

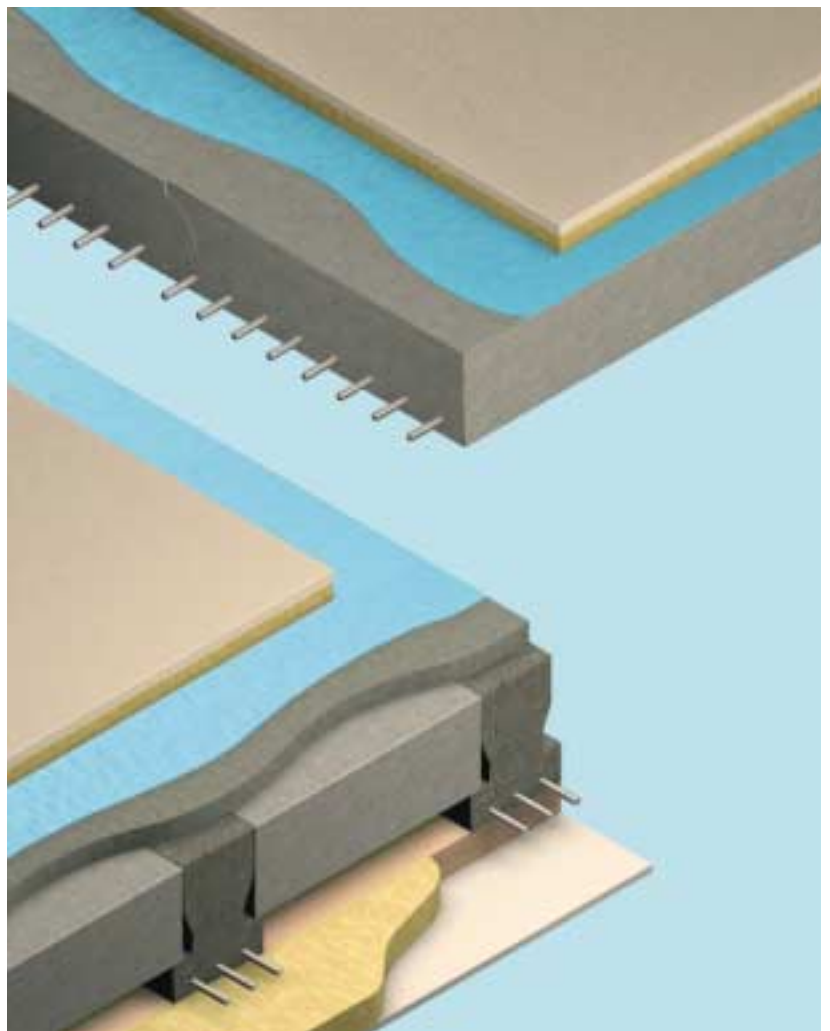
Lamella Floor Units

Thermal and acoustic insulation for ground and intermediate floors

Lamella Floor Units have been developed to provide thermal and acoustic insulation for all ground and intermediate floors, including beam and block and pre-cast plank concrete constructions.

Suitable for use in new build or refurbishment work, the Lamella Floor Units consist of high density Rockwool mineral wool lamellae bonded to tongued and grooved flooring grade chipboard. The units are easy to lay and will accommodate minor imperfections in the sub-floor.

