IndiNature®

INSTALLER GUIDE

LOFT INSULATION (LI) & UNDER FLOOR INSULATION (UFI)
INSTALLATION INSTRUCTIONS & SPECIFICATIONS

INDIBREATHE FLEX INDUSTRIAL HEMP FIBRE
FLEXIBLE INSULATION BATTS

1. Installation Instructions

1.1 This installation guide is to provide installers with a reference point and guide for how industrial hemp fiber insulation is installed correctly with product specific guidance in accordance with IndiNature BBA certificates.

1.2 For the installation to be compliant, installers must fit IndiNature insulating materials complying with IndiNature BBA certificates, designed in accordance with PAS2035 design specifications.

1.3 Declared thermal conductivity, vapour diffusivity and embodied carbon is available on pack labels, datasheets and directly from IndiNature. Installers should check details before completing an installation certificate (template shown in **Annex C** and available from IndiNature), and carbon metrics for IndiBreathe Flex are shown in **Annex I**.

1.4 Based on industry standards it is recommended that pipes, cisterns and loft hatches are insulated – please refer to retrofit assessor guidance as per PAS2035 standards and in line with technical handbooks.

1.5 Please also refer to all relevant technical standards for the measure and location of installation, including but not limited to:

- Building Standards Technical Handbook for Scotland, April 2024, (Domestic)
- The Building Regulations 2010 Conservation of fuel and power**,** Volume 1: Dwellings Requirement L1: Conservation of fuel and power, England & Wales.
- LABSS - Local Area Building Standards
- PAS 2035 : 2023 and PAS 2030 : 2019
- BEIS Guide to Best Practice Retrofit Floor Insulation – Suspended Timber Floors
- CITB Construction Skills (2012) General Requirements and Guidance for the installation of loft insulation

1.6 Annex A – Details – construction, thermal bridging and acoustic
1.7 Annex B – Fire Test Certificate for Typical A1 Product (where required in guidance)
1.8 Annex C – Installation Certificate Template - example, to be left in space insulated
1.9 Annex D – Warning Label Template - example, to be left in space insulated
1.10 Annex E – Loft Insulation Laying Patterns and Underfloor
1.11 Annex F – Underfloor Insulating Patterns
1.12 Annex G – Cutting Guidance
1.13 Annex H – Preparation and PPE Recommendations
1.14 Annex I – Carbon Metrics

2. Design Considerations:

2.0 State of Repair: No "Roof Space Insulating Works" or “Underfloor Insulation Works” shall take place unless the state of repair of the roof space or floor space meets the requirements below.

2.0.1 Ventilation in the roof space shall be sufficient to allow air movement. Ensure **continuous mimimum 50mm ventilated gap** between insulation and all external finishes, to allow excess moisture to escape.

2.0.2 There shall be no evidence of condensation or mustiness in the loft or floor.

2.0.3 There shall be no obvious rainwater penetration or evidence of such penetration. The installation must not be carried out until the moisture content of any timber is less than 20% by mass.

2.0.4 There shall be no evidence of wet or dry rot in the space. Any mould or fungal growth found to be present must be treated.

2.0.5 Solum spaces under ground floors must be dry and free from standing water, with a continuous airflow crossing under insulation.

2.0.6 The ceilings shall be capable of supporting the weight of the insulation and loads imposed during installation.

2.0.7 All of the loft space shall be accessible and shall be clear of impediments resulting from storage and other debris.

2.0.8 There shall be no obvious defects in the electrical wiring in the roof space.

2.0.9 There shall be no obvious corrosion of the structural metal connections in the roof members.

2.0.10 There shall be no evidence of leakage from existing water supply pipework or tanks.

2.0.11 Where existing insulation has been pushed into the eaves, and is impeding the necessary ventilation, this should be removed prior to the top-up being carried out.

2.0.12 **Other Recommendations**

a) Existing pipework insulation conforming with BS 5422 and fitted in accordance with the methods required by this specification shall be retained and no additional insulation fitted.

b) Existing insulation of cold water cisterns shall not be insulated.

c) Sections of un-insulated pipework routed between those roof joists included in the roof space insulation works as article 2.1 and sub-articles thereof shall not be insulated.

d) Additional roof space is considered separately for the purposes of qualification for loft insulation work. Where a roof space exists over a building extension which has had insulation fitted (usually under the relevant Building Regulations), this area may be ignored when calculating the average thickness of existing insulation in the original loft spaces.

e) Where old insulation is present around pipework in a loft then this should be removed and the correct size of pre-formed material applied.

If removal of the old material is likely to cause damage to pipes resulting in leaks, etc. then the owner of the property must be advised of the situation and that repairs/replacement should take place prior to insulation work being completed and claimed for.

Where the owner is unable to have the work completed, then it may be fitted over the existing material.

2.1 Cold Roof Space

2.1.1.1 All ventilation inlets in the roof space inadvertently sealed during the installation or blocked with the original insulation material shall be cleared.

2.1.1.2 The total roof space shall be evenly insulated to provide a nominal thickness of **270-300mm** (depending on Building Regulations) where material with a thermal conductivity value of **0.039W/mK** is used (giving a total thermal resistance of **5.13 m2K/W**).

NOTE: When topping-up existing insulation, the total nominal thickness of insulation will be 270-300mm, irrespective of the different materials used**, unless otherwise specified to achieve or exceed building regulations.**

NOTE: IndiBreathe Flex can be laid **over** existing mineral wool insulation.

2.1.1.3 Inclined roof insulation and/or insulation fitted inside sloping roof cavities, is acceptable within the scope of this specification, providing this is the only option possible. Any insulation installed under this provision, must satisfy the roof space ventilation requirement (minimum 50mm) detailed in this specification. As per detail in Annex A. Please also refer to BBA certificate product sheets for further guidance.

2.1.1.4 The insulation material shall not block the eaves or air bricks or interfere with ventilation of the roof space. Do not block up coombs.

2.1.1.5 The insulation material shall not enter the cavity of any cavity wall. Insulation should be extended as far over the wall head as possible, but a **minimum 50mm air gap** should be left between the top of the insulation and bottom of the sarking to allow ventilation airflow.

2.1.1.6 Where **recessed lighting** is used, provision must be made to prevent the fitting overheating. The use of non-combustible protection cover hoods is recommended, to be installed prior to insulation. Please follow hood manufacturer guidelines for installation and any requirements on the surrounding insulation.

2.1.1.7 **Electric cables supplying immersion heaters, electric showers and electric cookers shall not be covered by thermal insulation**. Cables to high voltage appliances such as these shall be lifted above the insulation. Any cables under a high electrical load (such as the appliances mentioned above) must be long enough to be laid on top of the full depth of insulation, as covering them creates a fire risk.

2.1.1.8 A min of 200 mm non-combustible insulation with a fire classification of Euroclass A1 when tested to BS EN 13501-1 Reaction to Fire, should be packed around **chimneys and heat-producing flues** penetrating walls, roofs or floors.

Please refer to **Annex B** for copy of Fire Test Certificate for a typical product which meets the above requirements.

2.1.1.9 All debris directly resulting from the insulation of the loft space shall be removed immediately following completion of the work.

2.1.1.10 Where the loft of a dwelling has boards covering all or part of the loft floor, these should be removed prior to the insulation being applied. The removal may be carried out by the Installer or the client.

Where the boarding extends into the eaves and is to remain in place care must be taken to ensure that any eaves ventilation is allowed access to above the insulation, and that the ends of the joist 'tunnels' are filled with insulation to prevent outside air penetrating under the boards. To be clear – **a minimum of 50mm air must flow through eaves up under roof sarking,** but air flow under floor boards should be avoided.

A minimum overlap of 100mm is required where boarded areas end.

NOTE: Boards used to provide access walkway to tanks etc. will have the maximum amount of insulation fitted under the boards to complete the work. The top surface of these walkways must be kept clear of insulation material.

2.1.2 Further considerations: Cold Water Cisterns

2.1.2.1 Further considerations not covered under the scope of the IndiNature BBA certificate product sheets are below – for good practice please refer to PAS 2035 guidance / retrofit assessor plans for the cold water supply cistern, and recommendations for pipework to have a cover which may:

(a) be tightly fitting but not airtight;
(b) be opaque;

(c) be of material not likely to fragment nor contaminate any condensate which may form on its underside;
(d) exclude insects;
(e) be securely fixed in position;
(f) not impart taste, colour, odour or toxicity to the water;
(g) not promote or foster microbial growth under the conditions where the cistern is installed;
(h) be of material which is corrosion resisting or will be coated internally with corrosion resisting material;
(i) be arranged to accommodate any vent or expansion pipes in closely-fitting, purpose-made holes or sleeves;
G) be made of materials compatible with those of the cistern.
(k) be of solid construction and able to support in excess of its own weight.

