
IndiNature®
UK grown and made industrial hemp fibre insulation
warm homes, cool planet
MADE IN BRITAIN

Áine Scott, Architectural Technologist

aine@indinature.co

technical.uk@indinature.co

0131 376 3731

Ele George, Industry Collaboration Lead

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IndiNature

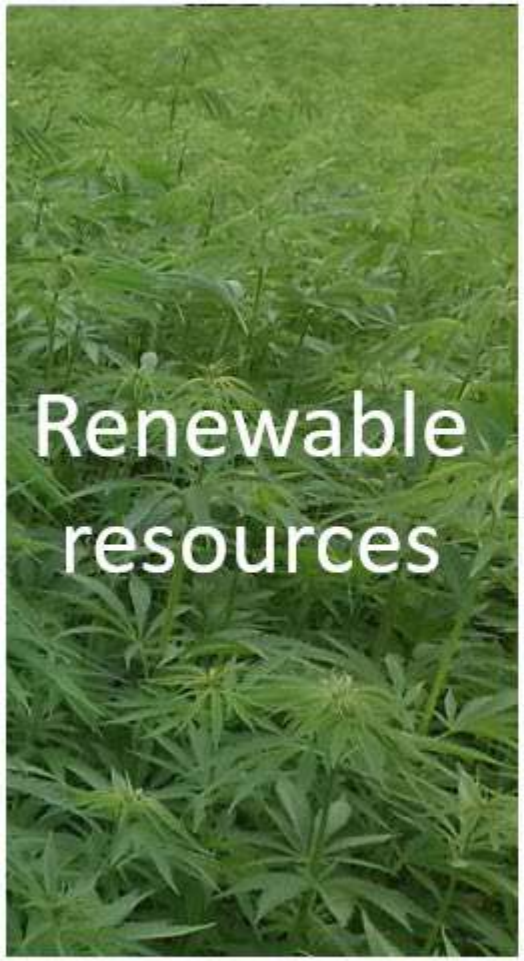
Is insulation innovative?

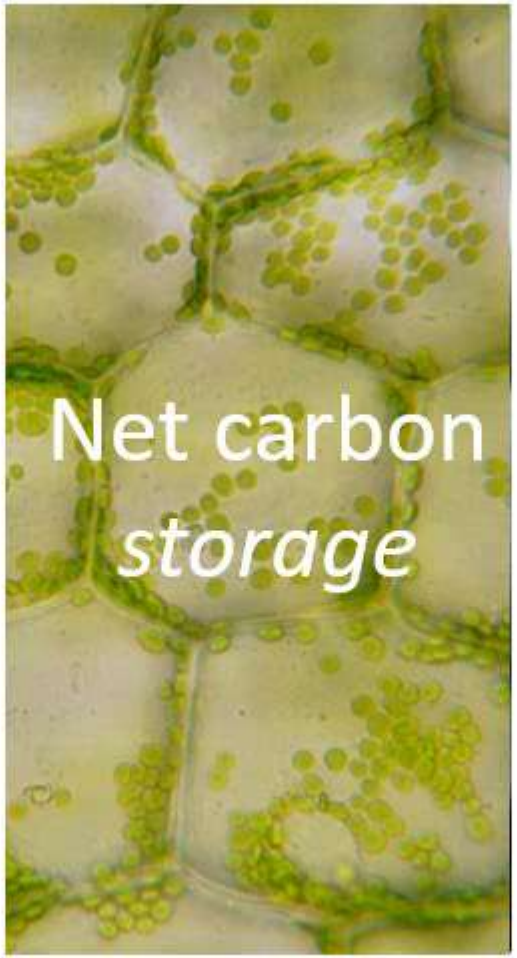
IndiNature

Construction industry challenge

IndiNature

IndiNature's solutions





IndiNature®

This is INDUSTRIAL Hemp

IndiNature Mill – Scottish Borders

Just transition:

- Contributing to the rural economy
- Building on the regional textiles & manufacturing heritage
- Creating new clean tech jobs where 100 local jobs were lost

Capacity:

- 6,000 tonnes / 800,000m² of insulation
- 16,000 homes a year


We turn hemp into high-performance insulation
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The finished product
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Products overview and comparison

IndiNature®

IndiNature solutions

IndiSilence®

IndiTherm®

IndiBreathe® FLEX

BBA APPROVAL INSPECTION TESTING CERTIFICATION
CERTIFICATE 23/7060

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CERTIFICATE 23/7266

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IndiNature solutions

IndiBoard®

IndiNature®

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How we compare: performance without compromise

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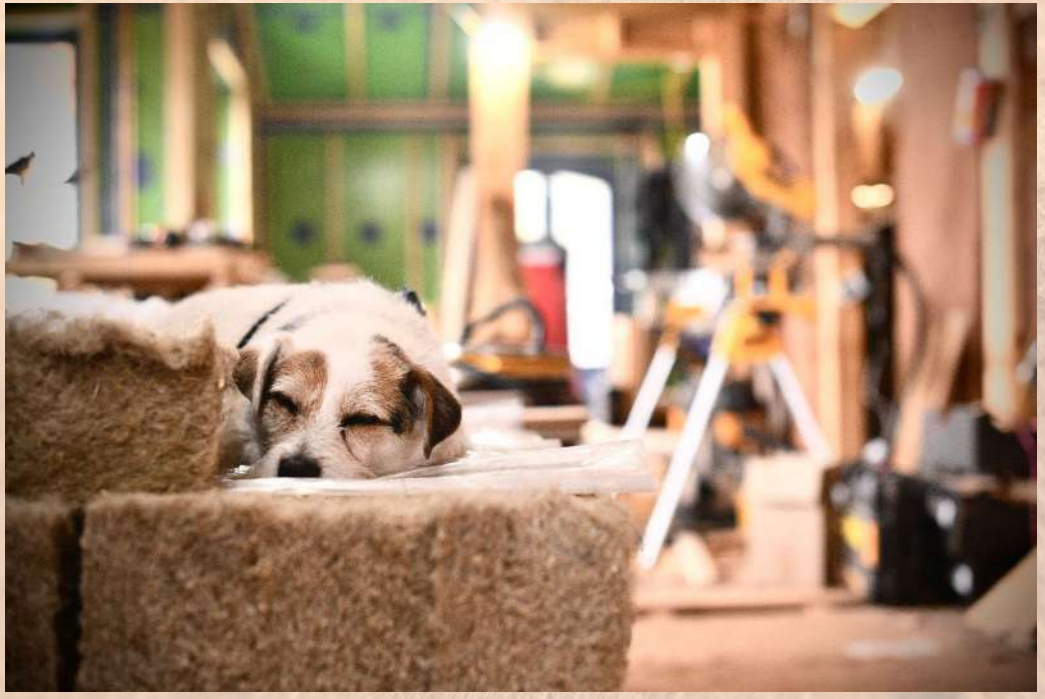
Feature	Natural/Fibre-based	Mineral/Glass wool	Synthetic (Petroleum)
Material resource	Renewable harvested	Finite mineral (mined resources)	Finite (drill resourced)
Carbon footprint	Negative (absorbs carbon during growing) ✔	Positive (carbon emissions during manufacture) ✘	Positive (carbon emissions during manufacture) ✘
Handling	Safe to touch, comfortable, user friendly	Irritant	Highly irritant
Acoustic	Excellent (40-60dB)	Standard (30-45dB)	Poor to moderate (15-20dB)
Vapour diffusion (Breathability)	Highly breathable	Moderate-High	Vapour closed

