Inspiré

Hempcrete — The Material

A practical guide for buyers and owners — performance, comfort, and care.

2026

www.inspirenordic.com

ABOUT THIS GUIDE

How to read this folder

Built for two readers — and you can jump to whichever you are.

If you're considering hempcrete

Start at slide 4 and read straight through. We cover what hempcrete is, how it performs against every other wall material, where it wins, and where it asks you to think differently.

Slides 4–23

If you already live in a hempcrete home

Jump to the maintenance section. We walk you through what to expect over the lifetime of your walls, the do's and don'ts of daily care, and how to handle anything from hairline cracks to damp patches.

Slides 24–27

Use the table of contents on the next slide to jump to any topic — every entry is clickable.

CONTENTS

Table of contents

Click any entry to jump to that section.

INTRODUCTION

What is hempcrete?

Three natural ingredients. One remarkable wall.

Hempcrete is a bio-composite made from the woody core of the hemp plant (shives), natural lime binders, and water. When mixed and cast, it forms a solid yet breathable material that insulates, regulates moisture, and stores carbon — all in one wall.

Hemp shives

The woody inner core of industrial hemp. Grown in 90 days, captures CO_2 as it grows.

Lime binder

Natural mineral binder — non-toxic, fire-resistant, and absorbs CO_2 as it cures.

Water

Activates the binder. The mix dries into a rigid, breathable monolithic wall.

Used in construction since the late 1980s. Inspiré uses raw materials from certified sources only.

PHILOSOPHY

Built like nature builds — with materials that make the home *feel different.*

Hempcrete is not chosen for one number on a datasheet. It's chosen because it does many things at once — and because the air, the warmth, and the silence of a hempcrete wall feel different the moment you step inside.

MANIFESTO

We're not just building houses. We're building homes where *people thrive.*

The air doesn't just feel different

Hempcrete walls actively regulate humidity, maintaining a natural 45–65 % range. The air inside feels fresh and balanced — not dry, not damp.

No off-gassing into your home

Zero volatile organic compounds. Zero synthetic binders. Every breath you take is as clean as the materials around you.

Quiet, warm and alive

Exceptional thermal mass and acoustic absorption. Walls that breathe, insulate and silence — performing year-round without mechanical systems.

Designed for human well-being

Buildings that don't just shelter you — they support your health. Lower stress, better sleep, improved cognitive function. Spaces that care.

Each claim on this page is grounded in peer-reviewed research — see following slides.

SIX PILLARS

Six things hempcrete does — at the same time

No other building material on the market combines all six.

Carbon-storing

Stores up to 100 kg CO_2/m^3.
Locked in for the lifetime of the wall.

Vapour-open walls

Diffusion-open, not air-leaky. Walls let water vapour pass — not draughts.
Indoor humidity stays in the 45–65 % range.

Fire-safe

Rated A2-s2,d0.
Non-combustible. Limited smoke.

Healthy indoors

Zero VOCs. No synthetic binders.
No fibre particles in the air.

Pest & mould resistant

Lime keeps mould and rodents out.
No chemical treatments needed.

Regenerative & circular

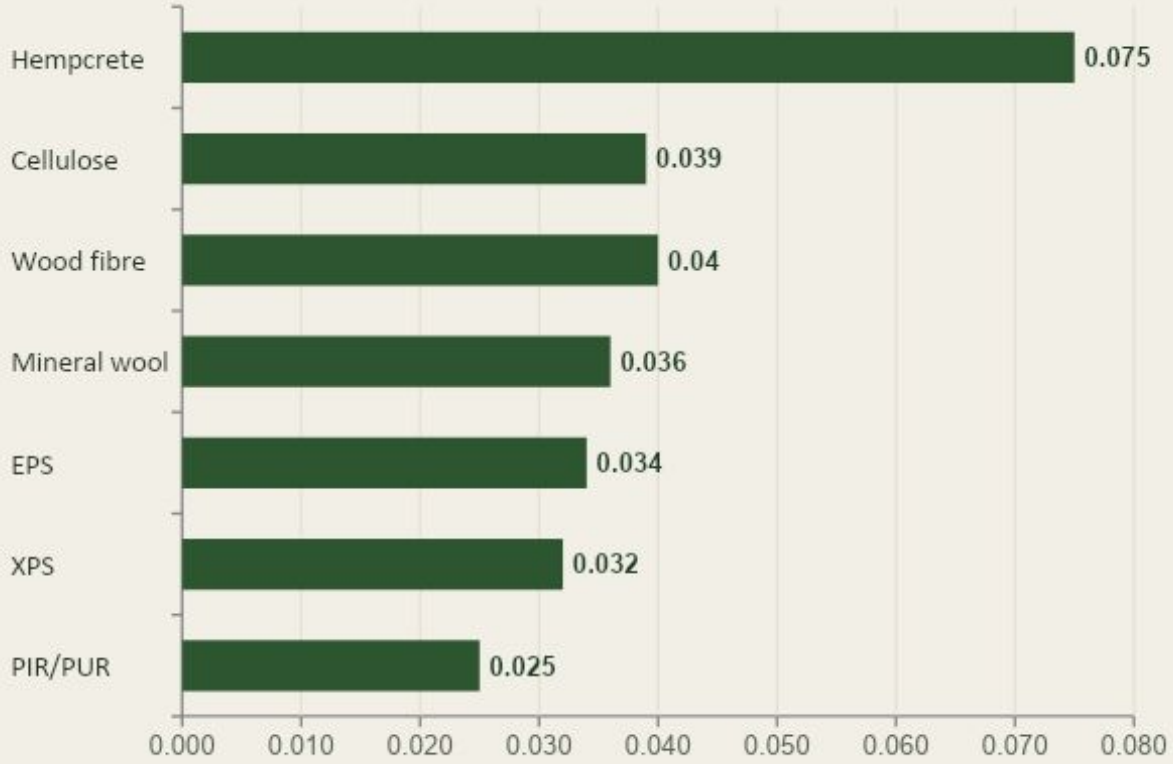
New harvests every year.
Reusable at end of life.