2.1.2.2 A cold water cistern located 300mm or more above the ceiling joists should be completely enclosed and insulated, with insulation applied under the cistern.

A cold water cistern located less than 300mm above the ceiling joists shall be completely enclosed and insulated. The cistern support or structure shall be considered as integral with the cistern, insulation shall be omitted from beneath the cistern.

NOTE: The insulation would form a continuous barrier in this area.

2.1.2.3 The insulation when applied to the cistern shall take into account any domestic hot water expansion pipe outlets and the insulation shall be easily removable for access to the inside of the cistern. Neither the insulation nor the fastenings shall interfere with the correct operation of the water control valve and mechanism.

2.1.2.4 Minimum thickness of the insulation shall be as per Appendix 5, Table 5.

2.1.3 Further considerations: Water Supply and Expansion Pipes

2.1.3. Further considerations not covered under the scope of the IndiNature BBA certificate product sheets follows. For good practice please refer to PAS 2035 guidance / retrofit assessor plans for pipes containing water or which contain water at infrequent intervals (excluding overflow pipes) for insulation over their entire length. Insulation at control and isolating valves should be considered to allow ready access to the operating facilities of such.

2.1.3.3 Pre-formed thermal insulating materials may be considered for application to pipework in accordance with the manufacturer's recommendations. Where pre-formed insulation cannot be used, (e.g. two pipes clipped together or single pipe clipped to woodwork or wall), then a proprietary type of strip insulation (e.g. fibre glass strip with plastic backing) may be used. Refer to manufacturer’s recommendations. NOTE: Care must be taken when using an alternative insulation material, in these situations, not to overtighten the fixings.

2.1.3.4 No gaps should be visible where the insulating material is joined.

2.1.3.5 Additional protection would be applied to the insulation via a suitable covering where foreseeable mechanical damage can be inflicted upon the insulating material.

2.1.3.6 All insulation would usually be properly secured. Where tape is used to secure the insulation, a good quality material should be chosen that will remain in place for several years without loosening or becoming ineffective.

2.1.4 Further considerations: Insulating and Draughtproofing of Loft Hatches

2.1.4.1 Further considerations not covered under the scope of the IndiNature BBA certificate product sheets follows. For good practice please refer to PAS 2035 guidance / retrofit assessor plans for the loft hatch insulation.

2.1.4.2 The insulation would usually be contained by a suitable covering to protect it against mechanical damage and fixed to the hatch so that it remains in place when the hatch is moved during opening.

2.1.5 Certification of "Roof Space Insulating Works" or “Underfloor Insulation Works”

After completion of the work, the installer shall provide a signed and stamped certificate which shall be pinned up in the roof space adjacent to the point of access (see appendix JO for a typical example). The certificate shall contain the following:

2.1.5.1 The installer's name, registered address and installer reference.

2.1.5.2 Address at which the insulation was installed.

2.1.5.3 The date on which the work was carried out.

2..1.5.4 The area of the roof space insulated in m2 and the number of rolls or batts or the number of packs of blown fibre used.

2.1.5.5 The material including the name of the manufacturer and the relevant British Standard used for insulating:
(i) the roof space;
(ii) the cold water cistern;
(iii) the pipe work;
(iv) the loft hatch;
(v) the underfloor space.

2.1.5.6 The installed thickness in mm of all the materials for:
(i) the roof space (settled thickness for blown materials);
(ii) the cold water cistern;
(iii) the pipe work;
(iv) the loft hatch;
(v) the underfloor space.

2.1.5.7 The materials used for the lid of the cold water cistern, the name of the manufacturer and the relevant British Standard, where known.

2.1.5.8 Advice on the action to be taken if the insulation material becomes damaged or wet.

See ANNEX D for a certificate template – also available as an editable version from IndiNature.

2.1.6 Warning Labels

Two labels will be fixed on two adjacent sides of the loft access to warn the householder of the dangers when entering a loft space.

Particular reference is to be made to the insulation material covering the ceiling joists.

See ANNEX D for content of the label which may be used to copy for this purpose – also available as an editable version from IndiNature.

3.1 Under Floor Space

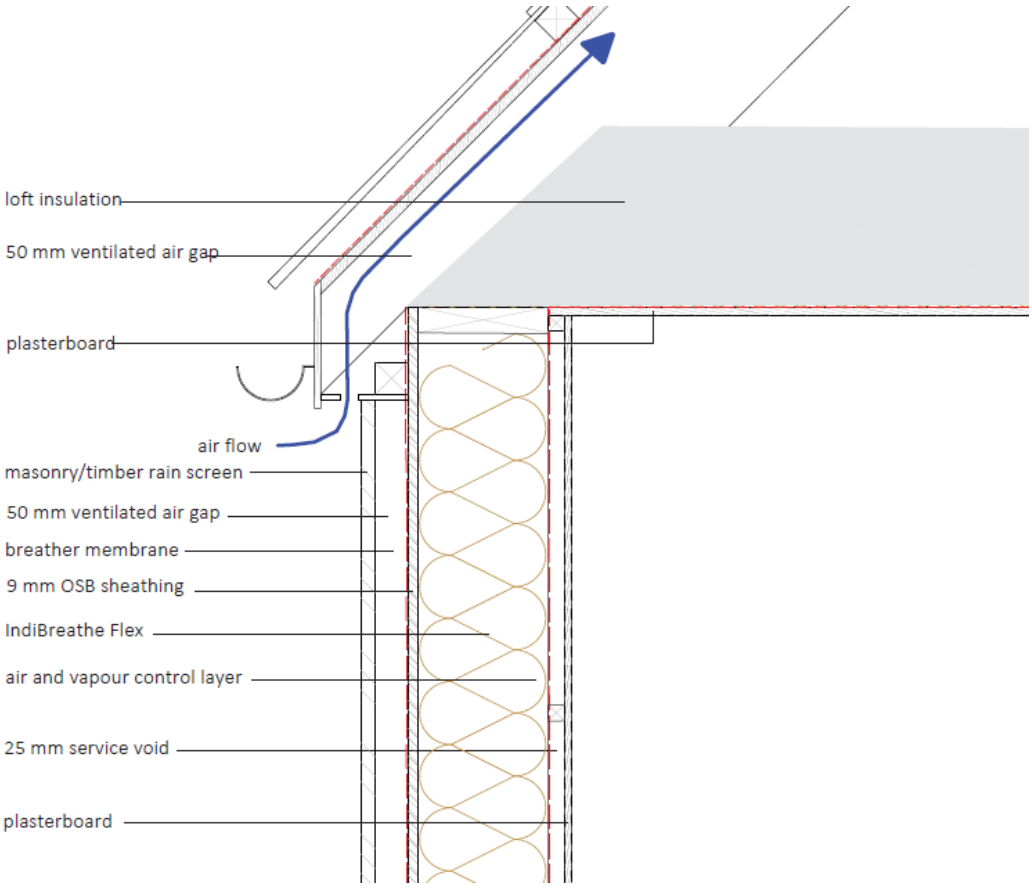
3.1.1 General instruction to as per Cold Roof Space above from 2.1.1 – 2.1.6.

