Build With Hemp Ltd
Unit 1A Stroude Farm, Stroude Road, Virginia Water, Surrey, GU254BY

buildwithhemp.co.uk

# Addressing technical and environmental challenges in UK construction

**Across residential, commercial and urban infrastructure projects, the built environment is under increasing pressure to balance technical performance, compliance and delivery certainty with sustainability targets.**

Materials must now perform structurally, acoustically and thermally while also demonstrating measurable environmental benefits and long-term reliability.

## The pressures

- The construction industry accounts for approximately 40% of global $CO^2$ emissions
- 40% of UK landfill waste comes from demolition and construction
- 13% of materials delivered to site go straight to landfill
- Infrastructure schemes are now assessed on embodied carbon, not just operational performance
- The Future Homes Standard will require new homes to produce 75-80% less carbon emissions



# Performance and sustainability - delivered as standard

**Hempcrete prefabricated panels are not a compromise between performance and sustainability. They deliver both as standard.**

- Carbon negative by design
- BRE and BBA certified
- Thermally regulating, acoustically absorbent, fire resistant and moisture buffering
- Manufactured offsite and delivered ready to install into a standard timber frame

**Certified industrial hemp panels.**
**Ready for specification, supply and build.**

# From factory to frame.

**Prefabricated off site. Installed on site in days, not months.**

Industrial hemp construction is established at scale across Europe, with decades of performance data and hundreds of completed buildings behind it. Build With Hemp brings that maturity to the UK through an exclusive manufacturing partnership with the DunAgro Group, Europe's most experienced hemp construction specialist with over 30 years of hemp-lime expertise.

Panel systems are prefabricated under controlled factory conditions and delivered to UK sites fully cured, tested and ready to install. The panels fit directly into a standard timber frame using conventional construction sequencing and established site practices, with no specialist tools, proprietary fixings or additional training required.

Panels arrive with pre-chased conduit routes for electrical first fix and pre-formed apertures for windows and doors, so services coordination is resolved at the design and fabrication stage rather than on site. This eliminates chase-cutting, reduces programme risk and means a building can be water- and wind-tight within approximately seven days of panel delivery.

Every panel is BBA-certified, BRE-tested and supplied with full technical documentation.

**PRE-CHASED SERVICES**

Electrical conduit routes, window and door apertures factory-integrated before delivery. No chase-cutting on site.

**FIRE-PROOF**

BRE-certified to 126 minutes. Hempcrete chars rather than ignites and releases no toxic gases.

**UP TO 80% LESS LABOUR**

Prefabricated panels into a standard timber frame. Fewer trades, less coordination, predictable programme delivery.

**STANDARD TIMBER FRAME**

No specialist tools, no proprietary fixings, no retraining. Compatible with conventional construction sequencing.

**CUSTOM CONFIGURATIONS**

Panels up to 6m × 3m, multiple thickness options from 30mm to 180mm. Custom dimensions available for non-standard designs.

**BRE AND BBA CERTIFIED**

Independently tested and certified for UK specification. Full technical documentation supplied with every order.

DUNAGRO HEMP GROUP.

# Engineered performance.

**Performance is inherent to the material, not applied through secondary treatments, coatings or additive layers.**

## Fire performance

Class C fire rating, BRE certified to 126 minutes of fire resistance. When hemp is combined with lime it chars rather than burns, containing combustion and producing no toxic gases in the process. There are no chemical fire retardants or synthetic additives involved.

## Thermal regulation

Thermal conductivity of 0.039 W/m/K. Unlike conventional insulation that simply resists heat transfer, hempcrete actively regulates temperature through its natural breathability and high thermal mass, reducing heat loss in winter and heat gain in summer.

## Acoustic performance

Acoustic absorption index of 0.70, classified as Sound absorption Class C under EN ISO 354. The porous structure of hempcrete absorbs and disperses sound energy across a wide frequency range, making it effective in wall, floor and barrier applications.

## Moisture regulation

Hemp's vapour-permeable structure (water vapour resistance $\mu \leq 2$) absorbs excess humidity and releases it as conditions change, maintaining stable internal air quality without condensation, mould or VOCs.