THERMAL

Thermal performance — the honest picture

Higher λ than mineral wool — but the wall does more than insulate.

λ-value (W/m·K) — lower is better



Reading the numbers

Hempcrete λ ≈ 0.065–0.085 W/m·K

Mineral wool λ ≈ 0.032–0.040 W/m·K

Per centimetre, hempcrete insulates roughly half as well as mineral wool. *On its own, that sounds like a disadvantage.*

But, hempcrete is not just insulation. It is the wall itself — structure, insulation, moisture buffer, thermal mass and finish all in one. **And that changes everything (next slide).**

THERMAL

How hempcrete makes up for a higher λ

Three real mechanisms that close the gap — and one that goes further.

01 Thicker walls — by design

A 35–40 cm hempcrete wall reaches a U-value of 0.18–0.22 W/m²K — comfortably within passive-house territory. The thickness becomes part of the architecture, not a problem to hide.

02 No thermal bridges

A monolithic hempcrete envelope eliminates the cold-bridge points where studs, ties and joints meet in conventional walls. Swedish field studies on hemp-lime retrofits measured 33–53 % reductions in heating energy (Strandberg-de Bruijn & Balksten, Lund University, 2019).

03 Thermal mass — heat that stays

Hempcrete's high heat capacity stores warmth in winter and dampens summer peaks. Indoor temperatures swing less, energy use drops, and rooms hold their warmth long after the heating turns off.

04 Perceived comfort beats datasheet U-values

A wall that's the same temperature as the room feels warmer than a cold wall surface — even at the same air temperature. Hempcrete walls are warm to the touch. That's the comfort residents actually notice.

REFRAMING

Yes, λ is higher. Here's why it doesn't matter.

When you compare full walls — not just insulation layers — the picture flips.

λ-value compares insulation per centimetre. **But you're not buying insulation — you're buying a wall.**

1

material,
1 trade

One material, one job

A traditional wall stacks insulation, vapour barrier, battens, board, finish — five trades, five build sequences. Hempcrete is structure, insulation, moisture buffer and substrate in one pour. One trade, one phase, fewer interfaces to fail.

−40 %

fewer
wall layers

Fewer layers, fewer mistakes

Cavity walls and rain-screen façades have 6–8 distinct layers, each with its own thermal bridge, sealing risk, and certification path. Hempcrete walls typically use 2–3 layers (render + monolithic core + interior finish). Less to specify. Less to install wrong.

±5%

vs. conventional
wall total cost

Material price ≠ wall price

Hempcrete material costs more per m³ than mineral wool. But the assembled wall — labour, layers, vapour barriers, all included — typically lands within ±5 % of a conventional high-performance wall. On larger projects, hempcrete often comes in lower.

RESEARCH

The proof: walls outperform their U-value

CEREMA WUFI® modelling on a 100 m² R+1 building with 30 cm hempcrete walls.

The finding

Up to

−70%

heating energy demand

compared to a conventional wall of equivalent U-value.

Why the U-value underestimates hempcrete

Standard U-value calculations assume the wall is a static sheet of insulation. They ignore three things hempcrete actually does:

Coupled heat & moisture transfer

Phase changes in absorbed water vapour transport energy through the wall. WUFI® modelling captures this — standard U-value calculations don't.

Thermal mass dampening

Hempcrete stores heat during the day and releases it at night, smoothing the temperature curve and cutting peak heating loads.

Hygrothermal regulation

Stable indoor humidity (45–65 %) means the air feels warmer at lower temperatures. Occupants set the thermostat 1–2 °C lower without noticing.

Source: CEREMA — Modelling of the heating and cooling needs of a hempcrete building (2021). Further validation work ongoing.

MOISTURE

Diffusion-open walls — moisture buffering

Indoor humidity self-regulates between 45–65 % year-round.

To be clear: “breathable” does not mean draughty. A hempcrete wall is fully airtight to the wind — it just lets water vapour pass through. Hempcrete is hygroscopic: it absorbs water vapour when indoor air is humid, and releases it back when the air is dry. The wall acts as a humidity flywheel.