3.1.2 Insulation to be laid between joists as per details in ANNEX E.

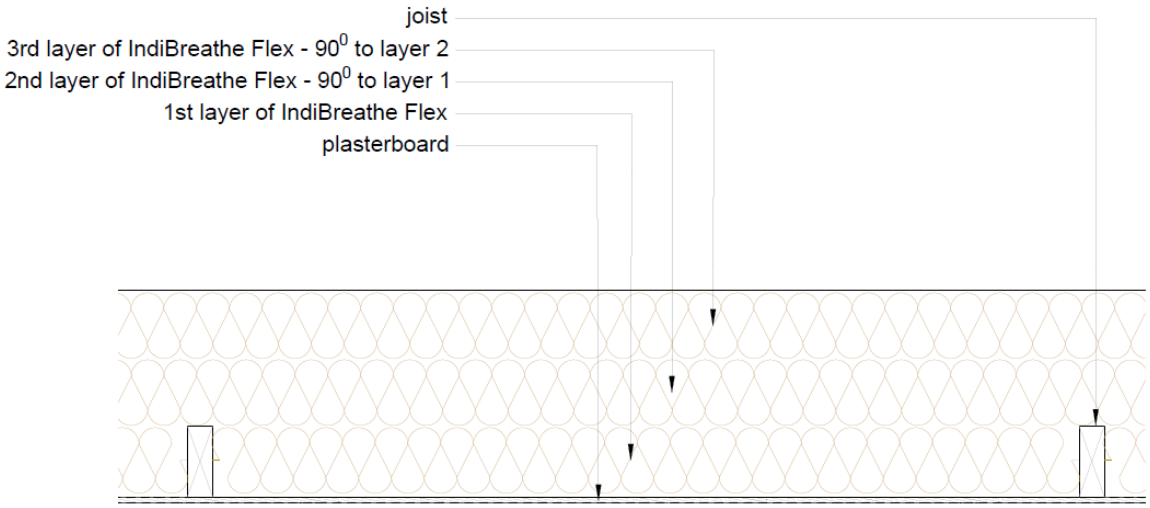
ANNEXES

ANNNEX A: Details

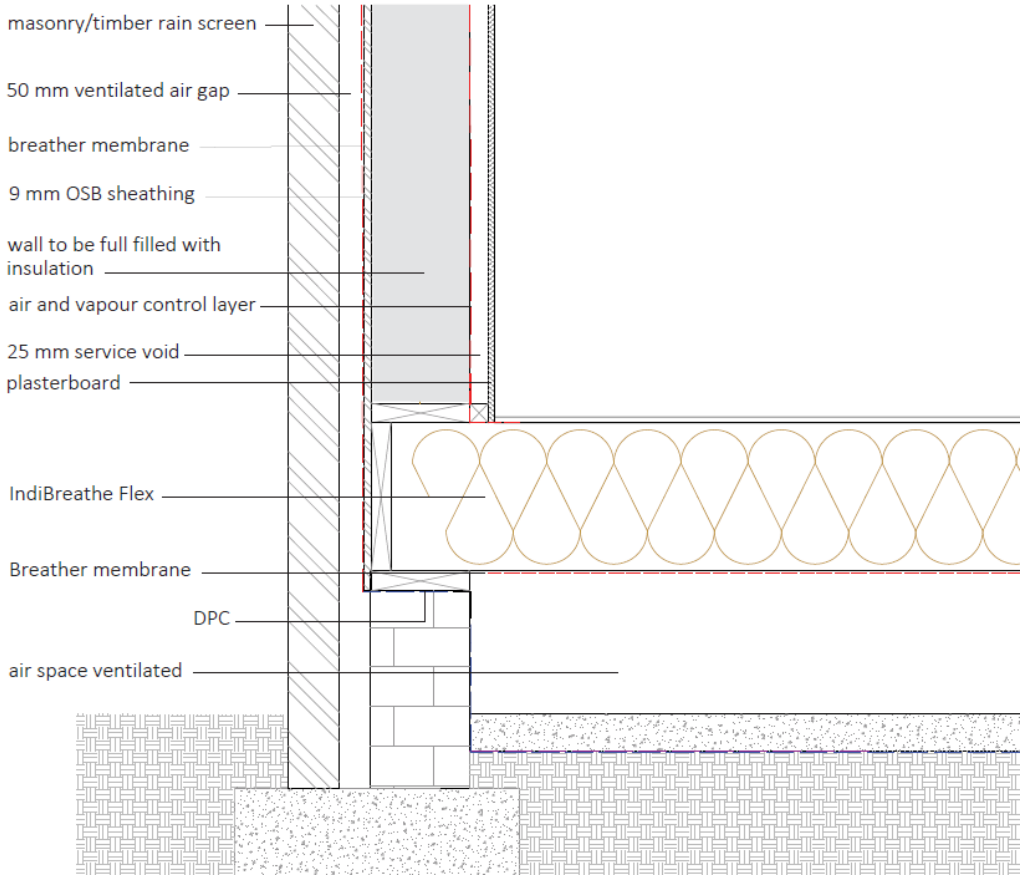
A.1 Cold roof detail



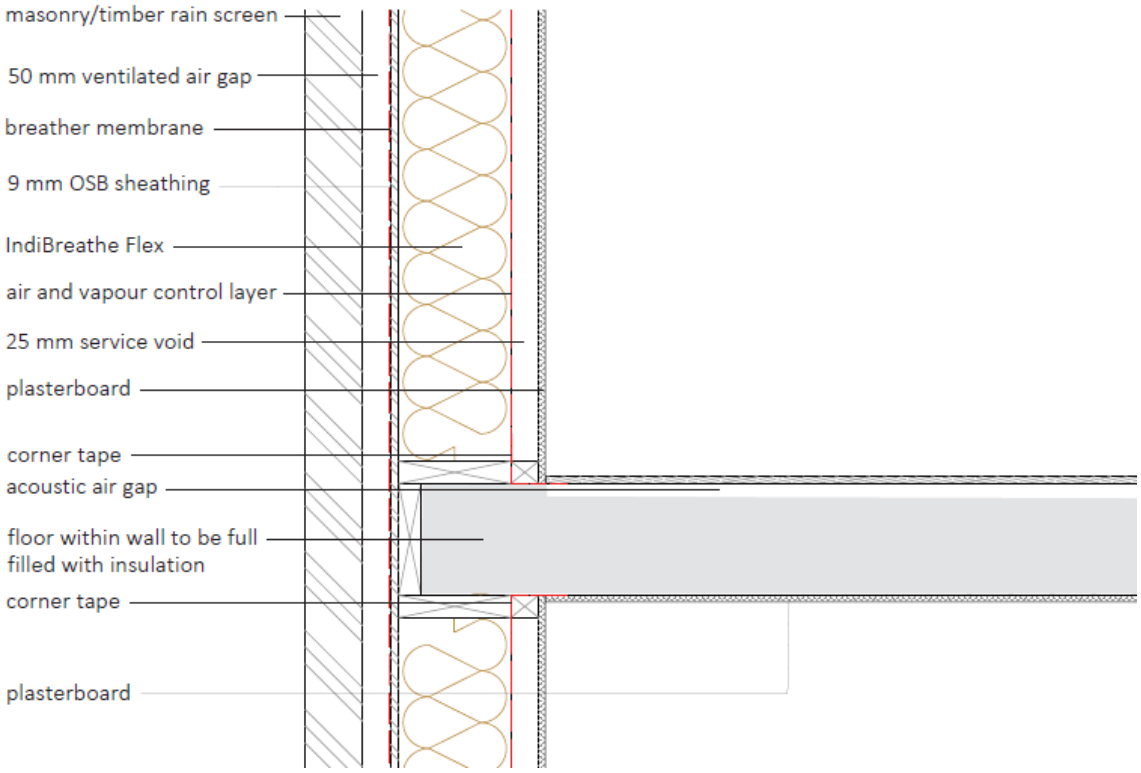
A.2 Cross section cold roof insulation layout



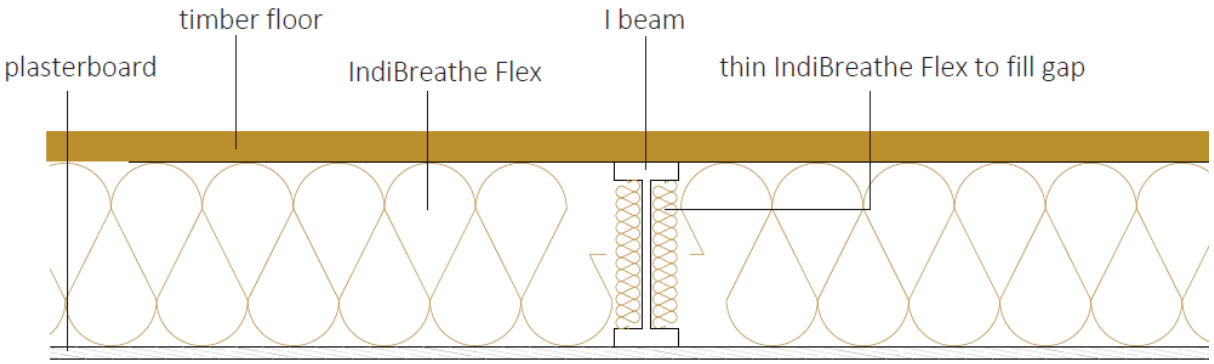
A.3 Suspended timber floor detail



A.4 Intermediate floor detail

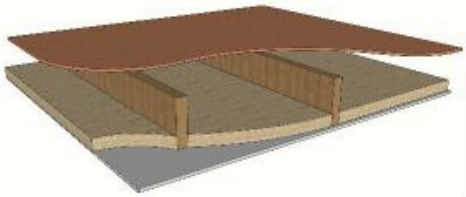


A.5 Cross section of Intermediate floor



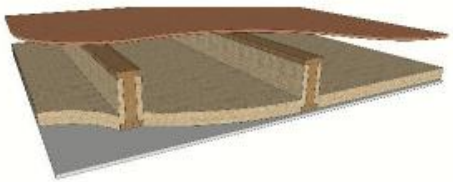
A.6 Acoustic Data – Internal Partition Floors

50mm or more IndiBreathe Flex achieves better than 40db sound reduction in intermediate floors. IndiBreathe Flex is not suitable for separating party floors.