## Technical characteristics

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|---|---|
| **Fire resistance** | Up to 126 min (BRE-certified) |
| **Flammability class** | Class C (DIN EN 13501-1) |
| **Thermal conductivity** | 0.039 W/m/K (EN ISO 10456) |
| **Acoustic absorption index** | 0.70 (Class C, EN ISO 354) |
| **Water vapour resistance μ** | ≤ 2 (EN 12086) |
| **Sequestered carbon** | Approx 110 kg $CO^2$ per $m^2$ |
| **Panel sizes** | Up to 6m × 3m (facade, roof, floor) |
| **Thickness range** | 30mm to 180mm |
| **Rd-value range** | 0.769 to 4.615 $m^2K/W$ |
| **Service life** | Decades; 15-year guarantee |
| **Onsite labour reduction** | Up to 80% vs traditional methods |
| **Certification** | BBA, BRE |

# Designed for real-world application

**Hempcrete panel systems are widely used across new build housing, commercial developments and retrofit projects, including period properties and historically sensitive buildings.**

For retrofit, hempcrete brings a particular advantage. The material is vapour-permeable and hygroscopic, which means it breathes with the existing building fabric rather than trapping moisture behind it. This makes it well suited to older masonry and timber-framed buildings where conventional insulation systems can cause condensation, damp and long-term structural damage. Hempcrete panels can be fitted internally or externally without compromising the integrity of the original construction.

## Use cases:

- **New build residential and commercial**
- **Internal and external wall insulation retrofit**
- **Period and heritage property upgrades**
- **School and public building refurbishment**

# Versatile by design.
# No compromise.

**Hempcrete panels accept all conventional exterior and interior finishes. The completed building looks and feels identical to any traditionally constructed structure, and there is no visual compromise in choosing hempcrete over conventional walling systems.**

## Exterior finishes

- Lime render (traditional or through-colour)
- Brick slips and brick-effect cladding
- Timber cladding (horizontal, vertical or shingle)
- Natural stone cladding
- Rain-screen cladding systems
- Painted render

## Interior finishes

- Lime plaster (smooth or textured)
- Clay plaster
- Plasterboard on battens
- Tiling (on appropriate substrate)
- Exposed hempcrete (natural finish for feature areas)
- Breathable paint systems

*All finishes should be vapour-permeable to maintain the panel's natural moisture regulation. Lime-based systems are recommended as standard. Cement-based renders should be avoided as they restrict breathability and compromise the performance of the hempcrete core.

# Lifecycle and environmental credentials.

**Infrastructure assets are increasingly expected to deliver environmental value beyond their core function. Build With Hemp systems embed these outcomes directly into the material solution.**

Industrial hemp is one of the fastest-growing crops in Europe, reaching harvest readiness in approximately 100 days with no pesticides, no herbicides and minimal water. During growth, each hectare absorbs up to 15 tonnes of $CO^2$. When processed into hempcrete, that carbon remains permanently locked within the building fabric for the lifetime of the structure.

At end of life, hempcrete is fully biodegradable. It can be crushed and returned to the soil as a growing medium. Nothing goes to landfill. This is a fully circular material, from field to building and back again.

## Certification and compliance

### BRE Global
Fire resistance independently certified to 126 minutes (Class C rating). Long-term structural and material performance verified through BRE's testing programme, the standard required for UK building product specification.

### BBA (British Board of Agrément)
Independent verification of fitness for purpose under UK conditions. BBA-accredited products are accepted by local authorities, building control bodies and major contractors as evidence of compliance with Building Regulations.

### BREEAM
Supports high environmental ratings across residential, commercial and infrastructure project types.

### Future Homes Standard
Aligned with the 2025 Future Homes Standard requiring 75-80% reduction in carbon emissions from new homes.

### Biodiversity Net Gain
BNG ready. Industrial hemp cultivation creates habitat for insects, birds and small mammals, and hempcrete products support ecological enhancement directly within the building fabric.

### Carbon credits
Eligible for verified carbon credits under the Gold Standard Carbon Credit Authority, directly supporting ESG reporting and corporate net zero commitments.

# Specification support.

Build With Hemp works directly with architects, structural engineers, developers, main contractors and local authorities at every stage of the specification and delivery process, from early design through to installation and handover.

## Technical documentation

- **BRE and BBA accreditation certificates**
- **Product data sheets and technical drawings**
- **Installation guidance for contractors**
- **NBS specification clauses**
- **U-value and Rd-value calculation support**
- **CPD presentations for architectural practices**

## Design support

The technical team can advise on panel configuration, thickness selection, thermal modelling and services integration at the design stage, ensuring the system is optimised for project requirements before manufacture begins.

## Sample service

Hempcrete panel samples are available for specification teams and clients. Contact us to arrange delivery.



# Speak to the team.

Whether you are at specification stage, pricing a scheme or exploring how hempcrete panel systems integrate with your current construction approach, we can help.

**General enquiries**

01344 298234
sales@buildwithhemp.co.uk

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Virginia Water, Surrey, GU254BY buildwithhemp.co.uk