paths.
- Seal all joints with flexible sealant to avoid air paths.
- Ensure that there are no connections between the two leaves in party walls - if they're needed for structural reasons keep the number to a minimum
- Avoid electrical sockets and switches on separating walls. If they cannot be avoided stagger their position and use special detailing to maintain acoustic integrity (see Robust Details Part E).
- Fix two or more layers of plasterboard independently.
- When installing two or more layers of plasterboard make sure they're different thicknesses, generally 12.5mm and 19mm, for optimum acoustic performance.

Building Regulation Requirements

Approved Document E is split into 4 sections:

- E1 - Separating (party) walls and floors in dwellings, flats and residential rooms.
- E2 - Internal partition walls and floors in dwellings, flats and residential rooms.
- E3 - Reverberation in common parts of buildings containing flats.
- E4 - Schools.

It also gives typical construction details to meet the requirements detailed below.

Pre-completion testing on separating walls and floors is needed, with the onus on the builder (as workmanship has a major impact) to demonstrate the requirements have been met - and failure to comply will result in costly remedial works.

However, testing may be avoided by adopting solutions contained in Robust Details Part E. The Robust Details are based on more stringent requirements than the Building Regulations to give a greater margin for safety, and include a site workmanship checklist and a dwelling registration scheme.

The sound absorption coefficient, α_s , of 100mm **URSA ACOUSTIC ROLL** measured in accordance with BS EN ISO 354 is as follows:

Sound absorption coefficient

Frequency (Hz)	125	250	500	1000	2000	4000
Sound Absorption coefficient (α_s)	0.76	1.06	1.08	1.05	1.08	1.09

Separating (party) walls and floors in dwellings and flats

Airborne Sound (minimum) ($D_{nT,w} + C_{tr}$ dB)			Impact Sound (maximum) ($L'_{nT,w}$ dB)	
	New Build	Change of Use	New Build	Change of Use
Walls	45	43	-	-
Floors & Stairs	45	43	62	64

Partition floors and walls in dwellings and flats

Airborne Sound (minimum) (Rw dB)	
Walls	40
Floors & Stairs	40

Timber Stud Partitions

Insulation	Plasterboard	Calculated Rw (dB)
25mm URSA Acoustic Roll	12.5mm Standard ⁽¹⁾	40
25mm URSA Acoustic Roll	2 x 12.5mm Standard ⁽¹⁾	48
25mm URSA Acoustic Roll	12.5mm dense ⁽²⁾	41
25mm URSA Acoustic Roll	2 x 12.5mm dense ⁽²⁾	48
50mm URSA Acoustic Roll	12.5mm Standard ⁽¹⁾	40
50mm URSA Acoustic Roll	2 x 12.5mm Standard ⁽¹⁾	48
50mm URSA Acoustic Roll	12.5mm dense ⁽²⁾	41
50mm URSA Acoustic Roll	2 x 12.5mm dense ⁽²⁾	49
100mm URSA Acoustic Roll*	12.5mm Standard ⁽¹⁾	41
100mm URSA Acoustic Roll*	2 x 12.5mm Standard ⁽¹⁾	48
100mm URSA Acoustic Roll*	12.5mm dense ⁽²⁾	41
100mm URSA Acoustic Roll*	2 x 12.5mm dense ⁽²⁾	49



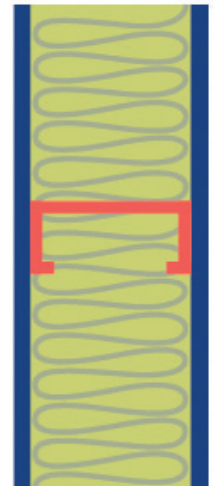
(1) 12.5mm standard plasterboard min. 8 kg/m²

(2) 12.5mm dense plasterboard min. 11 kg/m²

*Alternatively, **URSA HOMETEC ROLL 35**

Metal C Stud Partitions

Insulation	Plasterboard	Calculated Rw (dB)
25mm URSA Acoustic Roll	12.5mm Standard ⁽¹⁾	41
25mm URSA Acoustic Roll	2 x 12.5mm Standard ⁽¹⁾	53
25mm URSA Acoustic Roll	12.5mm dense ⁽²⁾	45
25mm URSA Acoustic Roll	2 x 12.5mm dense ⁽²⁾	56
50mm URSA Acoustic Roll	12.5mm Standard ⁽¹⁾	42
50mm URSA Acoustic Roll	2 x 12.5mm Standard ⁽¹⁾	54
50mm URSA Acoustic Roll	12.5mm dense ⁽²⁾	46
50mm URSA Acoustic Roll	2 x 12.5mm dense ⁽²⁾	56
100mm URSA Acoustic Roll*	12.5mm Standard ⁽¹⁾	43
100mm URSA Acoustic Roll*	2 x 12.5mm Standard ⁽¹⁾	55
100mm URSA Acoustic Roll*	12.5mm dense ⁽²⁾	47
100mm URSA Acoustic Roll*	2 x 12.5mm dense ⁽²⁾	57