Thermal performance characteristics comparison



warm in winter, cool in summer

Side-by-side performance comparison
Two products. Same job. Different impact.

Property	IndiBreathe® Flex	Mineral fibre Loft insulation
Thermal conductivity	0.039 W/m·K	0.040–0.046 W/m·K
Specific heat capacity *	1857 J/kg·K	840 J/kg·K
Density	35 kg/m³	20–30 kg/m³

*The University of Bath's 2017 study demonstrated hemp insulation reduces temperature swings by 17-22% compared to mineral wool in controlled tests.

Handling and application

Property	IndiBreathe® Flex IndiTherm	Mineral wool/ Glass Wool
Material composition	Natural fibres (hemp, jute)	Mineral /glass wool
Installation handling	Soft, no PPE needed*	Irritant, PPE required
Application	Over existing insulation	Over existing insulation

* Use eye protection if installing overhead

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Equipment: Product cutting

IndiNature Insulation Saw

A durable hand saw with a wave-formed edge and hardpoint finish – no sharpening required. Specifically designed for cutting insulation, it offers a cleaner, more efficient cut than dulled general-purpose saws, while remaining an affordable solution. Now listed on all pricelists – add one to your next insulation order and we'll deliver it with your materials.

Edma Cordless Tool

Cordless saw for the trades with high volume of cutting

Festool Cordless Insulation Saw

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

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

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User benefits

- ✓ No VOCs
- ✓ Naturally pest-resistant: Hemp deters rodents/insects
- ✓ Odour-neutral: No formaldehyde concerns
- ✓ Thermal mass = comfort: Steadier temperatures year-round

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Fire safety

- Euroclass E – limits flame spread
- Eco-friendly soda salt fire retardant
- Best smoke rating (s1) – No toxic cyanides
- Zero flaming droplets (d0) – No falling embers
- Self-extinguishes in flame tests

The product was assessed for the following key factors, and the outcome of the assessments is shown below. Conclusions relating to the Building Regulations apply to the whole of the UK unless otherwise stated.

1 Mechanical resistance and stability

Not applicable.

2 Safety in case of fire

Data were assessed for the following characteristic.

2.1 Reaction to fire

The product was tested for reaction to fire and the classification is given in Table 2.

Table 2 Reaction to fire classification

Product assessed	Assessment method	Requirement	Result
IndiTherm for Pitched Roof Constructions	BS EN 13501-1 : 2018	Value achieved	E(1)

(1) System Laboratories UK Ltd, report no. 466 issue C, 6 November 2023. Copies are available from the Certificate holder on request.

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Ofgem Innovation Uplift: Retrofit lofts

- First Loft Insulation product to receive Ofgem Innovation Status!
- First and only natural fibre product
- Increases Funding available under ECO 4 (Energy Company Obligation) & GBIS (Great British Insulation Scheme) for lofts by an additional 25%

ofgem

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Products application

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INSPECTION
TESTING
CERTIFICATION
CERTIFICATE 23/7060
IndiNature®

BBA certification

Industrial Nature UK Limited
t/a IndiNature
Oxnam Road
Jedburgh
Scottish Borders TD8 6NN

Tel: 01835 867070
e-mail: info@indinature.co
website: www.indinature.co

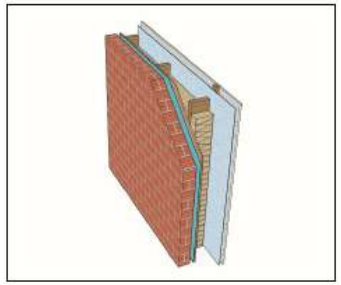
Agrément Certificate
23/7060
Product Sheet 1 Issue 2

INDITHERM INSULATION

INDITHERM FOR TIMBER FRAME CONSTRUCTIONS

This Agrément Certificate Product Sheet[1] relates to IndiTherm for Timber Frame Constructions, a hemp fibre insulation slab for use in external walls of new and existing domestic and non-domestic buildings, with height restrictions. The product may be installed between the inner leaf studs of conventional timber frame walls with a timber cladding or masonry outer leaf.

(1) Hereinafter referred to as 'Certificate'.



The assessment includes

Product factors:

- compliance with Building Regulations
- compliance with additional regulatory or non-regulatory information where applicable
- evaluation against technical specifications
- assessment criteria and technical investigations
- uses and design considerations

Process factors:

- compliance with Scheme requirements
- installation, delivery, handling and storage
- production and quality controls
- maintenance and repair

Ongoing contractual Scheme elements†:

- regular assessment of production
- formal 3-yearly review

KEY FACTORS ASSESSED

Section 1. Mechanical resistance and stability
Section 2. Safety in case of fire
Section 3. Hygiene, health and the environment
Section 4. Safety and accessibility in use
Section 5. Protection against noise
Section 6. Energy economy and heat retention
Section 7. Sustainable use of natural resources
Section 8. Durability

The BBA has awarded this Certificate to the company named above for the product described herein. This product has been assessed by the BBA as being fit for its intended use provided it is installed, used and maintained as set out in this Certificate.