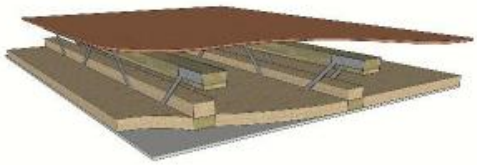
Solid Timber Joists & i-joists

Joist Size	Stud Spacing	Plasterboard	IndiNature Insulation	Insulation Thickness	Sound Reduction	UKAS Lab Certificate
Solid: 195mm x 44mm i-joist:220mm x 90mm flange / 10mm web	450mm	15mm standard gyproc wallboard	IndiBreathe Flex - Hemp /Jute Acoustic Flexibatts *BBA	50mm	41dB (Rw)	17989



Posi-joists

Joist Size	Stud Spacing	Plasterboard	IndiNature Insulation	Insulation Thickness	Sound Reduction	UKAS Lab Certificate
Posi-joist: 225mm x 97mm	600mm	15mm standard gyproc wallboard	IndiBreathe Flex - Hemp /Jute Acoustic Flexibatts *BBA	50mm	47dB (Rw)	17998



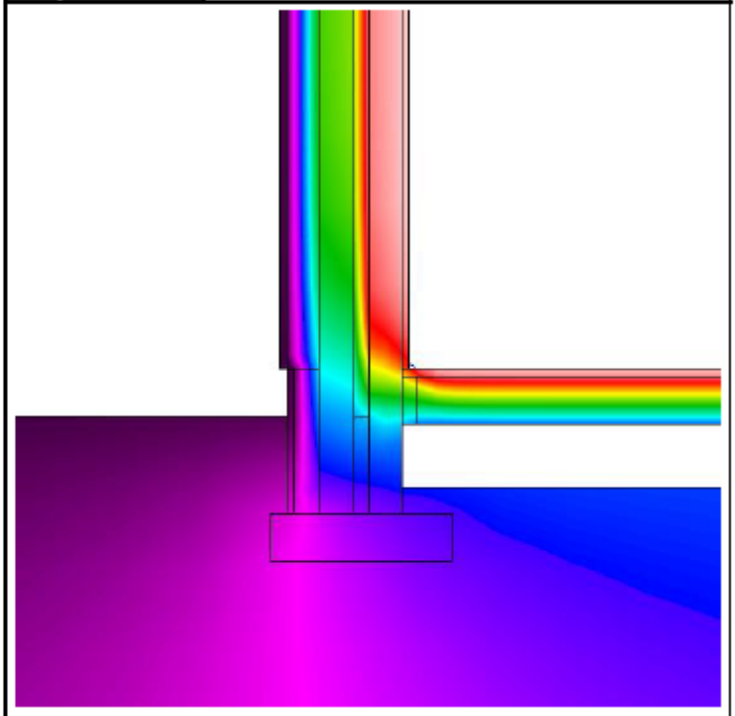
THERMAL BRIDGE ASSESSMENT OF JUNCTION
E5 - SUSPENDED GROUND FLOOR (NORMAL)

CarbonFutures

Client	IndiNature
Project	Thermal Bridging Analysis
Detail Ref	N/A

Construction	Masonry Cavity Wall
Cladding	Brick / EWI
Cavity Depth	50mm

Temperature 0 °C — 20 °C



Linear Thermal Transmittance (W/m-K)	
Ψ =	0.232

Temp. Factor for Condensation Risk	
f_{Rsi} =	0.84

Notes:
1. The thermal bridging results indicated above are to be used on this project only and must not be issued to any third party without the prior written consent of Carbon Futures (Consultancy) Ltd.
2. Ψ and f_{Rsi} are only applicable to the calculated detail referenced above.
3. In dwellings the safe limit to avoid the risk of condensation on a surface element is fRsi > 0.75.
4. This calculation has been performed in accordance with BS EN ISO 10211_2017 & BR497 (2nd Edition).
5. Reference has also been made to BS EN ISO 6946 and BR443.

Validation Formula

$$\Psi = \frac{Q - U'_w \times l_w \times (T_i - T_e) \times w - U'_f \times \frac{1}{2}b \times (T_i - T_u) \times w}{(T_i - T_e) \times w}$$

Validation Formula

$$\Psi = \frac{21.0166 - 0.198 \times 1.200 \times (20 - 0) \times 1.0 - 0.204 \times 4.0 \times (20 - 5.75) \times 1.0}{(20 - 0) \times 1.00}$$

Where

Total heat flow through the 3D model (W)	Q	=	21.0166
U-value of the wall (W/m²K)	U'_w	=	0.198
Length over which the wall U-value applies (m)	l_w	=	1.200
U-value of the floor deck (W/m²K)	U'_{fd}	=	0.204
Length over which the floor deck U-value applies (m)	½b	=	4.0
Internal Temperature (°C)	T_i	=	20.0
External Temperature (°C)	T_e	=	0.0
Temperature of Underfloor Space	T_u	=	5.75
Lowest Surface Temperature (°C)	T_{si}	=	16.8
Characteristic dimension of the floor from BS EN ISO 13370 (m)	b	=	8.0
Depth of the junction (m)	w	=	1.000

Prepared By:	Andrew Money	Date:	24th September 2024	Rev:	A

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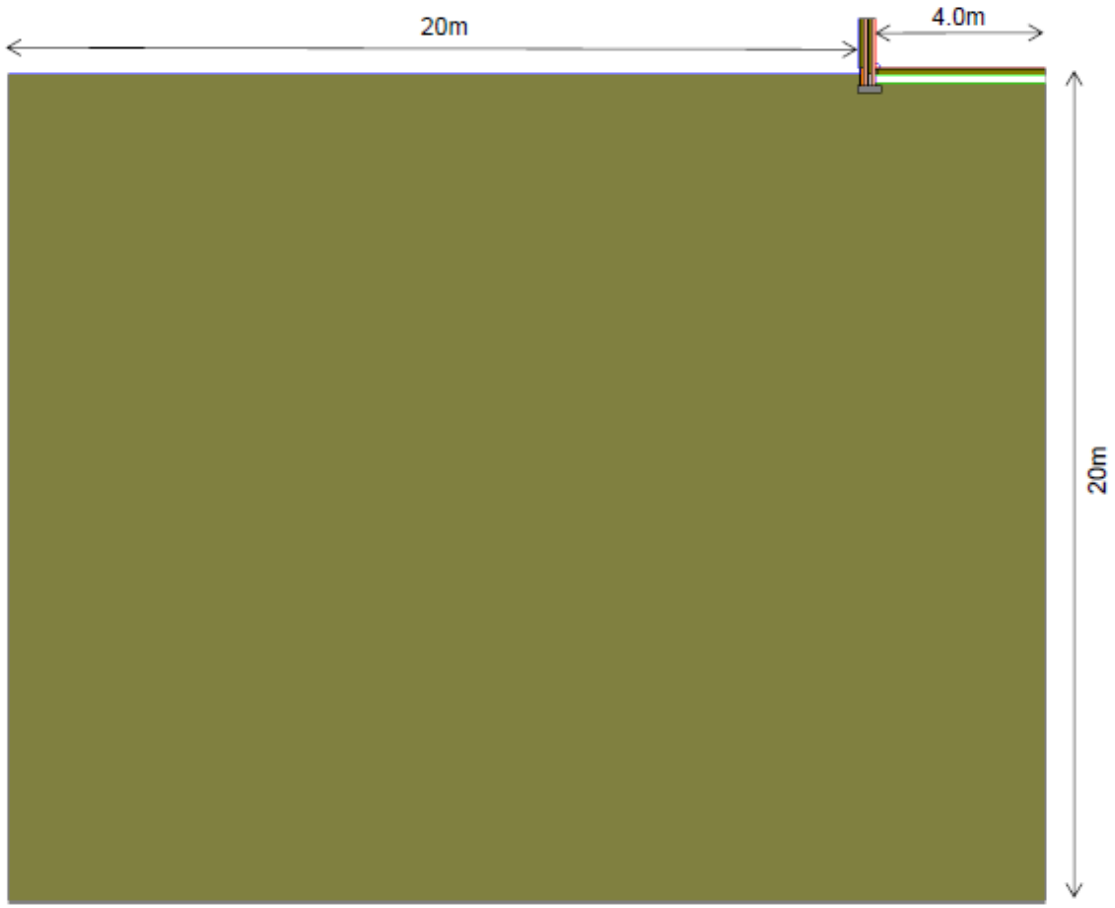
THERMAL BRIDGE ASSESSMENT OF JUNCTION
E5 - SUSPENDED GROUND FLOOR (NORMAL)