Better for the body

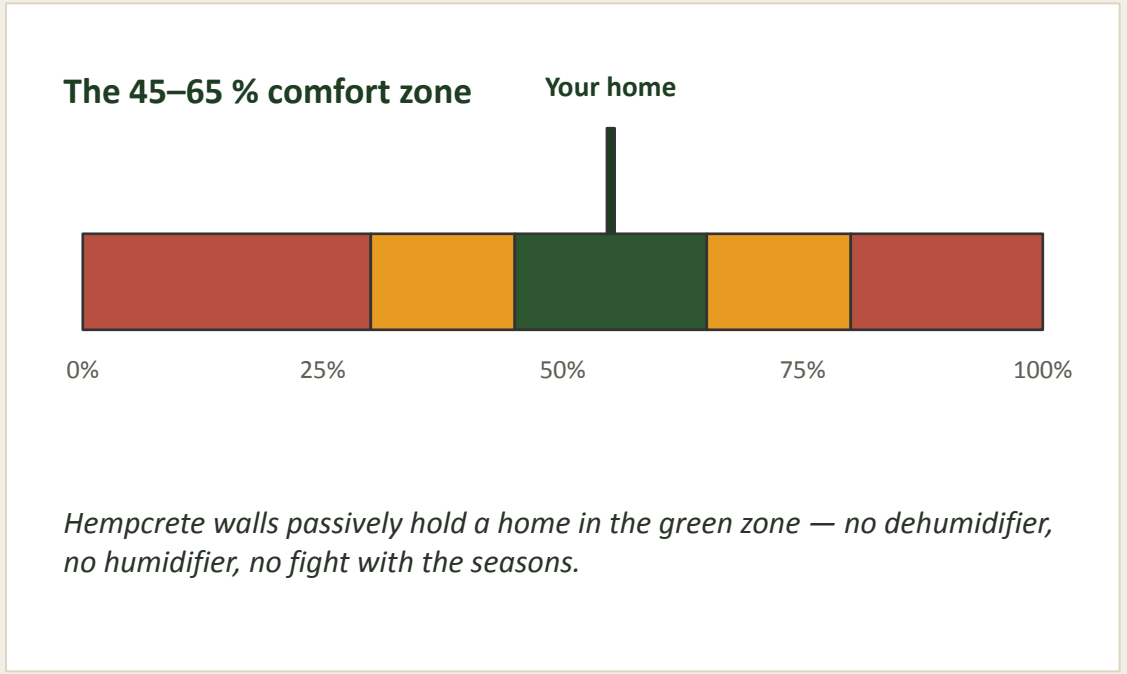
45–65 % humidity is the sweet spot for the human immune system. Less dry skin, fewer respiratory issues.

Protects the building

No condensation hidden in walls, no mould feeding on damp insulation. The wall manages its own moisture.

Less mechanical ventilation

The wall does part of the work that an HRV unit otherwise does. Lower energy use, simpler buildings.



Hempcrete walls passively hold a home in the green zone — no dehumidifier, no humidifier, no fight with the seasons.

FIRE

Fire performance — A2-s2,d0

Lime is the binder. Lime does not burn.

Euroclass

A2-s2,d0

Limited combustibility · limited smoke · no flaming droplets

No synthetic flame retardants

Performance comes from the chemistry of the lime — not from added bromine, phosphate or chlorine compounds.

Doesn't melt or drip

Unlike polystyrene insulation, hempcrete doesn't liquefy or release burning droplets.

Forms a protective char

Surface chars under fire load, slowing further burn-through and protecting structure behind.

Low smoke production

The s2 rating means smoke generation stays low — critical for occupant escape times.

HEALTH

Air your lungs will thank you for

Zero VOCs. No off-gassing. No microfibres in the air.

0

VOCs

No volatile organic compounds released into indoor air.

0

Synthetic binders

No formaldehyde, no isocyanates, no glues.

0

Loose fibres

Unlike mineral wool, no airborne particles to inhale.

What the research shows

*Indoor environments with low VOC concentrations correlate with up to **61–101 % higher cognitive function scores** (Allen et al., Harvard T.H. Chan School of Public Health, 2016). Lower VOC exposure is also linked to fewer sleep disturbances and reduced respiratory irritation.*

WELLBEING

Spaces that care — health beyond air quality

What the research shows about living in low-VOC, humidity-buffered, natural-material homes.

+61–101%

higher cognitive function scores

In low-VOC indoor environments, occupants score 61–101% higher on cognitive function tests compared to conventional offices with elevated VOC levels.

Allen et al., Harvard T.H. Chan School of Public Health (2016)

Better

sleep, less daytime fatigue

Higher VOC exposure is significantly correlated with a higher prevalence of sleep problems among adults — fewer awakenings, longer total sleep, less daytime fatigue.

Yu et al., Toxics (2024)

45–65%

humidity range for immunity

Sustained indoor humidity in the 45–65 % range supports immune function and reduces transmission of airborne respiratory infections.

Zhang et al., Int. J. Molecular Sciences (2023)

Lower stress · better sleep · sharper thinking. These aren't claims about hempcrete — they're documented effects of the indoor conditions hempcrete naturally creates: stable humidity, zero VOCs, breathable walls, and the calm of natural materials.

BONUS PROPERTIES

Quiet walls, calmer rooms

Acoustic absorption, thermal radiation, electromagnetic damping — properties most insulations don't offer.

Acoustic absorption

Up to 60 %

of mid-frequency sound absorbed

The open porous structure of hempcrete absorbs airborne sound. Rooms feel calmer — less echo, less traffic noise from outside, more privacy between rooms.

Thermal radiation comfort

± 1 °C

wall surface vs. room air

Hempcrete walls match room temperature closely — no cold radiating surface in winter, no hot wall radiating heat back in summer. The room temperature you feel matches the thermostat.

Electromagnetic damping

Reduced

high-frequency penetration

Dense lime-based walls measurably attenuate high-frequency radio signals. Useful in bedrooms and quiet rooms where reducing wireless background exposure matters.

