The **EZY-FIT** Under Floor Insulation System is designed specifically for use with suspended timber floors. The EZY-FIT UFI Glass Mineral Wool Roll is installed between the timber joists, from below, and securely held in place through the use of EZY-FIT Insulation Support Netting tacked to the underside of the joists.

Note: Any deviation away from the above style of construction within a property is NOT covered in the following guidance notes. Please contact our technical department for further advice via support@ezy-fit.co.uk.

The EZY-FIT Underfloor Insulation System comprises of EZY-FIT UFI Rolls which are non-combustible Glass Mineral Wool rolls, designed specifically for use under suspended timber floor applications where access from below the floor is provided.
The Ezy-Fit UFI System is designed to be installed in accordance with BEIS Best practice Guidance.

In older houses underfloor areas are usually un-insulated, thus allowing significant heat loss through the floor and into the void beneath.

The friction fitting of mineral wool insulation between the timber joists closes any joints, reducing the potential for gaps and unwanted loss of thermal performance. The flexible nature of the mineral wool insulation accommodates for movement in floors ensuring all joints remain closed.

Application is to be carried out from the underside of the floor joists, meaning there is no requirement for the floor boards to be removed and replaced. Where a cellar is present within the property, fire protection must be carried out strictly in accordance with Building Regulations Approved Document B. Existing ventilation must be present to the under-floor void and any insulation installed must not obstruct or interfere with the flow of ventilation.

Where application is carried out from under the floor, a sufficient and safe working space must be available, either by using the crawl space underneath the insulation, or where access can be gained to fit the insulation into place and then secured using insulation support netting. The health and safety of the installers should be carefully considered to ensure a safe working space, given that they may be working in enclosed spaces, with potential exposure to toxic materials or substances in the ground. The suitability of PPE should also be considered.

Training is available on request enabling applicators to become fully carded EZY-FIT Recognised Contractors and to meet PAS2030 and technical monitoring compliance requirements.

Working Conditions

It may be necessary to test the air on occasions, to check that it is free from both toxic and flammable vapours and that the air is fit to breathe, particularly when insulating underneath old cellars. Testing should be carried out by a competent person using a suitable gas detector which is correctly calibrated.

Floor Construction

Suspended timber ground floors consist of the finished timber floorboards being attached to floor joists, which are suspended above the sub-floor of the foundation. These floor joists are raised above the sub-floor on small supporting walls called tassel walls (or sleeper walls).

Ventilation and Damp-Proof Coursing

Air from the outside can and should flow under suspended timber floors, and this would typically be through air bricks or grilles in the outer walls. Free flowing air can help to maintain a healthy environment for the timber floor construction. However, if there are gaps in the floor covering, or the floor is not insulated, air can penetrate the floor structure and make the internal habitable rooms harder to keep warm.

A damp-proof course separates the wall plates from the tassel walls, preventing decay from any rising moisture. It is usual to have gaps in the block work of the tassel/sleeper walls, ensuring adequate air circulation. If the installation of UFI results in this cross-ventilation being reduced or restricted, then an equivalent ventilation provision should be provided by - for example; the removal of bricks, provision of an additional external vents, or tapering of the insulation to maintain the original ventilation rate. Careful consideration should be given to insulating properties where there is currently no DPC, with appropriate risk analysis undertaken ensure no unintended consequences occur. The addition of underfloor insulation should not proceed if it would bridge the DPC level.

Vents must be installed in the opposing external walls to ensure that adequate cross-ventilation is given to the timbers, ensuring the circulation of fresh air, keeping the timbers dry and preventing decay. Where tassel walls are present, they typically include gaps in the block work to ensure adequate air circulation.

These vents should be adequately sized for the property (in line with Part C of the Building Regulations). In addition, they should be free from dirt, dust and other impediments. The minimum size for airbricks should be 1500mm² per meter run of external wall or 500mm² of floor area, whichever is the greater.

The ventilation provision to the main dwelling should be assessed to ensure that the building will not become less compliant than before the measure was considered for installation. This assessment should be undertaken in line with the requirements of the latest version of PAS2035 for fabric improvement measures (also see previous comments regarding PAS2030 requirements).

Building Regulation Compliance – U-Values

To improve the thermal performance of a suspended timber floor by adding extra insulation to a floor, it will need to comply with the current relevant national building regulations. Currently, In England, Wales and Northern Ireland, the floor should achieve a thermal transmittance (U-value) of at least 0.25 W/m2K. In Scotland the floor should achieve a thermal transmittance (U-value) of at least 0.18 W/m2K. To achieve this standard, please refer to the manufacturer's guidance for this level of performance, although this may vary depending on the floor type, shape and size. In all circumstances, the area weighted U-value must be calculated in accordance with the conventions in the current version of BR443 conventions for calculating U-values.

Cold Bridging

Generally, the following provides an indication of the floor configurations that may be more at risk from cold bridging:

• 4-inch joist the U-value is likely to exceed 0.7W/m2k, and therefore Building Regulations will not be satisfied.
• 6-inch joist (150mm) is also unlikely to create an issue (other than in extreme situations where original hardwood joists and floorboards remain).
• 8-inch joist (200mm) the U-value will not exceed 0.7 and is therefore highly unlikely to be an issue.

A. Use full depth strutting between the joists at the perimeter of the floor to provide a fixing for the flooring and to limit the size of gaps which need to be sealed at the edge of the floor.

B. Seal the skirting to the wall with a sealant or airtightness tape, and to the floor with a flexible sealant, airtightness tape, or an extruded draughtproofing section. Also seal the gaps at services penetrations and access panels in the flooring with airtight gromets (if possible) or flexible sealants.

C. Pack the space between the wall and the joist or solid strutting with mineral wool insulation.

D. Apply a continuous seal in the space between plasterboard dry lining and masonry walling. This can be undertaken using tapes and other physical barriers or use of tapes and membranes if the substrate can be clean, dry and free from debris, particularly at skirting level.

E. Position the insulation level with the top of the joists to avoid any air movement between the insulation and the flooring. This may be less critical where the movement of cold air from the sub-floor space through or around the insulation, is restricted.

G. Choose a support method which ensures that the full thickness of insulation is maintained for the full width between the joists. Support quilt insulation to reduce air movement through and above the insulation, via a substantial netting – netting must provide a minimum 25-year guarantee. The insulation support netting is to be securely held in place by fixing appropriate galvanised staples to the underside of the joists.

EZI-FIT Under Floor Insulation Roll Product Details

Insulation Thickness:	150mm
Roll size:	1.2m (2 x 600mm or 3 x 400mm) x 4.55m
Area per roll:	5.46 m^2
Thermal Conductivity:	0.040 W/mK
Vapour Resistivity:	5.00MNs/gm.
Facing:	Unfaced
Minimal Density of Insulation:	10.5 kg/m^3
Euro class Reaction to Fire Classification (to BS EN 13501-1):	A1
BRE Green Guide Rating:	A+