Dimensions

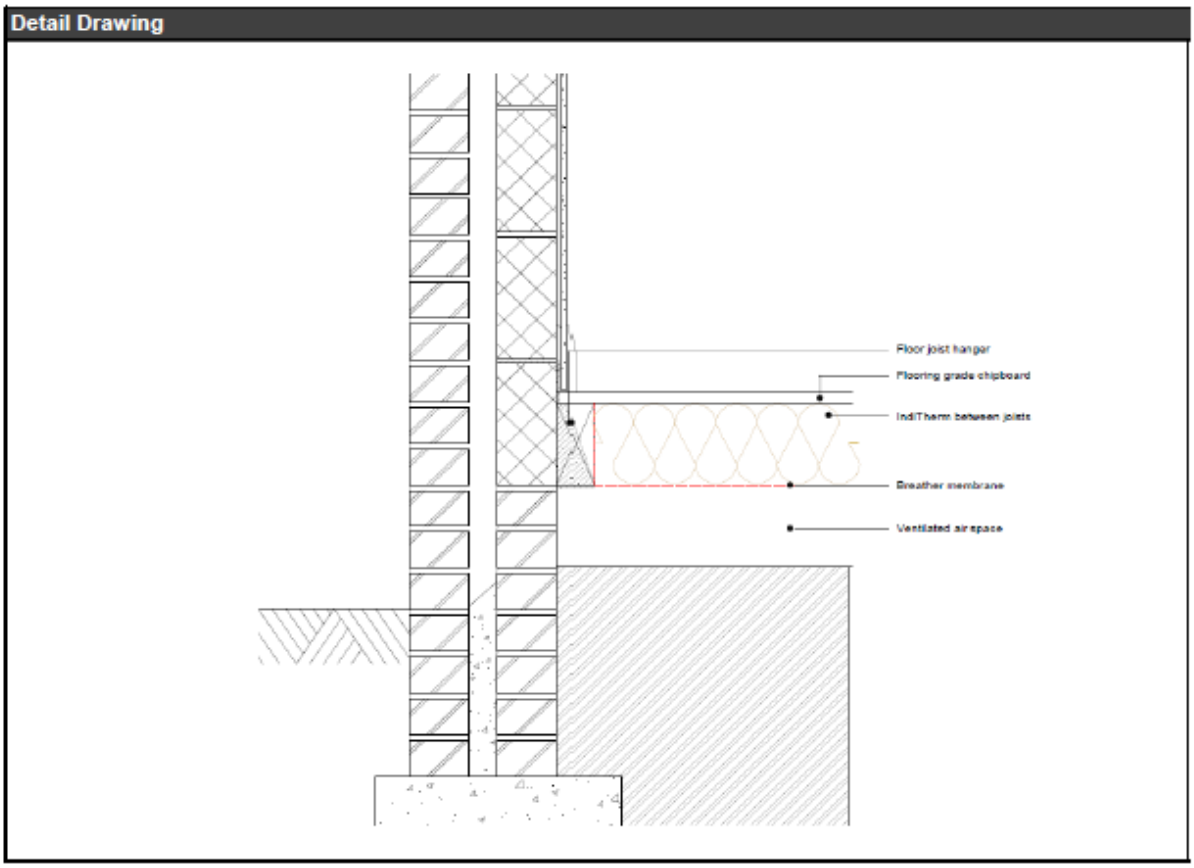


Materials

Element	Conductivity (W/m.K)	Thickness (mm)	Data Source
Render	1.000	20	BR443
External Wall Insulation	0.034	100	Manufacturer
Brickwork (Outer)	0.560	102.5	BR443
Cavity Insulation	0.034	50	Manufacturer
Brickwork (Inner)	0.560	102.5	BR443
Plaster	0.570	18	BR443
Chipboard	0.130	22	BR443
Timber Floor Joist	0.130	150	BR443
Floor Insulation	0.039	150	IndiNature
Cavity Fill	1.700	50	BR443
EPS Insulation	0.033	80	Manufacturer
Foundation	2.300	Varies	BR443
Ground	1.500	Varies	BR443

THERMAL BRIDGE ASSESSMENT OF JUNCTION
E5 - SUSPENDED GROUND FLOOR (NORMAL)

Detail Drawing



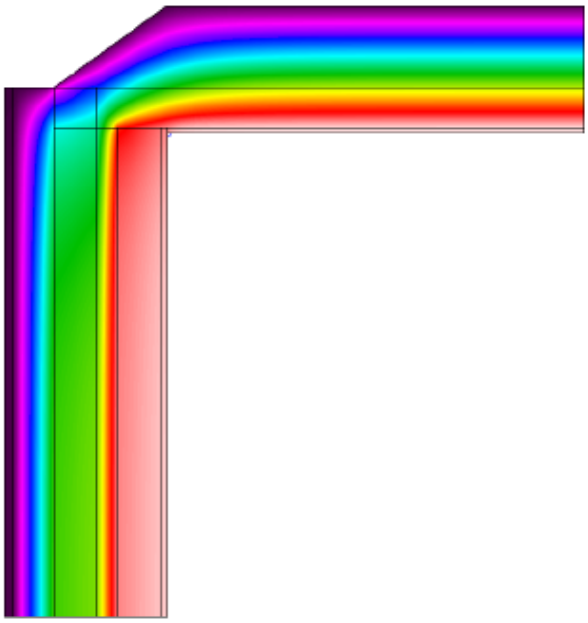
ASSESSMENT OF THERMAL BRIDGING
E10 - EAVES (COLD ROOF)

CarbonFutures

Client	IndiNature
Project	Thermal Bridging Analysis
Detail Ref	N/A

Construction	Masonry Cavity Wall
Cladding	Brick / EWI
Cavity Depth	50mm

Temperature 0 °C — 20 °C



Linear Thermal Transmittance (W/m·K)

Ψ =	**0.057**

Temp. Factor for Condensation Risk

f_{Rsi} =	**0.95**

Notes:

1. The thermal bridging results indicated above are to be used on this project only and must not be issued to any third party without the prior written consent of Carbon Futures (Consultancy) Ltd.
2. Ψ and f_{Rsi} are only applicable to the calculated detail referenced above.
3. In dwellings the safe limit to avoid the risk of condensation on a surface element is f_{Rsi} > 0.75.
4. This calculation has been performed in accordance with BS EN ISO 10211_2017 & BR497 (2nd Edition).
5. Reference has also been made to BS EN ISO 6946 and BR443.

Validation Formula

$$\Psi = \frac{Q - U'_w \times l_w \times (T_i - T_e) - U'_c \times l_c \times (T_i - T_L)}{(T_i - T_e)} \qquad \Psi = \frac{8.4173 - 0.198 \times 1.200 \times (20 - 0) - 0.126 \times 1.000 \times (20 - 0)}{(20 - 0)}$$

Where			
Total heat flow through the 2D model (W/m)	Q	=	8.4173
U-value of the wall (W/m²K)	U'_w	=	0.198
Length over which the wall U-value applies (m)	l_w	=	1.200
U-value of the ceiling (W/m²K)	U'_c	=	0.126
Length over which the ceiling U-value applies (m)	l_c	=	1.000
Internal Temperature (°C)	T_i	=	20.0
External Temperature (°C)	T_e	=	0.0
Loft Space Temperature (°C)	T_L	=	0.0
Lowest Surface Temperature (°C)	T_{si}	=	18.9

Prepared By:	Andrew Money	**Date:**	7th October 2024	**Rev:**	B

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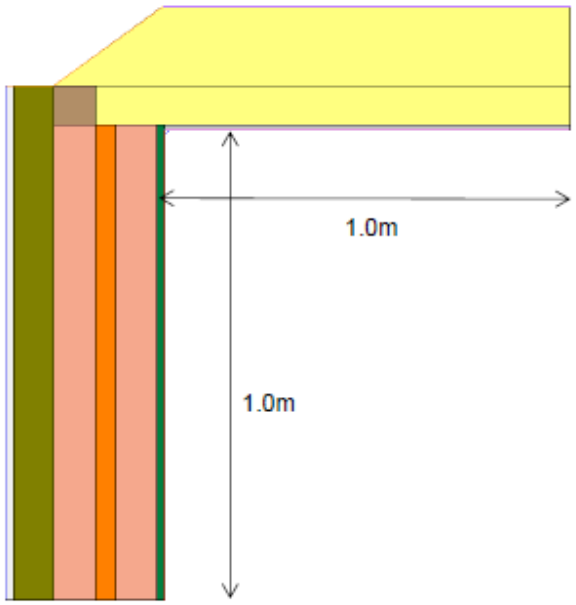
ASSESSMENT OF THERMAL BRIDGING