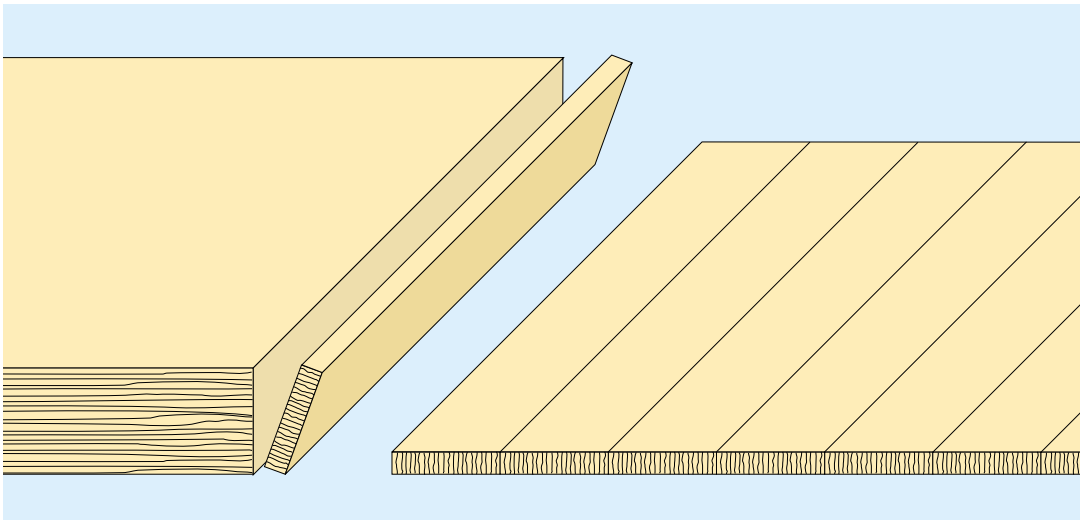
Available in a range of thicknesses to provide differing levels of thermal insulation, the Lamella flooring system works on the 'floating floor principle' to isolate and absorb impact and airborne sound.



Advantages

- excellent thermal and acoustic insulation
- will accommodate pipe runs and minor imperfections in the sub floor
- easy to lay
- suitable for new build and refurbishment work

Easy-to-lay thermal and acoustic flooring



How Rockwool Lamellae are formed

C2 Standard grade or C4 moisture resistant chipboard

Overall thickness (mm)	Insulation thickness (mm)	Board thickness (mm)	Weight (kg)
35	17	18	22
43	25	18	23
48	30	18	24
58	40	18	26
68	50	18	28
78	60	18	30
88	70	18	32

Note other thicknesses available to order

Environment

No CFCs, HFCs or HCFCs are used in the manufacture of Rockwool materials.

Description

Composition and manufacture

The Rockwool slabs are cut into strips and turned through 90° so that the fibres lie at right angles to the insulation surface. These strips (called lamellae) are resilient but much stiffer than a slab of the same density. The lamellae are then glued to 18 mm board with moisture resistant adhesive.

The Lamella Floor Units are available with C2 ordinary grade or C4 moisture resistant chipboard and, subject to quantity, can be supplied with Stirling Board (OS Board).

Dimensions

Rockwool Lamella Floor Units are available with 18 mm chipboard as standard and in thicknesses of insulation ranging from 17 mm to 70 mm (see table above).

The units are available in other board and lamella thicknesses to order, subject to quantity.

Each Lamella Floor Unit is 2440 × 600 mm.

Applications

Rockwool Lamella Floor Units are suitable for both refurbishment and new-build work in housing, offices, commercial or institutional projects, wherever thermal or acoustic insulation or improved resilience is required, including:

- Thermal insulation to ground or cellar floors
- Impact and airborne sound insulation to intermediate floors
- Upgrading worn flooring in refurbishment work
- Improving the resilience of floors to give greater levels of comfort

Standards & approvals

Rockwool Insulation complies with the requirements of BS EN 13162: 2001 'Thermal Insulation products for buildings. Factory made mineral wool (MW) products specification.'

Thermal and acoustic

Performance and properties

Compressive strength

The Lamella Units will support the loads normally arising in houses, offices, shops and similar areas. Under the loads experienced in typical domestic and commercial applications, the compression will be less than 3%.

Workability

The Rockwool insulation is easily cut with a sharp knife to give an accurate fit. The chipboard facing can be cut with conventional cutting tools.

Moisture resistance

Rockwool mineral wool repels liquid moisture due to water repellent additives. However, the facing board can be affected by moisture vapour and it is recommended that on both new and existing ground floors, and on intermediate floors which may be damp, a minimum 1000 gauge polyethylene moisture barrier should be laid prior to installing the Floor Units. Care should be taken that the polyethylene is not punctured by roughness of the sub-floor.