(1) 12.5mm standard plasterboard min. 8 kg/m²

(2) 12.5mm dense plasterboard min. 11 kg/m²

*Alternatively, **URSA HOMETEC ROLL 35**

The above all achieve at least 40 dB Rw and give at least 30 minutes fire rating subject to stud dimensions and the use of standard plasterboard. 60 minutes can be achieved by double layering with fire resistant plasterboard. Seek specialist advice from the plasterboard manufacturer in all cases.

Installation

Timber/Steel Frame Partition Walls (Figure 3)

URSA ACOUSTIC ROLL is designed to fit between the studs against the plasterboard lining, in compliance with Approved Document E.

The standard procedure is:

1. Fit the timber or steel studs in the normal manner and in accordance with the manufacturer's instructions. Seal the studwork system including sole plates and head plates against the surrounding structure with a flexible sealant.
2. Fit plasterboard, either nail or screw fixed, to one side of the partition.
3. Install 25mm (minimum) **URSA ACOUSTIC ROLL** between the studs against the first layer of plasterboard ensuring the entire area is covered. The insulation may be secured to the head plate using a screw fixed timber batten.
4. There is no need for any additional support if the URSA ACOUSTIC ROLL fully fills the stud void as the insulation is self-supporting in this instance.
5. The other layer of plasterboard is then fixed.
6. Ensure that all joints around the partition and around service penetrations are sealed using a flexible sealant.

Internal Timber Floors (Figure 4)

URSA ACOUSTIC ROLL, is designed to fit between the floor joists as an absorbent layer. The timber floor finish should have a minimum mass of 15 kg/m² and the plasterboard ceiling should have a minimum mass of 10 kg/m². Insulation against impact noise can also be improved by fitting carpets. This detail complies with Approved Document E.

The above will achieve at least 40 dB Rw and give the required 30 minutes' fire rating subject to floor finish, joist dimensions and standard plasterboard. 60 minutes can be achieved by double layering with fire resistant plasterboard. If existing ceilings are being upgraded, there may be a requirement for both fire resistance and impact sound protection. Seek specialist advice from the plasterboard manufacturer in all cases.

Figure 3
Timber/Steel Frame
Partition Wall

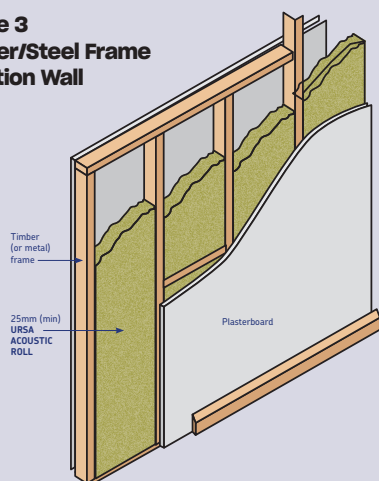
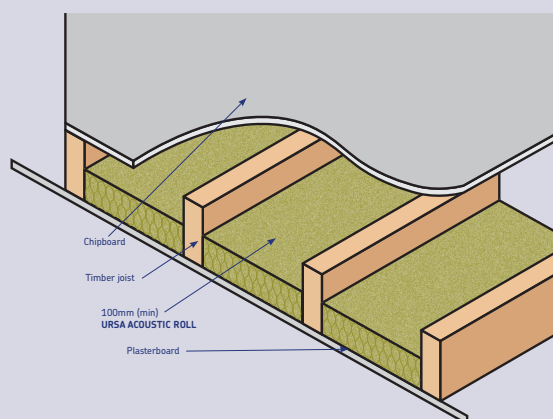


Figure 4
Internal Timber Floor



Installation

Internal Concrete Beam & Block Floors (See Figure 5)

The beam and block floor system should have a minimum mass of 220 kg/m² and a minimum 40mm thick bonded screed.

URSA ACOUSTIC ROLL, normally either 25mm or 50mm thick to fill the ceiling void, is designed to fit above the plasterboard ceiling as an absorbent layer.

The plasterboard ceiling should have a minimum mass of 10 kg/m² and be installed on resilient channels (see Ceiling Treatment C, Section 3 of Approved Document E). Insulation against impact noise can be improved by the fitting of carpets. This detail complies with Approved Document E.