E10 - EAVES (COLD ROOF)

Dimensions



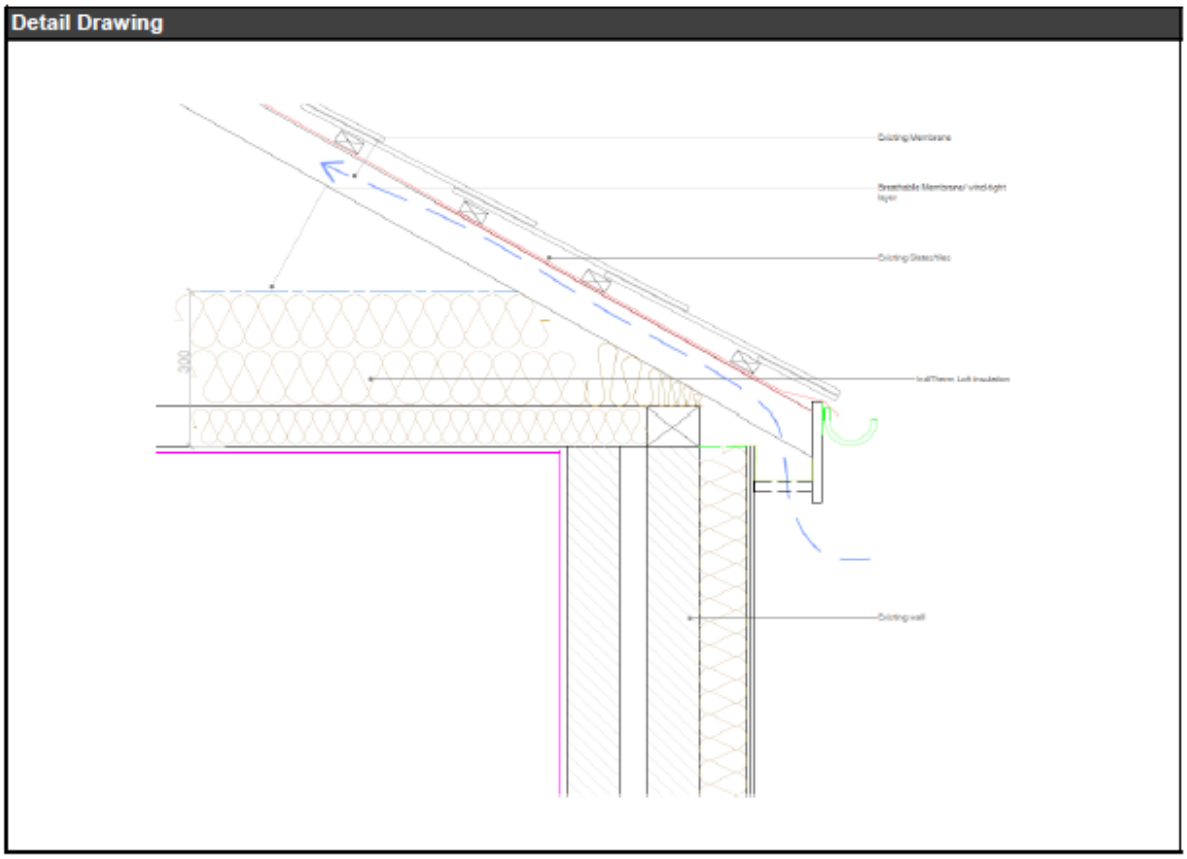
Materials

Element	Conductivity (W/m.K)	Thickness (mm)	Data Source
Render	1.000	20	BR443
External Wall Insulation	0.034	100	Manufacturer
Brickwork (Outer)	0.560	102.5	BR443
Cavity Insulation	0.034	50	Manufacturer
Brickwork (Inner)	0.560	102.5	BR443
Plaster	0.570	18	BR443
Plasterboard	0.210	12.5	BR443
Timber Ceiling Joist	0.130	100	BR443
Roof Insulation	0.039	300	IndiNature

ASSESSMENT OF THERMAL BRIDGING

E10 - EAVES (COLD ROOF)

Detail Drawing



ANNEX B: FIRE TEST CERTIFICATE FOR TYPICAL A1 PRODUCT

bsi.

UK CA bsi

By Royal Charter

UKCA Certificate of Constancy of Performance

This is to certify that:

Superglass Insulation Limited
Kerse Road
Thistle Industrial Estate
Stirling
Central
FK7 7RW
United Kingdom

Holds Certificate Number: 0086 CPR 469699

In respect of:

BS EN 13162:2012+A1:2015 – Thermal insulation products for buildings – Factory made mineral wool (MW) products – Specification., Unfaced mineral wool thermal insulation products for buildings – Reaction to Fire class A1.

In compliance with the Regulation (UK) Statutory Instrument 2019 No 465 of the United Kingdom Parliament (Construction Products (Amendment etc.) (EU Exit) Regulations or CPR), this certificate applies to the above construction product. This certificate attests that all the provisions concerning the assessment and verification of constancy of performance described in Annex ZA of the above standard(s) under system 1 are applied and that the product fulfils (products fulfil) all the prescribed requirements set out above. This certificate remains valid as long as the test methods and/or factory production control requirements included in the designated standard(s), used to assess the performance of the declared essential characteristics, do not change and the product(s), and the manufacturing conditions in the plant(s) are not modified significantly.

For and on behalf of BSI, an Approved Body for the above Regulation (Approved Body Number 0086):

Frank Lee, Product Certification Technical and Compliance Director

First Issued: 2003-01-06
Latest Issue: 2020-12-03

Effective Date: 2021-01-01

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...making excellence a habit.

ANNEX B: FIRE TEST CERTIFICATE FOR TYPICAL A1 PRODUCT

UKCA Certificate of Constancy of Performance

No. 0086 CPR 469699

EN 13162:2012+A1:2015 – Thermal insulation products for buildings - Factory made mineral wool (MW) products – Specification.
Unfaced mineral wool thermal insulation products for buildings – Reaction to Fire class A1.

Supplementary Information

Manufacturing plant: **Superglass Insulation Limited**
Thistle Industrial Estate
Kerse Road
Stirling
FK7 7RW
United Kingdom

Product Information

Unfaced Mineral wool thermal insulation:

Product identification	Binder content	Density range
Standard Roll/Mat, Standard Batt, Standard Slab and Acoustic	4,0 – 5,5%	9,5 - 48,0 kg/m³
Standard Roll and Cavity Slab	4,0 – 5,5%	12,5 – 21,0 kg/m³

Conformity established in accordance with EN 13172:2012, reaction to fire classification in accordance with EN 13501-1.

First Issued: 2003-01-06
Latest Issue: 2020-12-03

Effective Date: 2021-01-01

Page: 2 of 2

ANNEX C: INSTALLATION CERTIFICATE – TEMPLATE

IndiNature
Bio-based construction systems

[INSERT YOUR INSTALLER LOGO HERE]

[INSERT COMPANY NAME]
[INSERT COMPANY ADDRESS 1]
[INSERT COMPANY ADDRESS 2]
[INSERT COMPANY POSTCODE]

[INSERT COMPANY PHONE]

[INSERT COMPANY EMAIL]

INSTALLATION CERTIFICATION OF ROOF SPACE / FLOOR SPACE INSULATION WORKS

WE HEREWITH CERTIFY THAT THIS ROOF SPACE / FLOOR SPACE HAS BEEN INSULATED TO **BS [Standard**

CLIENTS NAME:_____

CLIENTS ADDRESS: _____

_____ POSTCODE:_____

DATE WORK COMPLETED: _____

_____

INSTALLATION DETAILS

AREA ROOF SPACE: _____ (m2) AREA INSULATED: _____ (m2)

CARBON CAPTURED: _____ (m2)

TYPE OF MATERIAL USED: _____ MANUFACTURER: Industrial Nature UK Ltd

RELEVANT BS:

INSTALLED THICKNESS: _____mm TOTAL THICKNESS: _____mm

_____

ASSOCIATED INSULATING WORKS

_____

NB: Should insulation material become WET this should be REMOVED immediately; the roof space allowed to dry out and the insulation material should be renewed as soon as possible.