PEST & MOULD

Inhospitable to pests, hostile to mould

The lime is the defence. No chemical treatment required.

Lime-rich surface — alkaline, dry, mineral.

High pH (12+)

Lime creates an alkaline environment that mould spores and bacteria can't establish in.

Low equilibrium moisture

Hempcrete keeps itself dry. Mould needs sustained moisture above 80 % to grow — hempcrete walls don't get there.

No nutrient base

Mineralised hemp shives and lime offer nothing for fungi to feed on, unlike paper-faced gypsum or cellulose.

Mice and insects avoid it

Lime irritates rodents and chewing insects. They simply don't tunnel into the wall.

No biocides needed

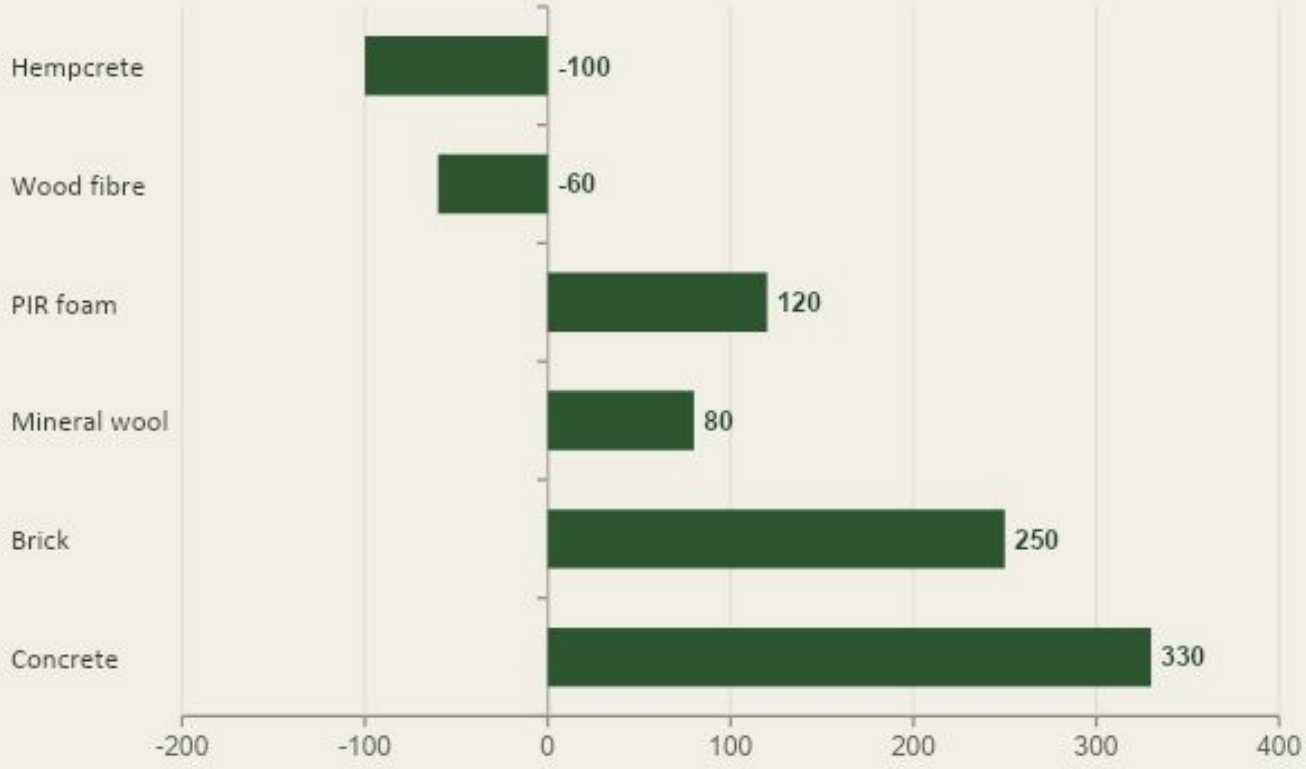
Performance is structural, not chemical. Nothing to leach out, nothing to wear off over time.

CARBON

A wall that stores carbon while it stands

Net-negative balance applies while the carbon stays stored — during the building's life, and beyond if reused.

kg CO_2eq stored or emitted per m^3 of material



– 100 kg

CO_2eq per m^3

Hemp captures CO_2 as it grows. Lime re-absorbs CO_2 as it cures. The carbon stays locked in for the lifetime of the building — and, if the wall is reused or recycled at end-of-life, well beyond. Under EN 15804+A2, biogenic carbon is reported separately from fossil emissions to keep the accounting transparent.

A 100 m^2 home in hempcrete stores roughly 5–7 tonnes of CO_2 — equivalent to a year of driving for two average cars.

CERTIFICATION

From field to Home - Certified materials all the way

Water + Two ingredients. Each traceable, each certified.

Hemp shives

EU-grown industrial hemp

Industrial hemp cultivated in France and Scandinavia. EU-registered varieties only. No CBD strains, no THC concerns. Decortication separates fibre from shiv on certified processing lines.

Natural lime

EN 459-1 Building Lime

St. Astier lime binder. The formulation behind France's Professional Rules for hempcrete since 2007. Hydraulic and air lime certified to EN 459-1 with documented CO_2 reabsorption profiles.