Timber Separating Floors (Figures 6 & 7)

For use with timber framed walls only, **URSA ACOUSTIC ROLL** (minimum 100mm thick) is designed to fit between the floor joists. **URSA ACOUSTIC ROLL**, minimum 25mm thick (for timber I-joists and metal web joists) or minimum 60mm (for solid timber joists) is designed to fit between the battens in the floating floor system.

In conjunction with a resilient batten flooring system and suitable ceiling system this complies with Robust Details Part E (these also detail junctions of elements, services etc).

Figure 5 - Internal Concrete Floor

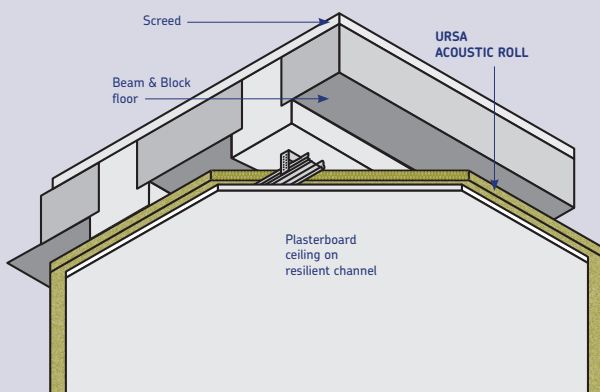


Figure 6 - Timber Separating Floor (I-joist or metal web joist)

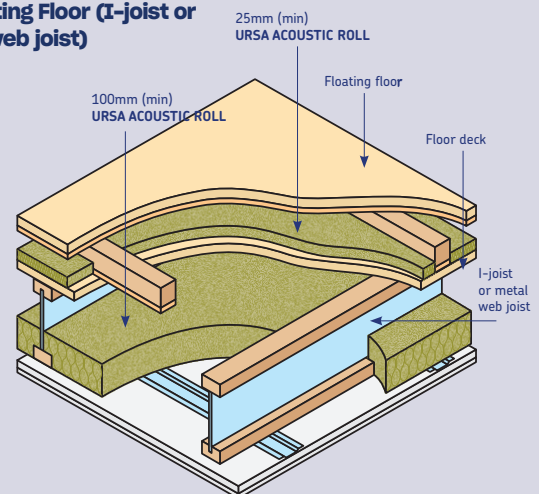
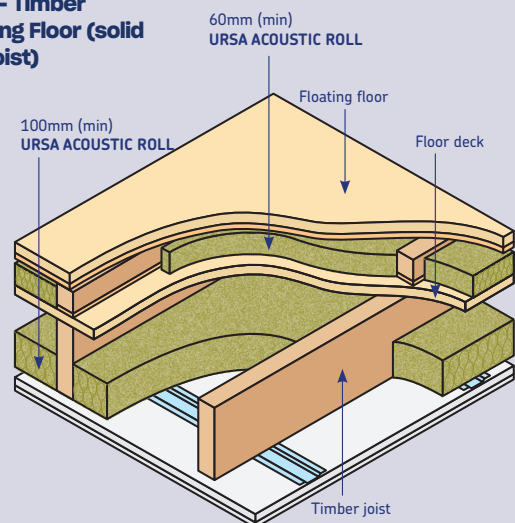


Figure 7 - Timber Separating Floor (solid timber joist)

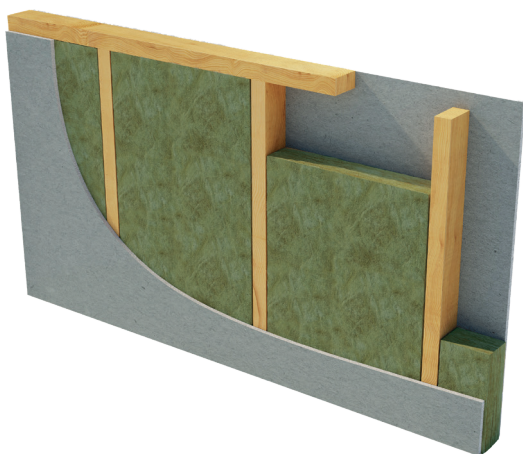


Specification clauses

The following clauses outline the use of URSA ACOUSTIC ROLL in a range of floor and wall details.