SIGNATURE: _____ DATE: _____

Manufacturer: IndiNature is the trading name of Industrial Nature UK Ltd, a company registered in Scotland. Registered number SC655203. VAT number GB 357 4209 89.
Industrial Nature UK Limited, IndiNature Mill, Oxnam Road, Jedburgh, Scottish Borders, TD8 6NN, UK
info.uk@indinature.co | www.indinature.co | 01835 867070

Template available from IndiNature. Also includes Warning Label on the reverse.
01835 867 070 / www.indinature.co / technical.uk@indinature.co

ANNEX D: WARNING LABEL TEMPLATE

WARNING

Ceiling Joists may be covered by insulation material.

The floor between the joists is fragile.

It will not carry your weight.

You should not enter unless a crawl board
is placed across the joists.

Electrical Safety

To avoid overheating always ensure that
exposed electrical cables are not covered by insulation.

Keep insulation clear of recessed light fittings
unless suitable covers are in place.

Fire Safety

Suitable precautions such as fire blankets should be utilised for any hot works where sparks/naked flames are likely to come in contact with the insulation. Please follow industry guidance for use of other safety measures.

Circular Economy: End of Product Life Practice

IndiNature insulation can be returned
and reprocessed to create new insulation.

Please consider this for materials recovery.

This insulation label should be kept in clear sight of anyone wishing to enter the loft space.

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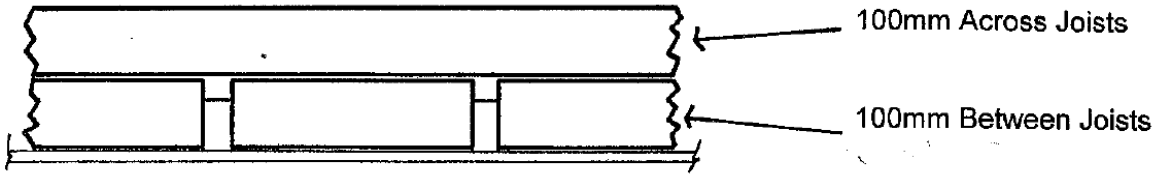
INUK5SMD_003_2410_IndiNature_Aftercare_WarningSticker

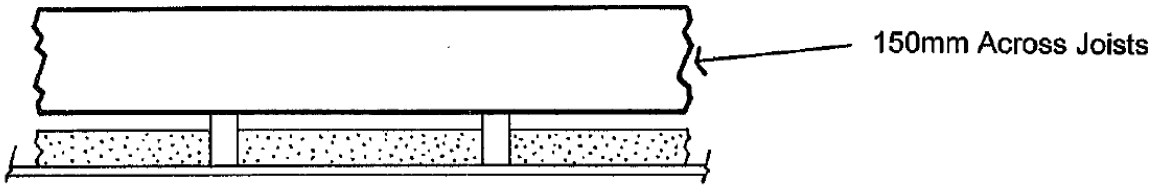
Template available from IndiNature. Laminate if possible & fix at loft entrance.
01835 867 070 / www.indinature.co / technical.uk@indinature.co

ANNEX E: LOFT INSULATION LAYING PATTERNS AND UNDERFLOOR

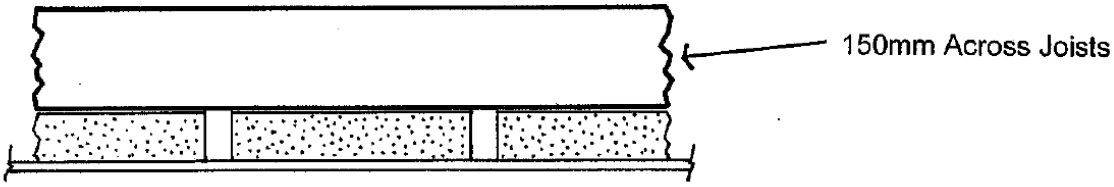
NO EXISTING INSULATION



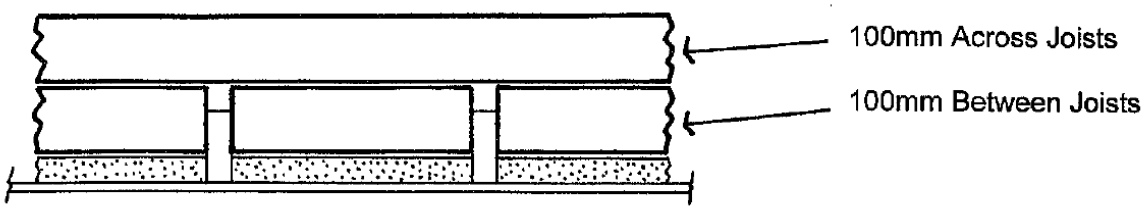
50mm EXISTING INSULATION



UP TO 80mm EXISTING INSULATION



Where the existing insulation is up to 50mm , and the joists are 100mm or above the following method should be adopted.



LOFT INSTALLATION GUIDANCE - BBA Certificate Installation instruction (BBA certification extract)

Additional information on installation

A.1 Installation must be in accordance with the Certificate holder's instructions and this Certificate.

A.2 The batts are light to handle and can be cut easily with a 'wavy-bladed' insulation saw. For large volume work, a straight-knife textile bandsaw may be used.

A.3 The product is self-supporting by friction fitting between timber joists/rafters.

A.4 An OSB board may be used as a cutting surface to provide grip – a pre-cut slit in the middle of the board as a saw guide is useful.

A.5 For cutting narrow strips off, it can be helpful to place a piece of OSB board on top to compress slightly and use as a saw guide.

A.6 Care must be taken not to apply the product to flue pipes or electrical cables that are not contained within a suitable conduit or trunking.

A.7 After completion, a survey should be performed to check that electrical cables and flues are not obstructed. Corrective measures must be taken to clear any such obstruction.

Warm pitched roof — insulation between rafters only

A.8 The product should be cut to fit tightly between the timber rafters. Typical installation details are shown in Figures 1 and 2.

A.9 A 50 mm ventilated air gap must be maintained between the product and any sarking boards or underlay.

Cold pitched roof with insulation at ceiling level: loft application

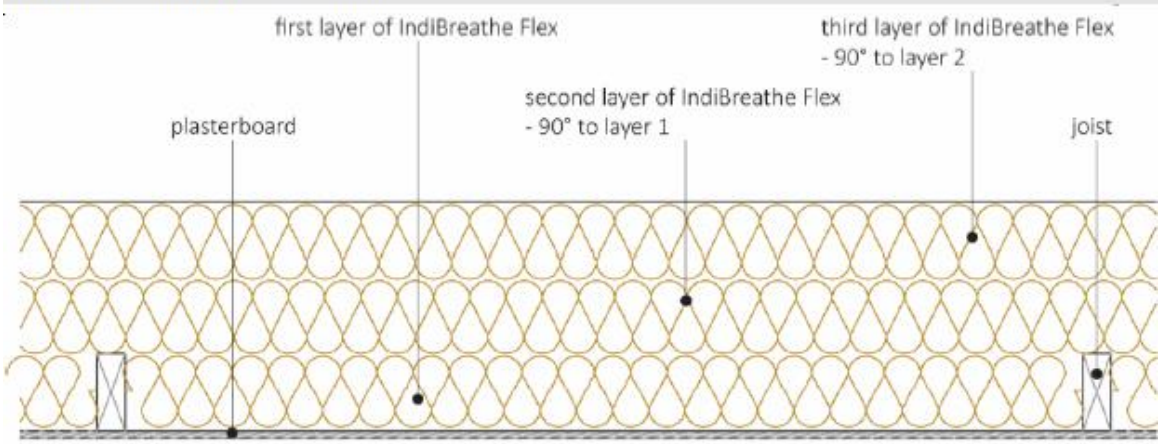
A.10 To reduce the risk of frost damage, the pipes and tank in the loft space should be lagged before installing the product. The area directly below cold-water tanks when resting at joist level must not be insulated to avoid the risk of the stored water freezing in cold weather.

A.11 During and post installation, it is essential that all ventilation points (for example, eaves gaps and air bricks at gable ends) are kept clear of insulant so that the airflow is maintained.

A.12 The product should be installed from inside the roof space, after tiling or slating is completed.

A.13 The product is applied to the air and vapour control later (AVCL), between ceiling joists (see Figure 3). The product may also be applied over joists.

Figure 3 Typical loft detail



ANNEX F: UNDER FLOOR INSULATION LAYING PATTERNS

UNDERFLOOR INSTALLATION GUIDANCE - BBA Certificate Installation instruction (BBA certificate extract)

Additional information on installation

A.1 Installation must be in accordance with the Certificate holder's instructions and this Certificate.

