

This certificate is valid for building regulations and associated technical guidance in force at the time of the registration and for the regulations in Scotland only – references to LABC does NOT imply approval in England and Wales

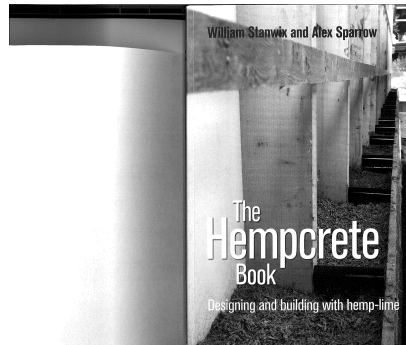
## Hempcrete Solid External Wall Construction

### Description of Product

Hempcrete is made by combining Industrial Hemp Shiv (chopped woody core) with a lime-based binder & water, to form a composite material that forms a non-structural element in the construction of buildings.

Hempcrete is embedded in the structural frame, forming a homogeneous 350mm - 400mm thick external wall.

Hempcrete is fundamentally an infill material either cast or sprayed to form a continuous joint-free wall, which is rendered internally and externally with vapour permeable lime-based products suitable for use with Hempcrete.



### Key factors assessed

- Mechanical Resistance & Stability
- Safety in case of Fire
- Health, Hygiene and Environmental
- Safety in Use
- Energy, Economy and Heat Retention
- Durability serviceability and identification

### Validity

This certificate was first issued on 24 October 2019 and is valid until 23 October 2020  
Issue Date: 24 October 2019

## Scope of Registration

This Registered Detail covers the use of Hempcrete in the formation of walls only.

Hempcrete should not be used below DPC level and is therefore not suitable for basement construction.

Hempcrete construction work must be carried out by an experienced contractor or a contractor who has undergone training in respect of the control of quantities in the mix, appropriate equipment and test blocks to ensure consistency in integrity & density (test blocks must be re-measured once dried out). The contractor shall be responsible for undertaking an appropriate number of test blocks (one block per elevation per storey) throughout the casting (or spraying) of the Hempcrete measure & ensure that the density of the mix is in the acceptable range stated by the product manufacturers, and that the test block has the correct integrity, retaining its shape after the shuttering has been removed.

Hempcrete must be used in combination with a structural frame and is not suitable as a structural element.

Hempcrete is shown to have a nominal thermal conductivity of 0.07 W/mK and a Vapour Resistivity of 10MNs/gm. A wall construction comprising 350mm of Hempcrete will give a U-value of 0.20W/m<sup>2</sup>/K.

Walls must be finished internally and externally with appropriate materials; external walls must be suitably moisture tested prior to painting with a vapour permeable finish (if used).

Any lime-based binder shall be formulated specifically for Hempcrete work.

This certificate does not cover the use of Hempcrete within 1m of a boundary or above 12m in height.

## Conditions of Certificate

The specifications and materials referred to have been assessed and approved in

Where reference is made on a plan or specification document to any Code of Practice, British or European Standard or manufacturer's instruction it shall be construed as a reference to such publication in the form in which it is in force at the date of this registered detail.

The materials specified shall not be changed without first gaining approval so to do. Failure to do so will invalidate the registered detail.

This Registered Detail should not be regarded as a formal approval under the building warrant process prescribed by the Building (Scotland) Act 2003 enacted from 1 May 2005. It supports the site-specific building warrant submission required in every case.

This Registered Detail shall contribute to compliance with relevant Mandatory Standards specified under the Building (Scotland) Regulations 2004 as amended when read with the Scope of Registration and the Conditions of Certificate Sections to this Registered Detail.

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## Regulations



LABSS consider that Hempcrete Solid External Wall Construction will meet, or contribute to, the functional requirements of the Building Regulations (listed below) if the criteria detailed in this certificate are met.

### **The Building (Scotland) Regulations 2004 (as amended) Technical Handbooks – Domestic and Non-Domestic**

#### **Regulation 8 Durability, workmanship and fitness of materials**

0.8.5: Ways of establishing the fitness of materials

#### **Regulation 9 Building Standards applicable to construction**

Construction shall be carried out so that the work complies with the applicable requirements of schedule 5. Technical Handbooks – Domestic Construction 2019

#### **Mandatory Standard 3.10 Precipitation**

Note: The material will contribute to compliance with this standard.

#### **Mandatory Standard 3.15 Condensation**

Note: The material will contribute to compliance with this standard. A site-specific condensation risk analysis should be provided for each project.

#### **Mandatory Standard 5.1 Noise separation**

Note: The material will contribute to compliance with this standard. Noise tests require to be undertaken in accordance with clause 5.1.9.

#### **Mandatory Standard 6.1(b) Carbon dioxide emissions**

Note: The material will contribute to compliance with this standard. (SAP calculations should be submitted where required.)

#### **Mandatory Standard 6.2 Building insulation envelope**

Note: The material will contribute to compliance with this standard. A site-specific u-value calculation should be provided for each project.

## Supporting Information

- BRE Information Paper IP14/11 – Hemp Lime – an introduction to low-impact building materials
- BRE Client report 209-717 Rev 1 – Final report on the construction of the Hemp Houses at Haverhill, Suffolk.
- BRE Client report 212020 – Thermographic inspection of the masonry and hemp houses, Haverhill, Suffolk
- NHBC Foundation – Cellulose-based building materials – use, performance and risk
- BRE Press – Hemp Lime Construction – a guide to building with hemp lime composites.

Additional information is available to verifiers on the LABSS Website

## Contact Information

Please contact lead authority for more information:

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