



Tradical[®] Hemcrete[®] Wall Systems





The Crawford House

The Push House

Tradical[®] Hemcrete[®] Wall Systems

Tradical[®] Hemcrete[®] is the revolutionary, environmentally friendly building product that locks CO₂ into a wall structure – helping to deliver better-than-zero carbon buildings requiring minimal heating and cooling.

A blend of lime-based binder and the woody core of hemp plant, Tradical[®] Hemcrete[®] has developed into an established walling system to provide carbon negative thermally efficient walls. In fact, during the life cycle of calcium hydroxide – the main constituent of the lime binder in Tradical[®] Hemcrete[®] – a large portion of the CO₂ emitted in manufacture is reabsorbed as it cures and reverts back to limestone (calcium carbon-ate).

Tradical[®] Hemcrete[®] offers many distinct advantages over traditional building materials, these include:

- Very low energy costs in use
- Easy to achieve high levels of Code for Sustainable Homes
- Excellent levels of air tightness and low thermal bridging
- Recyclable and produced using renewable sources
- High performance fire resistance

The exceptional thermal performance and air-tightness of walls constructed using Tradical® Hemcrete® mean that buildings do not need additional layers of insulation, can run with minimal heating and also avoid the need for air conditioning. With its high thermal inertia, Tradical® Hemcrete® buildings have more stable internal temperatures and use less energy and are more comfortable than those built to the same R-value in lightweight building materials.

Low Embodied Carbon

As the primary component of Tradical[®] Hemcrete[®] is hemp – a renewable industrial crop that is grown and harvested in the UK – it captures and locks away CO_2 within the fabric of the building. This means that while a typical brick house can be responsible for around 50 tons of CO_2 emissions in its construction, the same house built using Tradical[®] Hemcrete[®] can be built for 30-40% less CO_2 emissions.

Better-than-zero carbon buildings

Using Tradical[®] Hemcrete[®] creates a very efficient building fabric and is an ideal system to meet your better-than-zero carbon goals and emerging low carbon requirements.





A Tradical[®] Hemcrete[®] standard system, fully warranted and BBA accredited, comprises:

- 1. Plaster skim
- 2. Limetec® Board
- 3. Timber frame as specified by structural engineer
- 4. Horizontal batten to ties Tradical® Hemcrete® to the timber frame
- 5. Tradical[®] Hemcrete[®] 275 mix
- 6.15mm FL68 basecoat render
- 7. Mesh as required within the basecoat

8. 3mm SEP top coat render or alternative approved render finish

The product is cast in situ around a structural timber frame creating a solid wall solution that is vapour permeable. This creates buildings that can manage internal water vapour and breathe through the fabric of the building whilst maintaining a high level of air tightness.

Thermal performance

When compared with traditional building materials, Tradical[®] Hemcrete[®] has a low thermal diffusivity. This gives it its high thermal inertia and means that it is a lot slower to change temperature.

The unique micro structure of the hemp stalk enables the wall system to act as a phase change material with the water vapour within the wall cells changing phase and slowing down the change in temperature of this unique material. When this high inertia is combined with the good insulation offered by Tradical[®] Hemcrete[®] it produces buildings that have very low energy in use.

Uses of Tradical® Hemcrete®

The system is very flexible and has been used in many types of buildings. The common requirement being a client or architect who wants their building to perform to the very best environmental standards, be they BREEAM excellent, Code for Sustainable Homes levels 4,5 or 6 or even PassivHaus.

Buildings range from low energy warehouses, schools, high code level houses, private houses and sustainability centres. The versatility of the product enables it to be used in a wide variety of applications.

If an off-site or pre fabricated solution is required then Hemclad[®] our off-site cladding system for commercial buildings or HembuildTM our off-site structural wall system for housing and commercial buildings may be more suitable.

System Support

Specification

American Lime Technology offers a comprehensive supply and specification package. Our technical department and partners can advise on all aspects of system selection, specification and product integration into any building design. Standard details for each system are available for modifying for use in your project.

American Lime Technology offers psi and R-value calculation services and can arrange a dew point analysis. Specific technical advice is also available through our field sales team, site support technicians and our office based team.

Warranty and guarantee

The Tradical[®] Hemcrete[®] standard design system has been approved by LABC New Homes Warranty as well as Building Life Plans. To comply with these warranty providers the following conditions must be met:

- Drawings must be signed off by approved American Lime Technology staff prior to tender
- Only trained installers can install the Tradical[®] Hemcrete[®]
- American Lime Technology staff must visit site and sign off certain stages of the build

Training and Support

Only fully trained certified operatives working with recommended contractors, can install Tradical[®] Hemcrete[®] wall systems.

American Lime Technology offers full system application training to operatives at our designated training facilities in Chicago Illinois. Lime Technology can also offer comprehensive 'on site' supervision.

Please contact our Training Manager for more details 1-773-286-0566.

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