On intermediate wooden floors, particular care should be taken to ensure that joists treated with a water-borne preservative have thoroughly dried out. In case of doubt, it is recommended that a vapour barrier be installed.

Biological

The Rockwool insulation is rot proof and does not encourage the growth of fungi, moulds or bacteria, and does not offer sustenance to vermin.

Chemical

Rockwool mineral wool is chemically inert and Rockwool Lamella Floor Units are compatible with all building materials with which they are likely to come into contact.

'U' values

Insulation thicknesses relating to typical wall constructions are provided in the separate U Value section of the Rockwool Red Book.

Acoustic performance

Rockwool Lamella Floor Units can substantially improve the airborne and impact sound transmission values for all types of floor constructions.

Lamella Floor Units have been tested on a beam and block floor and, in conjunction with a plasterboard ceiling, achieved an acoustic performance better than that required by national building regulations (AIRO Test Reports No. L/2206/A and L/2206/A*).

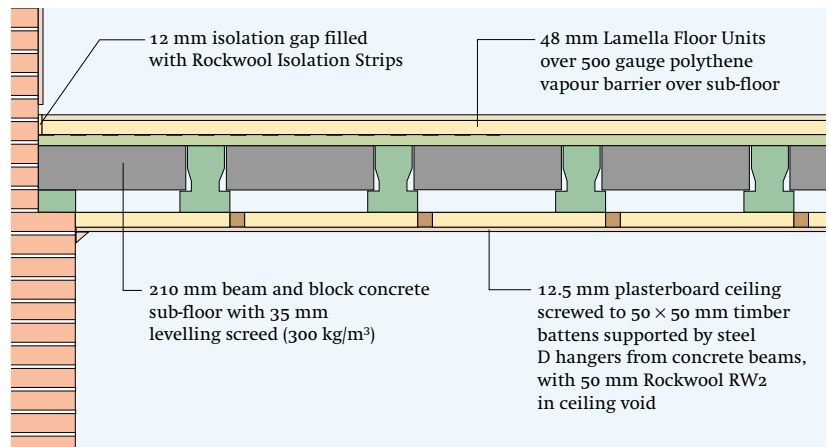


Figure 1 Test Report No L/2206/A

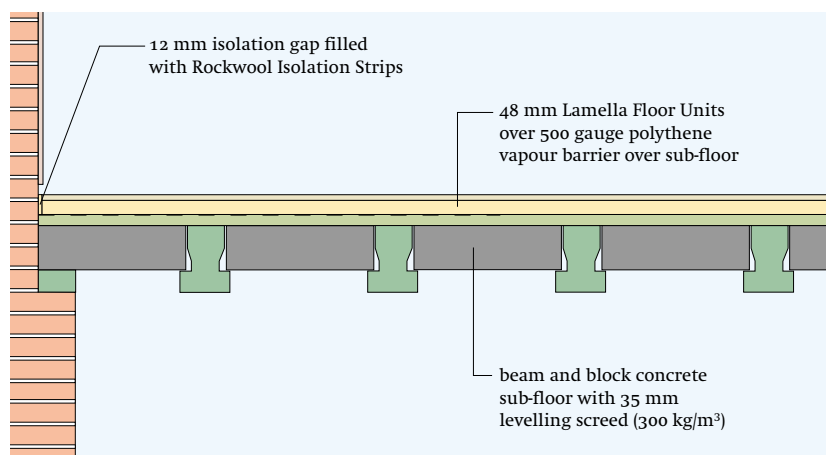


Figure 2 Test Report No L/2206/A*

Test results

	Airborne sound reduction (dB)	Impact sound level (dB)
New build requirement	52 (or greater)	61 (or less)
Refurbishment requirement	48 (or greater)	65 (or less)
Test No. L/2206/A	59	45
Test No. L/2206/A*	53	54

Note The actual sound insulation performance of a given separating floor in a particular application will depend on the detailing of the floor itself and on the overall building design and quality of workmanship. Site testing would determine the performance in specific circumstances.