On behalf of the British Board of Agrément

Date of Second issue: 8 May 2024
Originally certified on 21 December 2023

Hardy Giesler
Chief Executive Officer

Industrial Nature UK Limited
t/a IndiNature
Oxnam Road
Jedburgh
Scottish Borders TD8 6NN

Tel: 01835 867070
e-mail: info@indinature.co
website: www.indinature.co

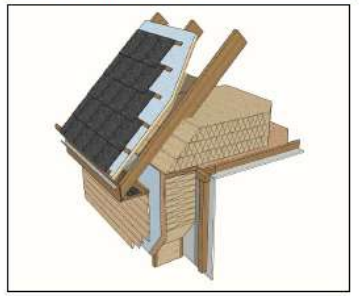
Agrément Certificate
23/7060
Product Sheet 2 Issue 2

INDITHERM INSULATION

INDITHERM FOR PITCHED ROOF CONSTRUCTIONS

This Agrément Certificate Product Sheet[1] relates to IndiTherm for Pitched Roof Constructions, a hemp fibre insulation slab for use in pitched roofs and lofts of new and existing domestic and non-domestic buildings. The product may be installed between timber rafters of tiled/slated warm pitched roofs with a pitch of between 10 and 70°, or between, or between and over, horizontal ceiling joists with a ventilated loft space.

(1) Hereinafter referred to as 'Certificate'.



The assessment includes

Product factors:

- compliance with Building Regulations
- compliance with additional regulatory or non-regulatory information where applicable
- evaluation against technical specifications
- assessment criteria and technical investigations
- uses and design considerations

Process factors:

- compliance with Scheme requirements
- installation, delivery, handling and storage
- production and quality controls
- maintenance and repair

Ongoing contractual Scheme elements†:

- regular assessment of production
- formal 3-yearly review

KEY FACTORS ASSESSED

Section 1. Mechanical resistance and stability
Section 2. Safety in case of fire
Section 3. Hygiene, health and the environment
Section 4. Safety and accessibility in use
Section 5. Protection against noise
Section 6. Energy economy and heat retention
Section 7. Sustainable use of natural resources
Section 8. Durability

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Hardy Giesler
Chief Executive Officer

This BBA Agrément Certificate is issued under the BBA's Inspection Body accreditation to ISO/IEC 17020. Sections marked with † are not issued under accreditation The BBA is a UKAS accredited Inspection Body (No. 4345), Certification Body (No. 0113) and Testing Laboratory (No. 0357). Readers MUST check that this is the latest issue of this Agrément Certificate by either referring to the BBA website or contacting the BBA directly. The Certificate should be read in full as it may be misleading to read clauses in isolation. Any photographs are for illustrative purposes only, do not constitute advice and should not be relied upon.

British Board of Agrément
1st Floor, Building 3, Hatters Lane
Croxley Park, Watford
Herts WD18 8YG
©2024
tel: 01923 665300
clientservices@bbacerts.co.uk
www.bbacerts.co.uk

Industrial Nature UK Limited
t/a IndiNature
Oxnam Road
Jedburgh
Scottish Borders TD8 6NN

Tel: 01835 867070
e-mail: info@indinature.co
website: www.indinature.co

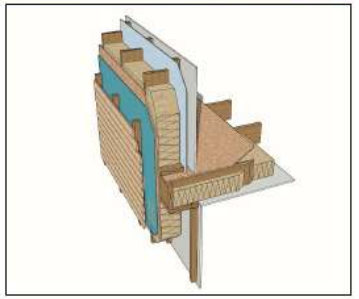
Agrément Certificate
23/7060
Product Sheet 3 Issue 2

INDITHERM INSULATION

INDITHERM FOR SUSPENDED TIMBER INTERMEDIATE AND GROUND FLOORS

This Agrément Certificate Product Sheet[1] relates to IndiTherm for Suspended Timber Intermediate and Ground Floors, a hemp fibre insulation slab for use between the timber joists of intermediate floors and suspended timber ground floors of new and existing domestic and non-domestic buildings.

(1) Hereinafter referred to as 'Certificate'.



The assessment includes

Product factors:

- compliance with Building Regulations
- compliance with additional regulatory or non-regulatory information where applicable
- evaluation against technical specifications
- assessment criteria and technical investigations
- uses and design considerations

Process factors:

- compliance with Scheme requirements
- installation, delivery, handling and storage
- production and quality controls
- maintenance and repair

Ongoing contractual Scheme elements†:

- regular assessment of production
- formal 3-yearly review

KEY FACTORS ASSESSED

Section 1. Mechanical resistance and stability
Section 2. Safety in case of fire
Section 3. Hygiene, health and the environment
Section 4. Safety and accessibility in use
Section 5. Protection against noise
Section 6. Energy economy and heat retention
Section 7. Sustainable use of natural resources
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Herts WD18 8YG
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tel: 01923 665300
clientservices@bbacerts.co.uk
www.bbacerts.co.uk

Insulating roofs

Cold roof / Pitched roof

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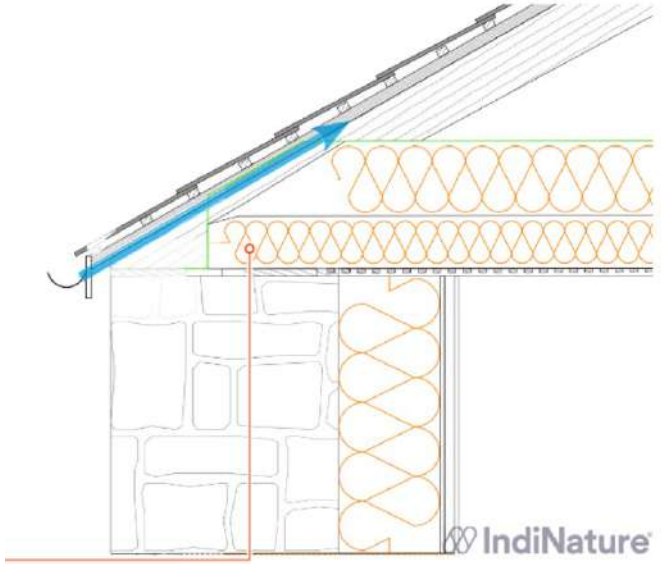
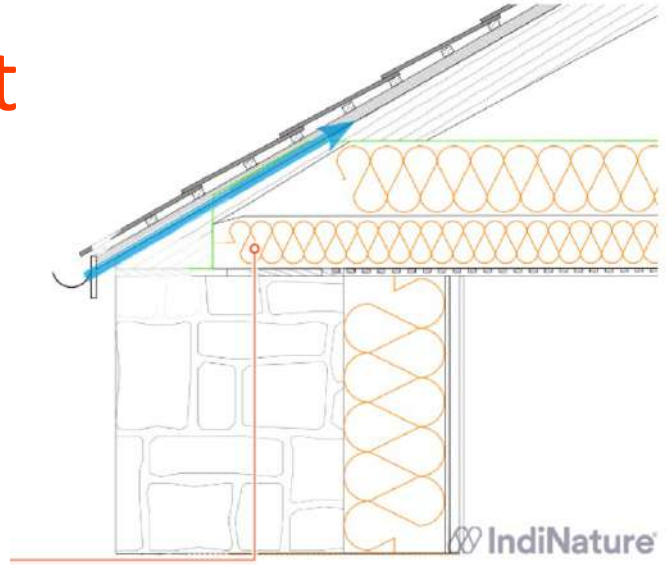
Workmanship: Installing IndiTherm in a loft



Where to start….