TEK 17 - Building standards

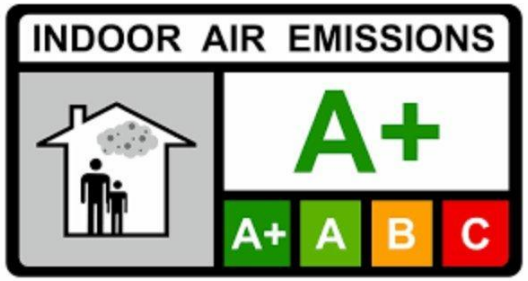
Following professional building standards

Built to professional standards. Wall assemblies follow France's Règles Professionnelles for hempcrete (since 2007). Fire performance tested with leading Nordic institutes. Adherence to Nordic standards.

THIRD-PARTY DATA

Indoor quality — declared in the EPD

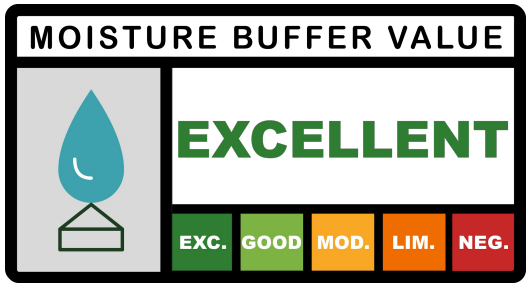
France and Germany require indoor air-quality reporting in EPDs — and hempcrete scores at the top.



Indoor air

Zero VOC emissions reported

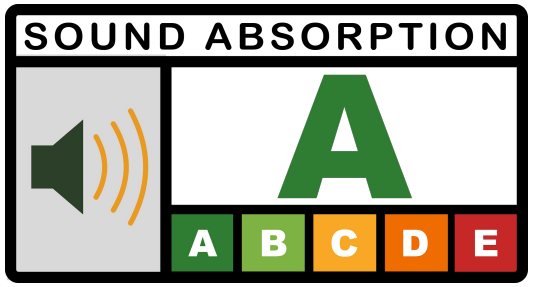
The collective FDES (Construire en Chanvre / INIES, France) declares no VOC emissions from hempcrete walls. Verified to NF EN 15804+A1 and audited by an independent third party.



Hygrothermal comfort

Highest MBV in construction sector

The FDES cites a Moisture Buffer Value of 2 g/(m²·%RH) — the highest among studied construction materials (Collet et al., 2013). Indoor temperature peaks measurably damped vs. comparable mineral materials.



Acoustic comfort

High sound absorption documented

Independent testing (Arnaud & Cerezo). For 10 cm hempcrete, absorption coefficient peaks > 0.9 around 400–500 Hz, with > 0.5 across the broader spectrum. Cited in the FDES under acoustic comfort.

Source: EPD — Hemp concrete for filling and insulating walls or partitions (Construire en Chanvre / INIES, FR EN 15804+A1, 2018).
Full document at houseofhemp.se/wp-content/uploads/2021/05/HEMPCRETE-EPD-eng.pdf

BENCHMARK

Hempcrete vs. the alternatives

Full-spectrum comparison against the four most-used wall systems.

	Mineral wool	PIR foam	Wood fibre	Hempcrete ✱
Thermal (λ W/m·K)	0.036	0.025	0.040	**0.075**
Moisture buffering	Low	None	Good	**Excellent**
Fire rating	A1	B/C	E	**A2-s2,d0**
VOC emissions	Possible binders	Isocyanates	Low	**Zero**
Pest & mould	Resistant	Resistant	Treatment needed	**Naturally resistant**
Loose fibres in air	Yes — irritant	No	Minor	**None**
CO_2 footprint (kg/m³)	+ 80	+ 120	− 60	**− 100**
Carbon storage	No	No	Yes	**Yes — long-term**
End-of-life	Landfill	Difficult	Compostable	**Reusable / compostable**

✱ *Per centimetre, hempcrete has a higher λ — see slides 8–11 for how a hempcrete wall still reaches and exceeds modern energy targets.*

REFERENCES

Hempcrete is already at work across Europe

Proven across Europe's full climate range — from oceanic damp to Alpine extreme.

Versailles · Île-de-France

Petite Écurie du Château

1681 royal stables · mild humid climate

The 17th-century royal stables — designed by Jules Hardouin-Mansart, now home to the École nationale supérieure d'architecture — were renovated in 2024 with 20 cm IsoHemp hempcrete blocks. Selected by the Chief Architect of Historical Monuments to manage humidity in heritage stonework without trapping moisture at material interfaces.

Loos-en-Gohelle · Nord-Pas-de-Calais

Reha-Future Engineer's House

1920 brick villa · humid mining basin

An instrumented eco-renovation on a 1920 mining engineer's villa, jointly run by Maisons & Cités and CD2E. Five years of comparative monitoring against four other bio-materials in a damp temperate climate (winters to −10 °C). Hempcrete identified as the most suitable for traditional brick housing — indoor RH stabilised in the 50–60 % range year-round.

Bessans · French Alps (Savoie)

Bessans Alpine Chalet

1,700 m altitude · −20 to +25 °C range

A timber-framed chalet at 1,700 m elevation, built by Jim's Alpine Building with 30 cm hempcrete blocks and cast hempcrete. The thermal mass and phase-shift behaviour protect against bitter Alpine winters and dampen warm-summer overheating — without active climate systems. 30 cm walls typically deliver R ≈ 4.0 m²K/W and 18–23 h phase shift.