A.2 The batts are light to handle and can be cut easily with a 'wavy-bladed' insulation saw. For large volume work, a straight-knife textile bandsaw may be used.

A.3 The product is self-supporting by friction fitting between the timber joists.

A.4 An OSB board may be used as a cutting surface to provide grip; a pre-cut slit in the middle of the board as a saw guide is useful.

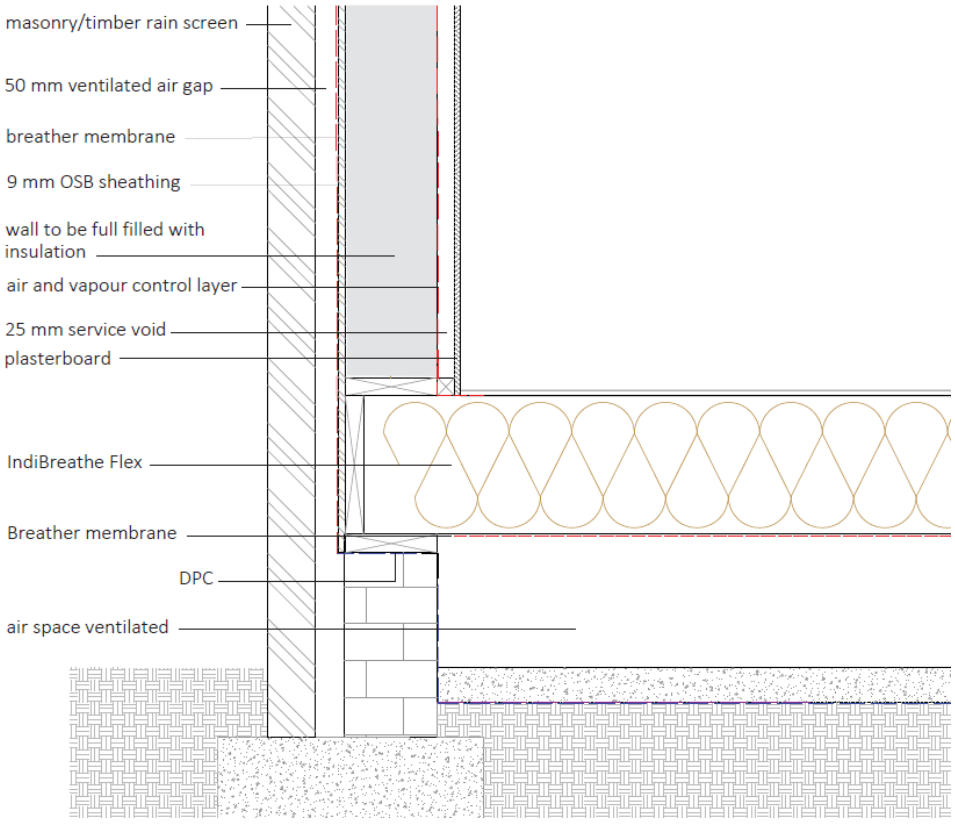
A.5 For cutting narrow strips off, it can be helpful to place a piece of OSB board on top to compress slightly and use as a saw guide.

A.6 Care must be taken not to apply the product to flue pipes or electrical cables that are not contained within a suitable conduit or trunking.

A.7 After completion, a survey should be performed to check that electrical cables and flues are not obstructed. Corrective measures must be taken to clear any such obstruction.

A.8 The product should be cut to fit tightly between the timber joists. Typical installation details are shown in Figures 1 to 4.

Figure 2 Wall to suspended floor junction detail



A.9 When installing in intermediate floors, it is best practice to not fill the void to the full height and leave an air gap in order to optimise acoustic dampening (see Figure 3).

ANNEX G: CUTTING GUIDANCE

CUTTING TOOLS:

Natural Fibre Insulation Specific Hand Saw & Knife

Recommended insulation hand saw with 'wave-formed' teeth, or knife for more fitted cuts.

Maintenance: blade sharpener supplied separately and recommended before each installation. Silica in the hemp will dull them over time.

Cordless Insulation Saw

Specifically designed for cutting insulation materials quickly, with minimal effort, and maximum precision on a work bench. Useful for multiple routine cuts.

Maintenance: as per manufacturer instructions, check before each installation.

CUTTING:
Product widths are designed to fit 400, 470 & 600 joists for tight friction fit.

However, if cutting the edge or end of a flexi-batt:

- **Less than 20mm** – No need to cut. The material should compress for a good friction fit.
- **Up to 50mm** – draw a line or compress with timber board on top of the batt and cut along the edge to help accuracy and avoid an uneven cut.
- **Over 50mm** – straight cut, or rotate material and cut from each side for additional precision.

- Use a wide work bench for good support. An OSB board may be used as a cutting surface to provide grip. A pre-cut slit in the middle of the board can be useful as a saw guide.

- For cutting narrow strips off it can be helpful to place a pice of OSB board on top to compress slightly and use as a saw guide.

ANNEX H: PREPARATION & PPE RECOMMENDATIONS

- If the loft has existing insulation in place, ideally this needs to be safely removed beforehand in accordance with the manufacturers recommendations making sure you are wearing all of the necessary PPE.

- Existing insulation can remain in place - natural fibre insulation is appropriate to lay ***over*** non-breathable insulation as moisture is able to escape.

- We would not recommend putting any other insulation on top of IndiBreathe Flex unless it is a natural fibre.

- Double check installation area for rodents/pests, and timber for any signs of rot/decay/ water ingress.

- **Product should be stored dry and installed in a clean, dry condition.** Appropriate storage of the product beforehand is essential.

- Do not stack pallets.

Installers shall wear appropriate Personal Protective Equipment (PPE)when installing overhead or in spaces with poor ventilation.

- PPE: IndiBreathe Flex is safe to handle without gloves, but they are recommended when cutting material to size.

- PPE: A bump cap is essential. Goggles are not necessary unless installing overhead.

- PPE: IndiBreathe Flex produces little dust so dust masks are not always required, however enclosed spaces like lofts are often dusty environments so having an FFP2 (valved) face mask is recommended for loft and underfloor installations, particularly when cutting insulation.

- PPE: Eye protection is recommended when installing overhead.

- PPE: If removing glasswool or mineral wools, gloves are recommended.

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ANNEX I : CARBON METRICS - INDIBREATHE FLEX (34kg/m3)

PRODUCT	PRODUCT CODE	Width (mm)	Length (mm)	Thickness (mm)	Batts per pack	r per
IndiBreathe:Flex Hemp & Jute Flexibatt 34kg/m3	IN/BR/F_34_570_20	570	1200	20	20	13
	IN/BR/F_34_570_30	570	1200	30	13	8
	IN/BR/F_34_570_40	570	1200	40	10	6
	IN/BR/F_34_570_50	570	1200	50	8	5
	IN/BR/F_34_570_80	570	1200	80	5	3
	IN/BR/F_34_570_100	570	1200	100	4	2
	IN/BR/F_34_570_120	570	1200	120	4	2
	IN/BR/F_34_570_140	570	1200	140	4	2
	IN/BR/F_34_370_20	370	1200	20	20	8
	IN/BR/F_34_370_30	370	1200	30	13	5
	IN/BR/F_34_370_40	370	1200	40	10	4
	IN/BR/F_34_370_50	370	1200	50	8	3
	IN/BR/F_34_370_80	370	1200	80	5	2
	IN/BR/F_34_370_100	370	1200	100	4	1
	IN/BR/F_34_570_120	570	1200	120	4	2
	IN/BR/F_34_370_140	370	1200	140	4	1

Installers can calculate the biogenic carbon captured / stored for the measure from data in the table above and add t

Simply multiply the m2 installed of each thickness x Biogenic CO2 per m2 (shown in the bold/ highlighted column ab

For example, 80m2 loft with 3 x layers of 100mm thick insulation = 80 x 3 = 240m2 x -4.46kg/m2 = -1070kg CO2 **(over**

At the point of install:

- Biogenic carbon captured = **-4.46kg CO2e/m2 (100mm)**
- Embodied carbon – cradle to gate (A1-3) including biogenic carbon, production emissions and packaging: **-1.5**
- Whole life carbon = **0.93kg CO2e/kg**

Source: Okana (2024) Life Cycle Analysis, IndiBreathe Flex. LCA available on request. Full EPD in progress.

For over 20 years, Ecological Building Systems has been at the forefront of environmental and sustainable building products supplying a range of innovative airtightness solutions and natural insulations backed up with expert technical support.

As product suppliers in the UK and Ireland, we're happy to assist you with your projects and have expert technical and sales advice on hand.

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