- It’s best to insulate the eaves first and then fill the space in between. Begin at the bay furthest away from the loft hatch and work back towards it.
- Lofts will likely have joists positioned somewhere between 400mm and 600mm apart so some of the batts will need to be cut to the correct width and/or length for a friction fit. All IndiNature products are easy to handle, cut and install.
- Care should be taken to make sure all material friction fits between the timber rafters so as to minimise any air gaps.
- Any subsequent layers should be cross laid to eliminate any continuous air/thermal pathways thus minimising heat loss.
- Insulation should be extended as far over the wall head as possible, but a minimum 50mm airgap should be left between the top of the insulation and bottom of the sarking to allow ventilation airflow.

Workmanship: Installing IndiTherm in a loft



Where to start….

- Insulation should be extended as far over the wall head as possible, but a minimum 50mm airgap should be left between the top of the insulation and bottom of the sarking to allow ventilation airflow.
- This is the highest risk of the whole install.
- Batts should ideally be cut to an angle of the roof pitch here.
- Do not shove whole batts in and clog up the coombs. This will block airflow over the rafters AND the insulation inevitably touches the roof.

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Workmanship: Installing IndiTherm in a loft

IndiNature®

Preparation

- 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 IndiTherm unless is were a natural fibre.
- Double check installation area for rodents/pests, and timber for any signs of rot/decay/ water ingress.
- PPE: IndiTherm 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: IndiTherm 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.

Workmanship: Installing IndiTherm in a loft

Before we start

- Product should be stored dry and installed in a clean, dry condition. Appropriate storage of the product beforehand is essential.
- Do not stack pallets.
- Care should also be taken to make sure the loft itself is dry with no potential water ingress from the elements.
- Now is the time to make sure that any exposed cabling is safe and any heat producing fixtures like downlights are covered with non-combustible protection covers to prevent them from overheating and becoming a fire risk. Always follow the manufacturer's instructions when installing downlight covers. Insulation can be laid directly over the top of non-combustible to avoid heat loss.
- Ensure any electrical cables under a high electrical load e.g. feeding an electric shower, are long enough to be laid over the top of the finished depth of insulation as covering them can create a fire risk.

IndiNature®

Installation warning sticker - Loft product

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.

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.

IndiNature
Bio-based construction systems

Installers should leave a warning/information sticker visible at the entry to the loft area.

Example shown here / available from IndiNature, covering:

- Access Safety
- Electrical Safety
- Circularity / End of Product Life Practice

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Insulating floors

Suspended ground floors

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Workmanship:
Installing IndiTherm – underfloor

Where to start

- Floors will likely have joists positioned somewhere between 400mm and 600mm apart so some of the batts will need to be cut to the correct width and/or length for a friction fit. All IndiNature products are easy to handle, cut and install.
- Care should be taken to make sure all material friction fits between the timber rafters so as to minimise any air gaps.

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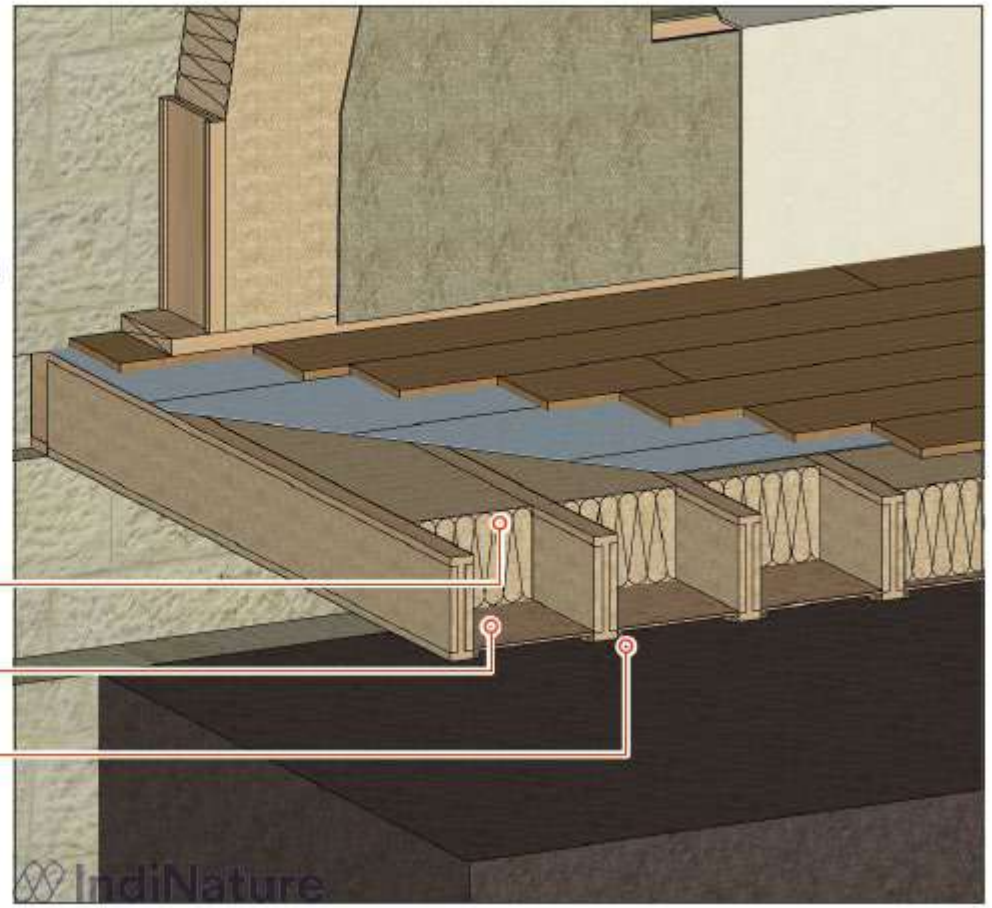
Workmanship:
Installing IndiTherm – underfloor

Retrofitting from Below

If retrofitting from beneath the floor, boards such as OSB should be used to support the insulation. Memebranes, netting or stainless steel mesh, can also be used, however if not installed with adequate tension the insulation can sag, which could lead to a reduction in performance. Creating a snug fit between the batting and floor joists will minimise thermal bypass and the load on the supporting membrane/board.Over all 300mm of IndiTherm at 0.040 lambda value is required to achieve the current Building Regulations.