Across temperate, humid and Alpine climates: λ 0.07 W/m·K · vapour permeability μ ≈ 5 · phase shift 18–23 h · operational range −25 °C to +35 °C.

REFERENCE PROJECT

Maisons & Cités — Europe's largest deployment

France's leading social landlord chose hempcrete after a five-year materials study.

Cité Barrois, Pecquencourt — mining-era brick housing under renovation

64,000
homes managed
Largest social landlord in Hauts-de-France

€2.4 B
rehabilitation budget
24,000 homes over 10 years

1,000
with hempcrete
Within 3 years (target)

Why hempcrete won

From 2015 onward, Maisons & Cités tested **five different bio-based insulation materials** on real mining-era brick homes — sheep's wool, cellulose wadding, flax, métisse, and hempcrete — through the Réhafutur and Rénochanvre programmes. **After more than five years of comparative monitoring, hempcrete was identified as the most suitable material for the region's traditional brick housing.**

The reason: most heritage homes in the Nord Pas-de-Calais mining basin are listed and **cannot be insulated externally**. They are also damp. Hempcrete's vapour permeability and thermal mass solved both — without the condensation risks of synthetic interior insulation.

REFERENCE PROJECT

Château d'Ansembourg — heritage at the highest level

Luxembourg's national heritage authority chose hempcrete to save a 17th-century chateau.

Château d'Ansembourg - Grand-Duchy of Luxembourg · 1639 - Restoration completed 2018

44 m²

full-scale test

Salon Bleu, 2016 — proved performance

2018

rolled out

Adopted across the chateau

20 °C

constant indoor

Year-round, no condensation

Why hempcrete won

The chateau suffered from **active dry rot in the stonework** — caused by the wrong mix of humidity and temperature against cold walls. **Luxembourg's national heritage authority** (Service des Sites et Monuments Nationaux) approved hempcrete for two reasons: it provides a constant warm interior surface that prevents the dampness conditions where rot starts, and it lets the historic façade keep breathing.

After the 44 m² Salon Bleu test confirmed the lining could be installed without compromising decorative friezes or vaulted ceilings, hempcrete was rolled out across the chateau. **Selected by Luxembourg's heritage authority for performance and respect for original architecture**.

ENGINEERING

The dynamic model — why one material beats two

Stop calculating walls layer-by-layer. Start calculating the whole envelope.

France tried hempcrete + cellulose. They went back to pure hempcrete. **Two-material walls fail where one-material walls succeed.**

01

Two materials = condensation risk

When you stack hempcrete with cellulose insulation, you create a temperature gradient across two materials with different vapour-diffusion behaviour. Moisture condenses at the interface. French builders tried this combination and reverted to pure hempcrete.

02

External insulation = 50-year clock

Most synthetic external insulation must be replaced every ~50 years. A hempcrete wall lasts 100+ years untouched. Adding an outer layer means resetting the lifespan of the whole envelope to whichever component fails first. One material, one lifespan.

03

Beyond 30 cm = diminishing returns

Studies show hempcrete walls give insignificant additional U-value gain between 22 cm and 30 cm. Past 30–35 cm, more thickness doesn't help. Don't chase λ — invest the savings in roof insulation and triple-glazing where they pay off.

The dynamic approach: *calculate the whole envelope together. Where the wall is weaker, strengthen the roof, the windows, the airtightness —* ***not the wall.***

HONEST VIEW

Pros, cons — and how the cons are addressed

We don't think hempcrete is right for every project. Here's the honest picture.

PROS

- Stores carbon for the lifetime of the wall (–100 kg CO_2/m^3)
- Excellent moisture buffering — keeps indoor humidity at 45–65 %
- Naturally fire-safe (A2-s2,d0) — no synthetic flame retardants
- Zero VOCs, no off-gassing, no airborne fibres
- Pest and mould resistant without chemical treatment
- Strong thermal mass — stable indoor temperatures, lower energy use
- Acoustic absorption better than mineral wool of equal thickness
- Compostable / reusable at end of life
- Walls feel warm to the touch — perceived comfort beats datasheet U-values

HONEST CONS — AND HOW WE ADDRESS THEM

Higher λ-value (worse insulation per cm) than mineral wool or PIR

→ Thicker walls (35–40 cm) or hybrid systems with bio-based insulation.

Longer drying time after casting — 4–8 weeks for site-cast walls

→ Prefab panels are pre-dried 3–4 weeks at our facility before delivery.

Higher upfront material cost than standard insulation

→ Lower lifecycle cost — no replacement, lower energy bills, carbon credits.

Limited contractor familiarity in Nordic markets

→ Inspiré delivers prefab panels and trains site teams; turnkey option available.