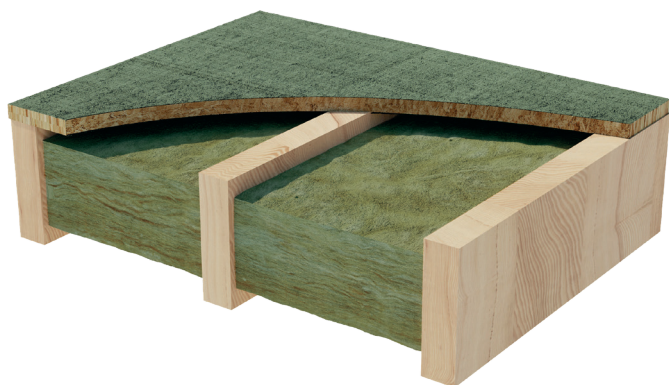
Timber/Metal Frame Partition Walls

The internal partition wall insulation shall be 25mm (minimum) URSA ACOUSTIC ROLL. The insulation is to be installed as work proceeds in accordance with URSA instructions and the Building Regulations Approved Document E.



Internal Timber Floors

The floor joist insulation shall be 100mm (minimum) URSA ACOUSTIC ROLL. The insulation is to be installed as work proceeds in accordance with URSA instructions and the Building Regulations Approved Document E.

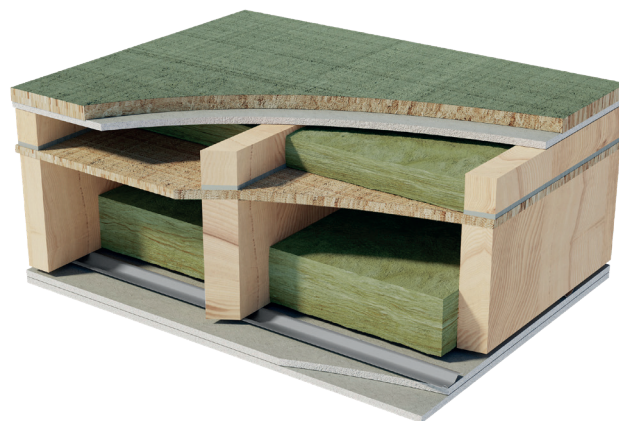


Internal Concrete Floors

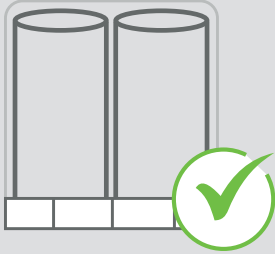
The ceiling void shall be fully filled with URSA ACOUSTIC ROLL. The insulation is to be installed as work proceeds in accordance with URSA instructions and the Building Regulations Approved Document E.

Timber Separating Floors

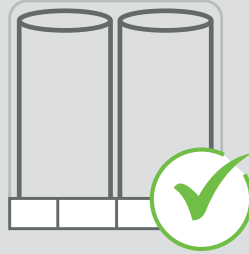
The separating floor joist insulation shall be 100mm (minimum) URSA ACOUSTIC ROLL. URSA ACOUSTIC ROLL, minimum 25mm thick (for timber I-joists and metal web joists) or minimum 60mm (for timber joists) shall be used between the battens in the floating floor system. The insulation is installed as work proceeds and must be in accordance with URSA instructions, Building Regulations (Approved Document E), Building Standards (Section 5) and The Robust Details – Part E.



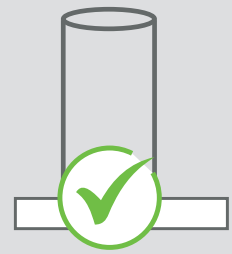
How to store our insulation



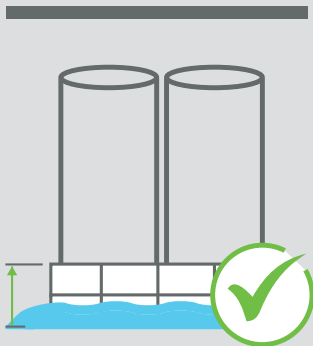
Keep the product covered and fully wrapped on a pallet until required.



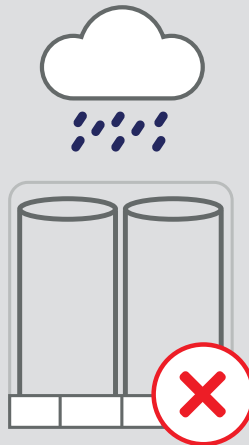
A pallet that is wrapped and has an undamaged hood can be stored outside when indoor space is unavailable, provided it is kept off the ground and protected from the elements. This should only be for short-term storage and not in severe weather conditions.



Once the plastic hood has been removed keep all of the product inside and off the ground away from the elements.



Product should be kept elevated on a pallet at all times to avoid sitting water.



Product can become wet and damaged when exposed to the elements.



Loose product is extremely likely to have water damage when left in the rain rendering your stock unfit for sale.

Please note: This guide is suitable for all URSA roll, slab and batt products. We do not recommend that URSA pallets are double stacked.



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