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Workmanship:
Installing IndiTherm – underfloor

Retrofitting From Above

Floor retrofits can be approached from two ways, from above or below. If retrofitting from above, a vapour-open membrane can be lapped over the joists or OSB support panels can be fitted. Small battens should be tacked in the corner of the membrane to tension it evenly. A breathable air membrane can be laid on top of the insulation and floor joists in order to stop downward draughts forcing heat through the floor, insulation and potentially into the joist ends, where moisture can collect.

Air Membrane
IndiTherm
Tension Batten
Support Membrane

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Insulating walls

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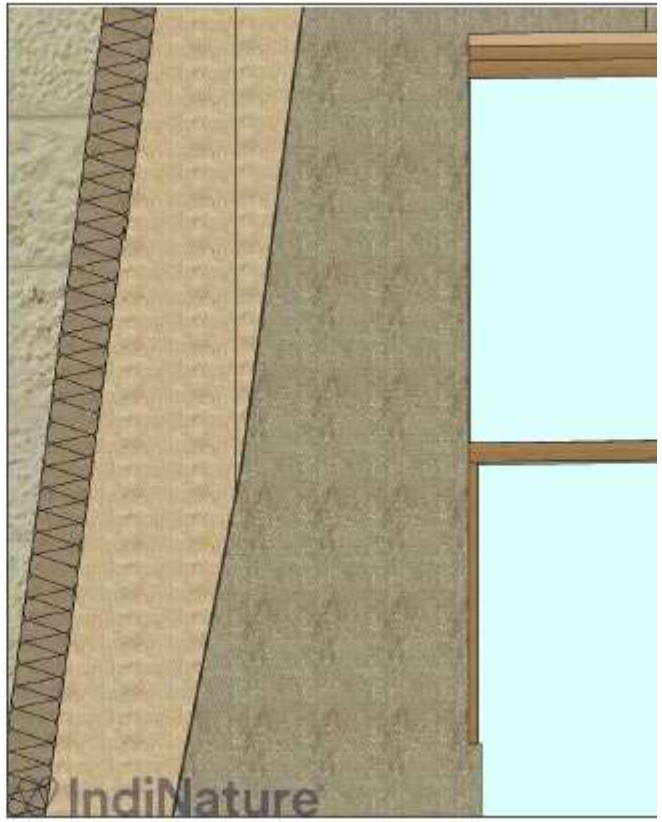
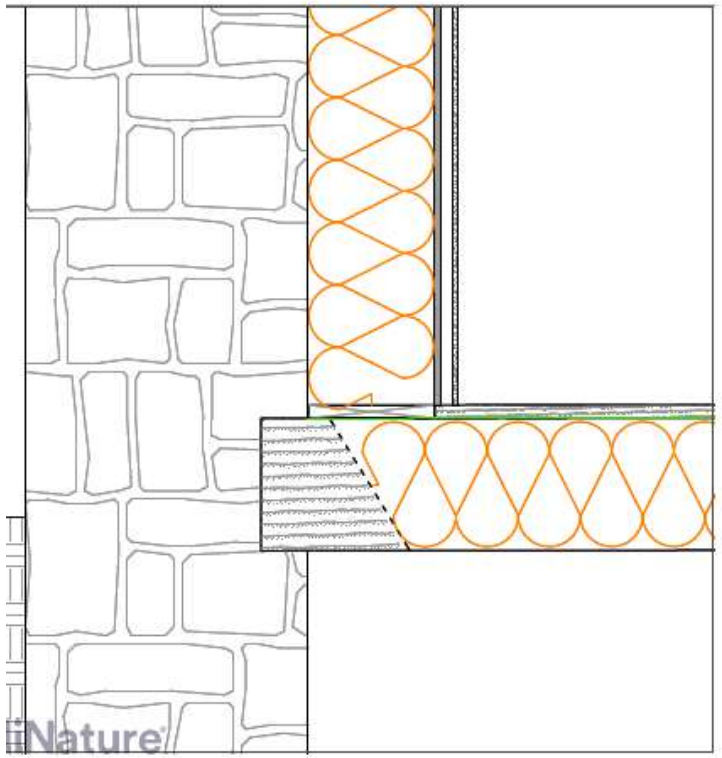
Workmanship: Installing IndiTherm –Internal wall insulation on internal walls

Current best practice guidelines advise that natural insulation be installed directly on the wall without an air gap.

Stripping back the original finish/ plaster may be advisable if the aim is to maximise the breathability of the wall. If a vapour control membrane is to be used on the inner face of the insulation then stripping the original finish is not necessary. Note that using a VCL will eliminate the benefits of brathable walls.

Window reveals are an expecially tricky point to insulate as there is very limited space. Stripping back the original finish will provide extra space in which a rigid insulating board may be fitted.





IndiTherm should be installed in between studwork which can be finished in a number of ways. Current advise is to install 140mm of IndiTherm.

The studwork can be finished with plasterboard and a plaster skim. This will have limited breathability. Alternatively, an additional layer of natural fibre insulating **board** can be fixed to the studwork, and then a lime plaster finish can be applied. This second option has the double benefit of being both breathable, and more insulative.