Not load-bearing on its own at standard densities

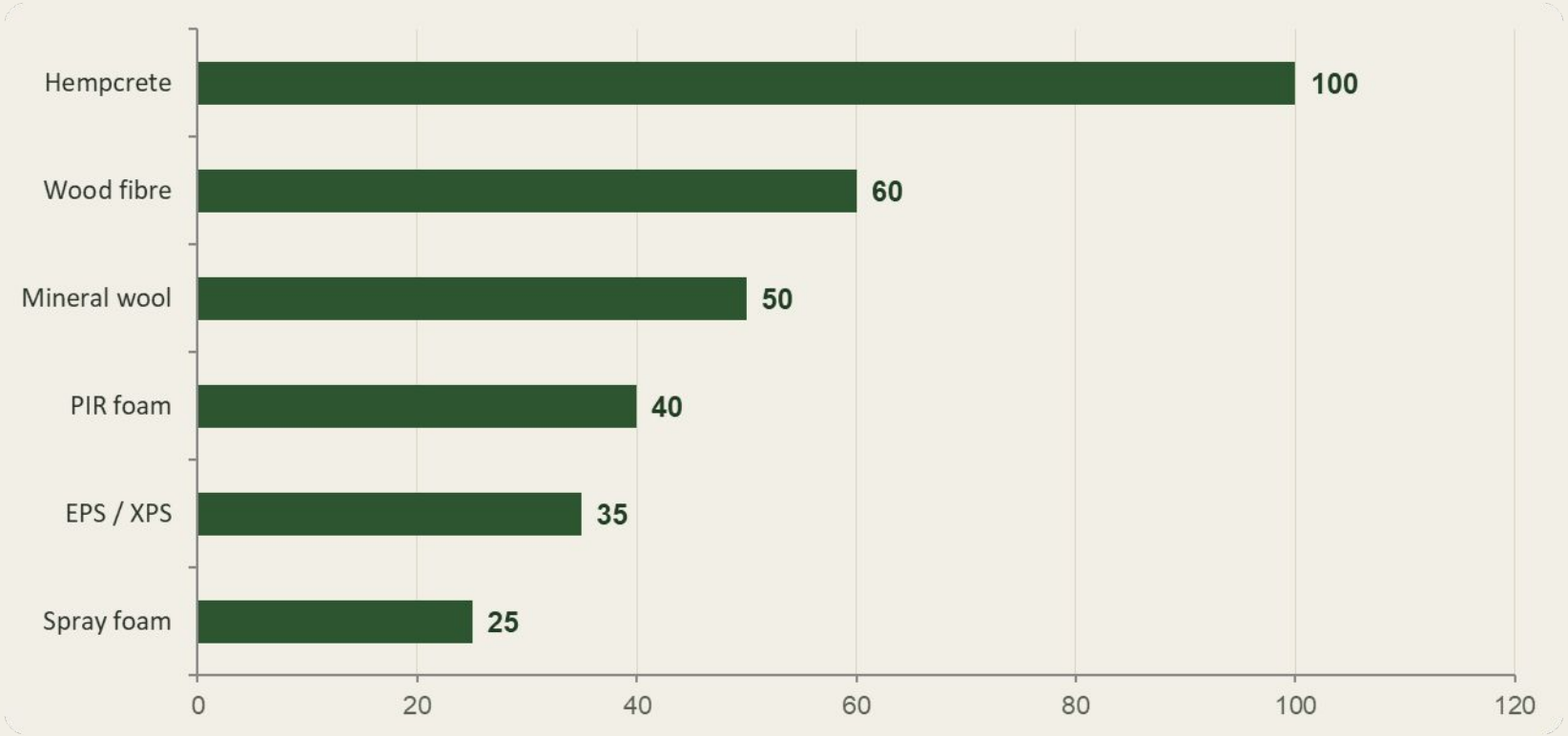
→ Built around timber or steel frame — like all light bio-based wall systems.

LIFESPAN

Built to last centuries — not decades

Modern hempcrete dates from 1980s France. The underlying chemistry — plant material bound in lime — has documented use stretching back centuries. As long as it stays dry, there is no inherent upper limit on lifespan.

Expected lifespan in years (typical residential application)



100+

years expected

Lime carbonates and hardens over decades — hempcrete walls actually get stronger with age, not weaker.

MAINTENANCE

Caring for your hempcrete walls

What to expect — from year 1 to year 100.

Örgryte Old Church, Gothenburg
Lime-rendered façade since the 13th century.
Same chemistry, Nordic climate, 800 years.

Year 0–1

Curing

Walls finish drying. Avoid sealing surfaces with non-breathable paint or vapour barriers.

Year 1–10

Settle in

Visual inspection annually. Check render for cracks. Indoor humidity self-regulates — no action needed.

Year 10–30

Light upkeep

Refresh exterior lime wash every 10–15 years. Touch up render hairline cracks if any.

Year 30+

Long-term care

Wall is at peak strength. Done right, no major intervention needed for ~40 years — just lime-wash refreshes and minor patching.

Lime renders have protected European buildings for centuries — the same chemistry sits on the outside of a hempcrete wall.

MAINTENANCE

Living with hempcrete — do's and don'ts

The single most important rule: keep the wall breathable.

DO

Use breathable finishes

Lime wash, lime render, silicate paint, mineral plasters, clay finishes.

Ventilate normally

The wall buffers humidity, but rooms still need fresh air. Open windows or run ventilation as usual.

Check exterior render annually

A 10-minute visual inspection. Look for hairline cracks at corners, around windows, and at ground level.

Touch up cracks early

Use the same lime-based render as the original. Cracks repaired in year one stay invisible.

Hang things normally

Pictures, shelves, TV brackets — use standard wall plugs sized for the panel thickness.

DON'T

Don't use plastic-based paints

Acrylic, latex or vinyl paints trap moisture inside the wall. Mould eventually starts.