Design details: Edge conditions and underfloor services

Design details

C4 moisture resistant chipboard should be specified for bathrooms, lavatories, kitchens and any other areas where significant moisture may be present.

Flatness

The Rockwool insulation on the underside of the Floor Units will absorb minor imperfections of flatness and burrs of concrete etc. However, any general unevenness of the sub-floor will be reflected in the finished floor surface. It is essential that the quality of flatness required of the finished floor is achieved in the sub-floor by the use of a levelling screed on concrete floors or sheathing boards on timber floors.

DPC

See paragraph 'Moisture resistance' on previous page.

Intermediate walls

Rockwool Ltd recommends that partition walls are not built directly off the Lamella Floor Units. Instead, a timber sole plate should be installed to support the partition directly off the floor slab (see Figure 3).

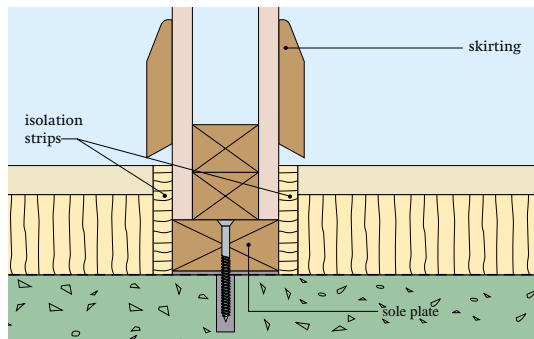


Figure 3 Use of sole plate for partitions

Isolation strips

Perimeter isolation strips are available to reduce acoustic flanking transmission and thermal bridging. These strips are 900 mm x 12 mm and are manufactured in a variety of depths to suit the overall thickness of the Lamella Floor Units (see Figure 4)

Baths, kitchen units etc

It is recommended that permanently fitted heavy items such as baths, WCs, kitchen units and the like should be supported directly from the sub-floor or via previously positioned timber battens recessed into the insulation backing.

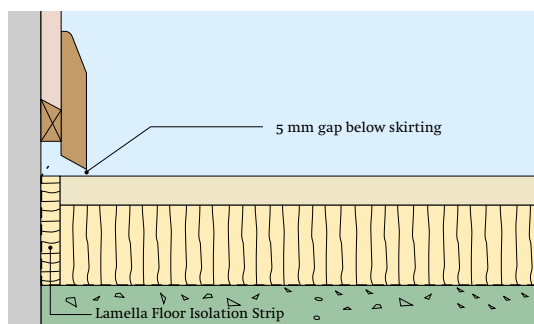


Figure 4 Detail of insulation at floor perimeter

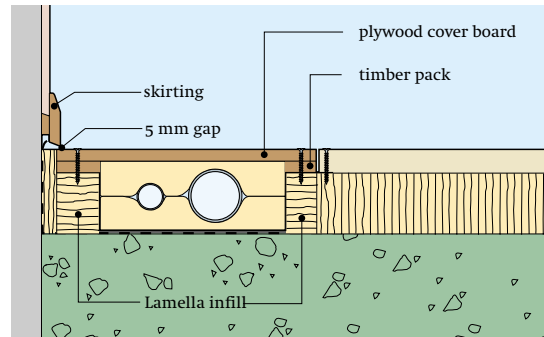


Figure 5 Typical galvanised m.s. duct with integral insulation allows access to service runs

Edge detail

Provision should be made for possible expansion of the chipboard by allowing a minimum 10 mm gap (or 2 mm per metre run of floor) between the Floor Units and all perimeter walls. This gap should be tightly packed with insulation offcuts or preformed isolation strips after installation of the Floor Units. When large, single-run floors are being laid it may be necessary to incorporate intermediate expansion gaps to allow for possible movement. Where acoustic isolation is required, a gap of approximately 5 mm must also be left between the boards and the skirting (see Figure 5).