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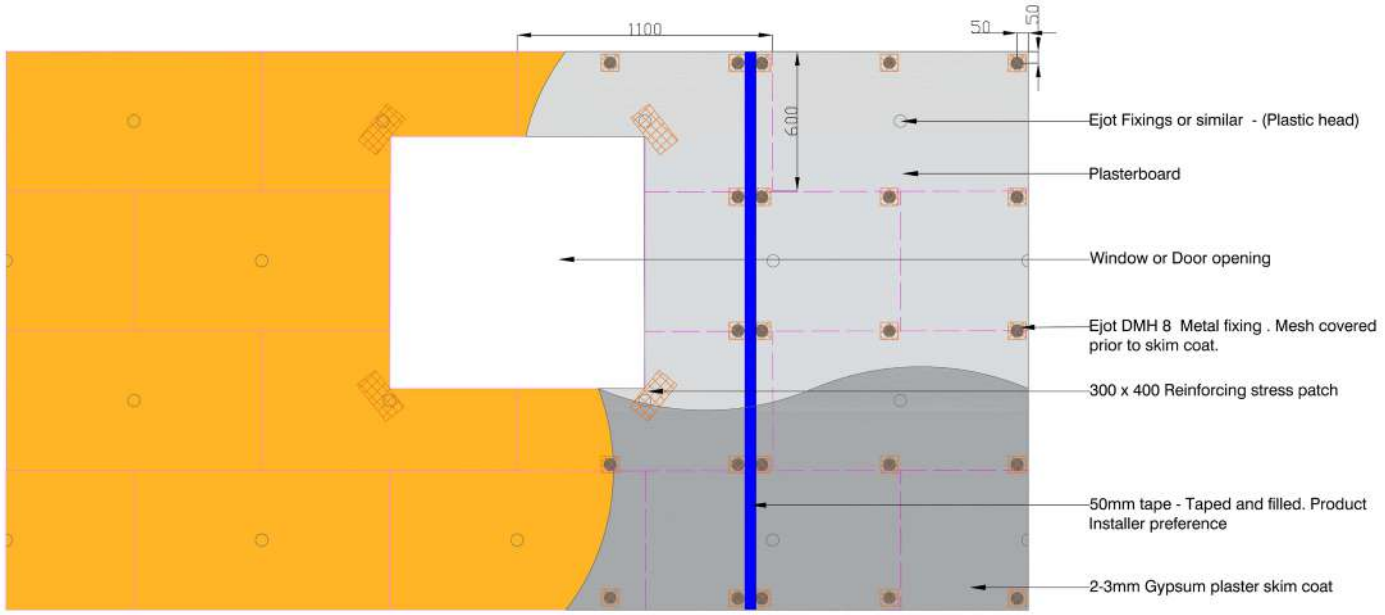
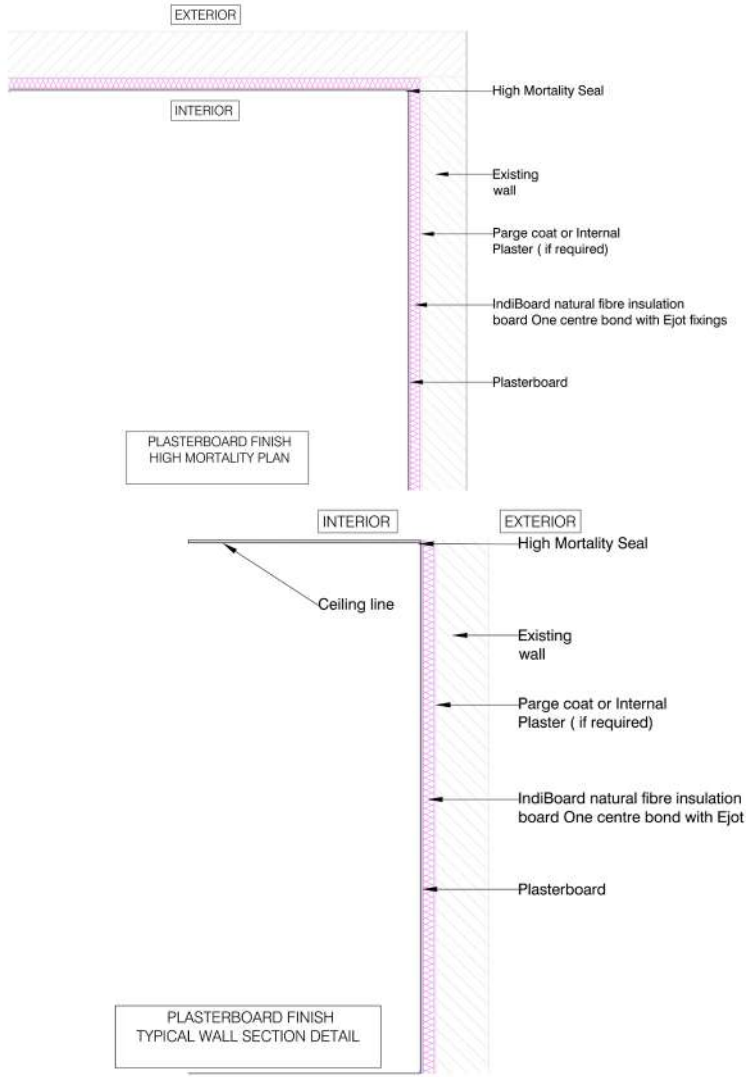
Workmanship: Installing IndiBoard insulation – Plasterboard finish