Don't add a vapour barrier

Hempcrete is the moisture-management system. Adding plastic sheeting fights against it.

Don't seal with cement render

Cement is harder than hempcrete and stops vapour. Cracks and damp patches will appear.

Don't worry about hairline cracks

Lime renders crack as they cure — this is normal, not a defect. Surface cracks under 1 mm are cosmetic; the wall behind is unaffected.

Don't ignore water leaks

Like any wall, persistent leaks (roof, plumbing) cause damage. The wall handles humidity, not floods.

REPAIR GUIDE

If something happens — how to repair

Hempcrete is one of the most repair-friendly wall systems on the market — and Nordic field studies confirm long-term moisture stability when paired with a compatible lime render (Strandberg-de Bruijn & Balksten, Lund University, 2019).

Hairline cracks in render

Year 1–3 normally

Brush off loose material. Wet the crack with clean water. Apply matched lime render with a small trowel. Smooth flush. Cure for 2–3 days.

DIY-friendly

Refreshing the lime wash

Every 10–15 years

Brush down the wall to remove dust. Apply 2–3 thin coats of fresh lime wash with a wide brush. Let each coat dry overnight. Best done in mild weather.

DIY-friendly

Hole or knock-out repair

After accidental damage

Cut a clean rectangle around the damage. Remove loose material. Mix fresh hempcrete (we provide a small repair pack on request). Pack into the void and finish with render.

Contractor recommended

Damp patches or staining

Sign of an external issue

Don't paint over it. Find and fix the source — usually a roof, gutter, flashing or pipe leak. Once dry (the wall does this on its own), the stain often fades. Repaint with lime wash if needed.

Investigate first

FAQ

Frequently asked questions — the material

Six things buyers ask first.

Q What is hempcrete?

A bio-composite of three natural ingredients: hemp shiv (the woody core of the plant), a lime-based binder, and water. It sets and petrifies over time, drawing CO_2 from the air as it cures. Acts as structure, insulation, moisture buffer, and finish substrate in one.

Q Is hempcrete loadbearing?

No — but the wall is. Hempcrete is installed around a timber or steel frame which carries the vertical load of roof and upper floors. Hempcrete provides racking strength to the frame, but the frame is what holds the building up.

Q How thick should the walls be?

For Nordic residential applications, 300–400 mm is typical. Past 30–35 cm, additional thickness gives diminishing thermal returns — better to invest in roof insulation and triple-glazing.

Q How long does hempcrete last?

Modern hempcrete was developed in France in the 1980s, and the underlying chemistry — plant material bound in lime — has been used in European buildings for centuries. The high pH of the lime binder preserves the hemp shiv and the lime continues to carbonate, so the wall gets stronger with age. As long as it stays dry, the lifespan is anticipated in centuries rather than decades.

Q How does it compare to concrete?

Different categories of material. Concrete: 2,400 kg/m³, structural, no vapour permeability, high CO_2 emissions. Hempcrete: 280 kg/m³ (8× lighter), non-structural, fully breathable, carbon-negative. Hempcrete is paired with a structural frame; concrete is the structure.

Q Is it fire-resistant?

Yes. European Euroclass A2-s2,d0 — limited combustibility, limited smoke, no flaming droplets. Australian fire testing achieved FRL 73/73/73 (over 73 minutes resistance). The performance comes from the lime binder chemistry — no synthetic flame retardants needed.

FAQ

Frequently asked questions — building & living

Six things buyers and owners ask next.

Q Can it be used in renovations?

Yes — and this is one of its strongest applications. Hempcrete was originally developed in France in the 1980s to repair medieval timber-frame buildings. About half of UK Hempcrete's work is heritage. English Heritage and SPAB both recognise it for thermal upgrades to architectural heritage.

Q Will it work in cold/Nordic climates?

Yes. Used successfully in projects across France, Belgium, Germany, the UK, Czech Republic and Scandinavia. For very cold climates, designers typically increase wall thickness to 350–400 mm and combine with high-performance roof insulation and triple-glazing.

Q Is it insurable / mortgageable?

Yes. Hempcrete is approved by Zurich Insurance and complies with low/zero-carbon technical standards. In the UK, hempcrete buildings have been mortgageable since the early 2010s. Premiums may actually be lower than conventional construction due to fire and pest resistance.

Q What finishes can be applied?

All finishes must be vapour-permeable. Internal: lime plaster, clay plaster, lime/clay paint, limewash. External: lime render (typical), stone or brick cladding with lime mortar, timber cladding with vented air gap. Avoid: acrylic/vinyl/latex paints, cement render, vapour barriers.

Q Can I hang things normally?

Yes. Pictures, shelves, TV brackets, kitchen cabinets — use standard wall plugs sized for the panel thickness. Hempcrete is solid and rigid once cured, no different from drilling into masonry.

Q How do I maintain it?

Annual visual inspection of exterior render. Refresh exterior lime wash every 10–15 years. Touch up hairline cracks early using the same lime-based render. Avoid plastic-based paints, vapour barriers and cement render for any repair work.

Have a question we haven't answered? Get in touch — we love talking about hempcrete.

CLOSING

A material you *live in*, not just one *you live with.*

Hempcrete is the only wall material that insulates, regulates moisture, stores carbon, resists fire and pests, and is non-toxic — at the same time. Built like nature builds.

Inspiré · Bio-Based Construction Solutions

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