Service runs

Services may be accommodated either by recessing the insulation or, where access is required, by using purpose made ducts. Consideration should be given to the local Water By-Laws (Bye-Law 58) regarding the provision of access to pipes.

When electrical conduit is to be placed within floor insulation, or within the slab immediately below the insulation, the electrical sub-contractor should check whether the size of the cables needs to be increased to comply with IEE Wiring Regulations.

Access

Where access to pipes and pipe fittings is required, the pipes can be laid in purpose made galvanised steel trays. The trays should be laid on acoustic strips for isolation from the sub-floor.

Thresholds

To maintain alignment at thresholds, abutments with stairs, door openings etc., the insulation must be reinforced locally. The insulation should be cut back and a timber batten substituted. The batten should be the same thickness as the insulation layer and screwed to the sub-floor. The chipboard overlap should then be screwed to the batten (see Figure 6).

Where acoustic insulation is required, the batten thickness should be reduced to include a 6 mm thick neoprene isolation strip bonded to the batten.

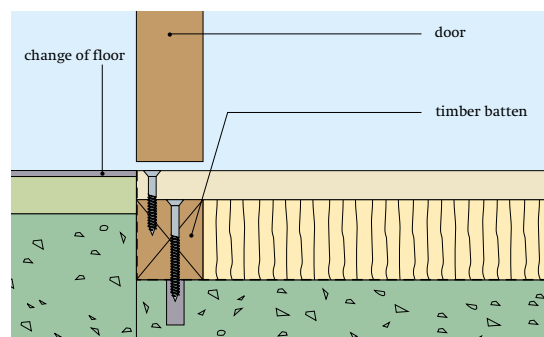


Figure 6 Detail at threshold with change of floor finish

Work on site and floor installation



Cutting with hand-held circular saw

Cutting to size

The units are easily cut with conventional tools.

In order to accommodate conduit within the insulation layer, first position the floor unit above the conduit and then press down, forming an impression on the underside. This gives a positional guide for cutting a groove with a sharp knife.



Accommodating services within the insulation layer

Laying Lamella Floor Units

Starting from one corner of the room, lay the units lengthwise, parallel to the longest wall with the gap maintained against the adjacent walls. The units are laid with staggered joints (Figure 7, back page) working towards the opposite corner of the room. All T&G joints must be glued with PVA adhesive.

The final units must be cut in order to maintain the appropriate gap against the wall and to allow the tongue and groove joints to be engaged.

Temporary wedges should be used around the perimeter to ensure all glued joints are tight. When the glue has set, the wedges should be removed and the perimeter gap filled with Rockwool Isolation Strip.

Floor protection

Laid floors should be protected from water and site spoil. A covering of building paper stapled to the floor immediately after laying, and left in position until final handover provides good protection at low cost.



Applying levelling screed

Floor coverings

Lamella Floor Units provide a smooth, flat base which is suitable for all types of floor covering. Sheet or tile materials can be bonded directly to the surface, which will not affect or be affected by the common floor laying adhesives.

Before laying floor coverings with an adhesive, ensure that there is no movement at the joints and that the joint surfaces are flush and smooth. Where such coverings are to be bonded with a water-based adhesive, either an adhesive with a minimum water content should be chosen, or the floor surface should be sealed with a polyurethane lacquer prior to application.

Further guidance should also be sought from the floor finish manufacturer.



Glueing joints

To re-install lamella floor units

If a panel or part panel is removed, a timber batten should be placed under the joint to provide support. The thickness of the insulation must be removed to accommodate the batten. For acoustic floors the batten must incorporate an isolating strip (eg neoprene foam) to maintain impact sound isolation.

Storage and conditioning

To ensure the units remain in a satisfactory condition, they should be at all times stored in a dry, enclosed building.