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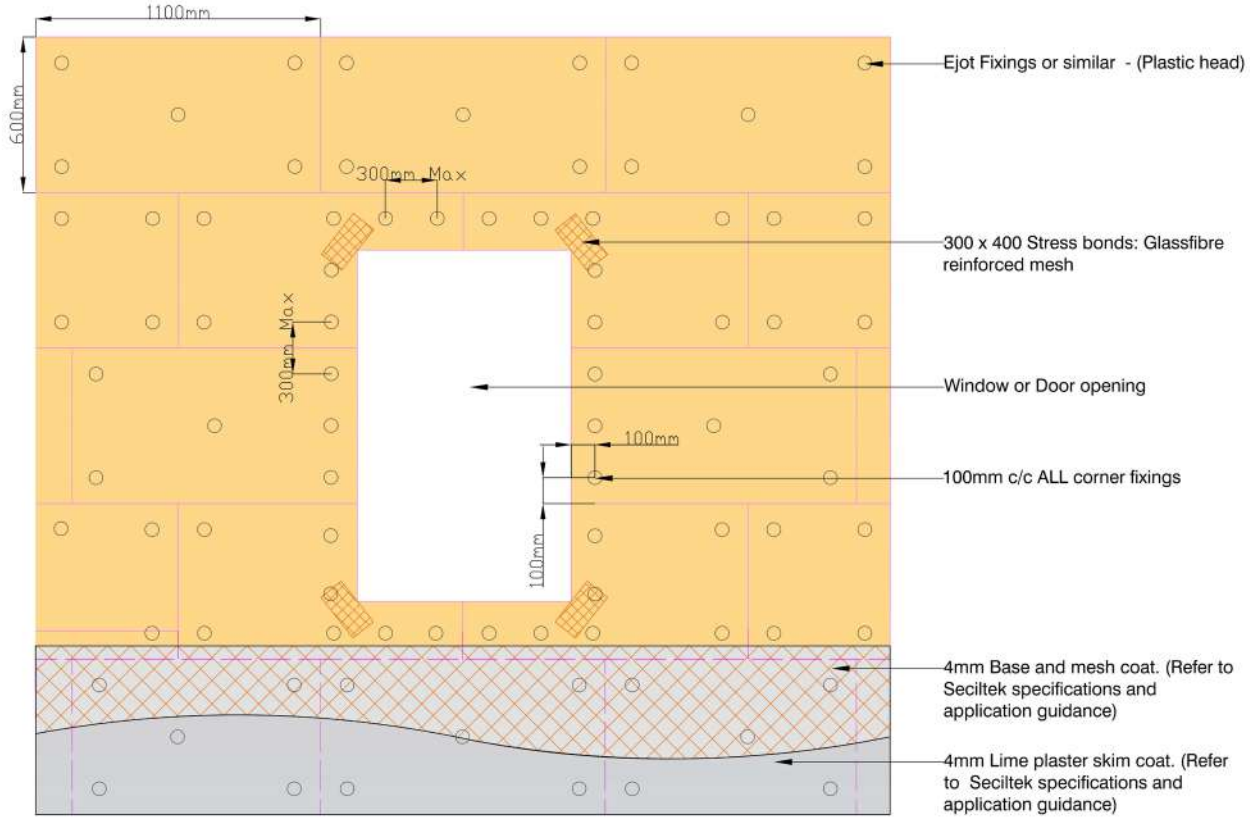
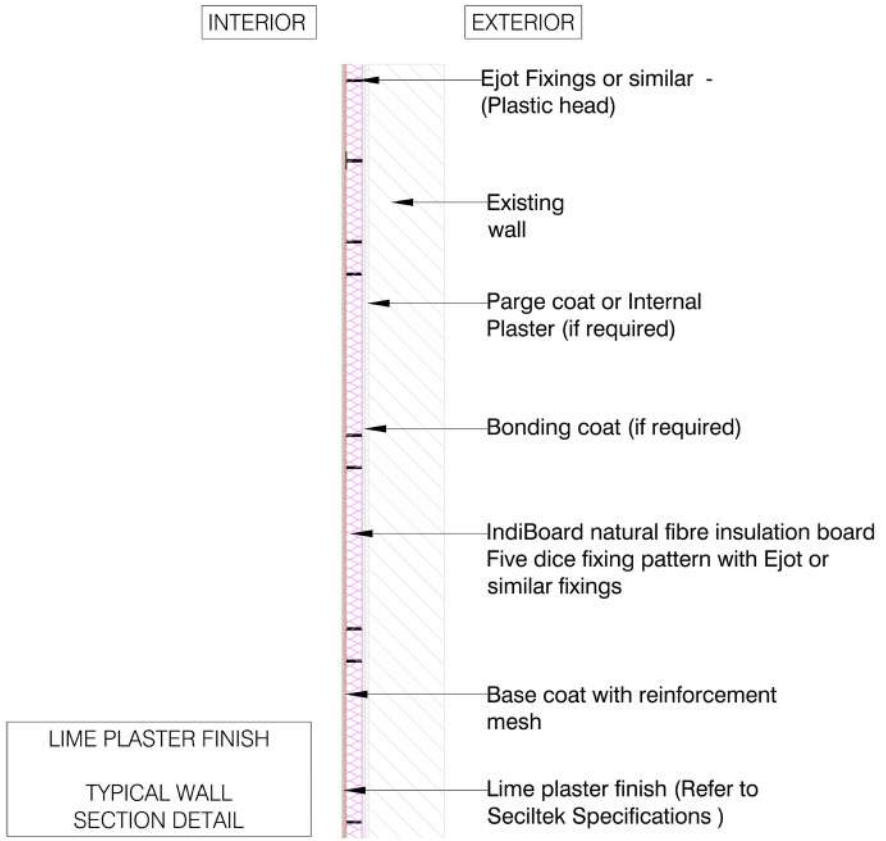
Workmanship: Installing IndiBoard insulation – Lime plaster finish





Workmanship

Product storage

- Products are to be stored dry
- Do not install products if they are wet
- Products will dry out if left in a well-ventilated space for a few days
- Install product only in dry spaces

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Summary of benefits

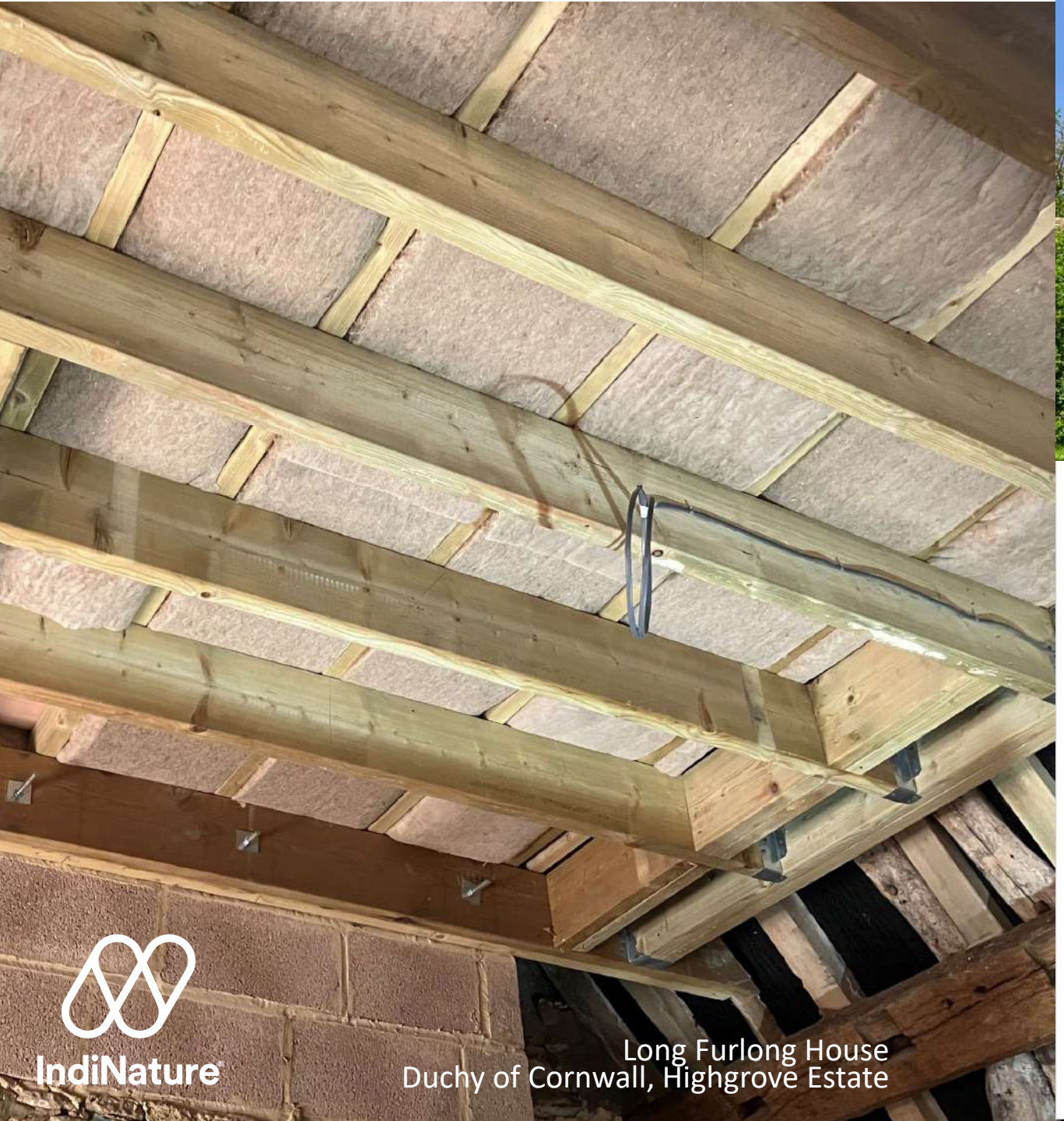
- Circular bio-based insulation
- Biodiversity gain & improved soil health
- Regenerative, renewable resource
- Net embodied carbon capture & low whole life carbon
- Excellent thermal performance and heat capacity
- Breathable (hygroscopic)
- Safe and easy to handle
- Excellent acoustic performance
- Healthy indoor air (no VOCs)
- Made in Britain!

MADE IN BRITAIN

IndiNature

Case studies

IndiNature®



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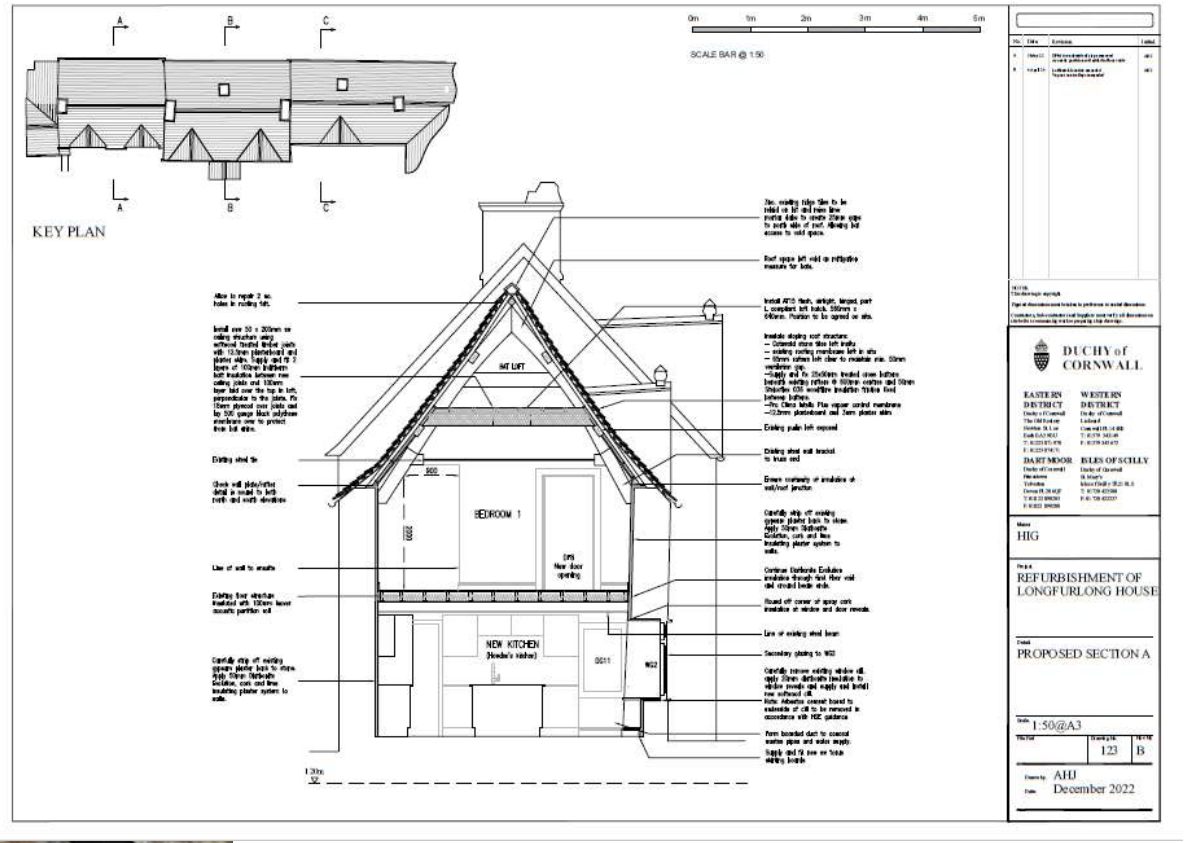
Long Furlong House
Duchy of Cornwall, Highgrove Estate



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Early adopters switching to specify bio-based insulation

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River Clyde Homes, Huntly Drive
Loft Boarding Scotland

Product Benefit: Replacing Glass and Rockwools

- Carbon negative
- Non-toxic
- Natural
- Health & easy to install
- Installers like to handle

Picture taken from Pilot with Renfrewshire Council.

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IndiNature Mill – Established 2022

- ISO 9001
- BBA
- QUIETMARK (IndiSilence)
- Ofgem Innovation measure +25% uplift
- EPD/LCA
- IAA membership
- Award winning
  - Scottish Land and Estates;
  - IUK/NHDG Big Retrofit Challenge
  - UK Green Business Awards (Manufacturer of the year)

bsi ISO 9001 Quality Management Systems CERTIFIED

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BBA APPROVAL INSPECTION TESTING CERTIFICATION
CERTIFICATE 23/7060

IndiNature Bio-based construction systems
THE BIG RETROFIT CHALLENGE
We are winners!

ofgem

BusinessGreen
UK Green Business Awards 2025
WINNER
Manufacturer of the Year
IndiNature

Installation Assurance Authority
Right first time

IndiNature


IndiNature®
Warm in winter, cool in summer
Thank you, any questions?
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