Units should be 'conditioned' on site by loose laying them individually in the area where the floor is to be laid for at least 24 hours before fixing.



Units laid over DPM

Maintenance

Once installed, Rockwool Lamella Floor Units require no maintenance.

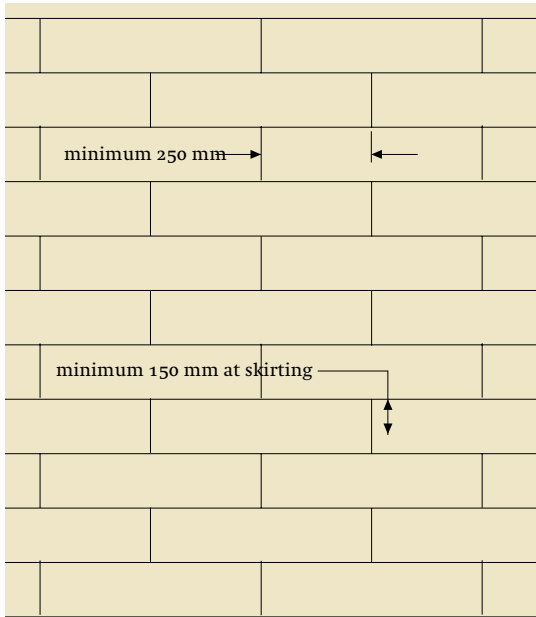


Figure 7 Laying units with staggered joint

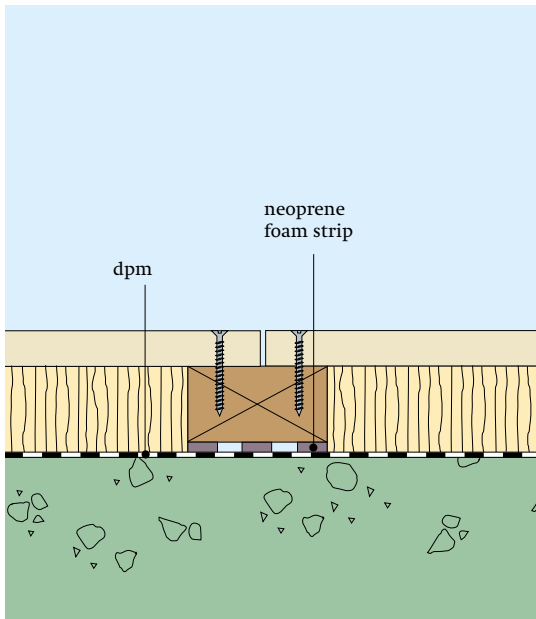


Figure 8 Neoprene strip installed for impact sound insulation

Health and safety

A COSHH Data sheet is available from Rockwool's Marketing Services Department.

Current HSE 'CHIP' Regulations and EU Directive 97/69/EC confirm that Rockwool fibres are not classified as a possible carcinogen.

Technical Helpline

Technical advice relating to Lamella Floor Units is available from the Rockwool Technical Helpline Services Department on 0871 222 1780.

Rockwool Limited reserves the right to alter or amend the specification of products without notice as our policy is one of constant improvement.

The information contained in this data sheet is believed to be correct at the date of publication. Whilst Rockwool will endeavour to keep its publications up to date, readers will appreciate that between publications there may be pertinent changes in the law, or other developments affecting the accuracy of the information contained in this data sheet.

The above applications do not necessarily represent an exhaustive list of applications for Lamella Floor Units. Rockwool Limited does not accept responsibility for the consequences of using Lamella Floor Units in applications different from those described above. Expert advice should be sought where such different applications are contemplated, or where the extent of any listed application is in doubt.



Wilhams Insulation Far East Sdn Bhd (340166M)

15 & 17 Jalan U5/23, Seksyen U5,
Mah Sing Integrated Industrial Park

40150 Shah Alam, Selangor Darul Ehsan, Malaysia

Tel: 603-7846 6728 Fax: 603-7846 6540

E-mail: wife@tm.net.my