



Tŷ-Mawr

flooring system



Tŷ-Mawr Lime Ltd designed this innovative flooring system in 1998 as an alternative to cement-based concrete for use in old and historic properties.

Over the years, they have selected and tested various materials and combinations of materials to both simplify the installation process and improve the 'green' credentials of the floor. It is therefore now being used more and more in ecological new builds.

old and historic buildings

maintains the vapour permeability of the floor



Our limecrete flooring system has been chosen by and successfully installed in significant historic building projects such as the Chapter House Floor in Worcester Cathedral and by the National Museum and Galleries of Wales for the 13th Century Church at St Fagan's.

"...the Museum faced the challenge of introducing heating into the building, which was clearly not designed and built with heating in mind. This not only raised practical issues, but also but also matters of principle and authenticity. Balanced against these are questions of personal comfort (for the visiting public and the Museum's own warding staff) and conservation. The latter point is of particular importance within the context of restoring an old building which incorporates both original (in this case medieval) timberwork and modern replicas.

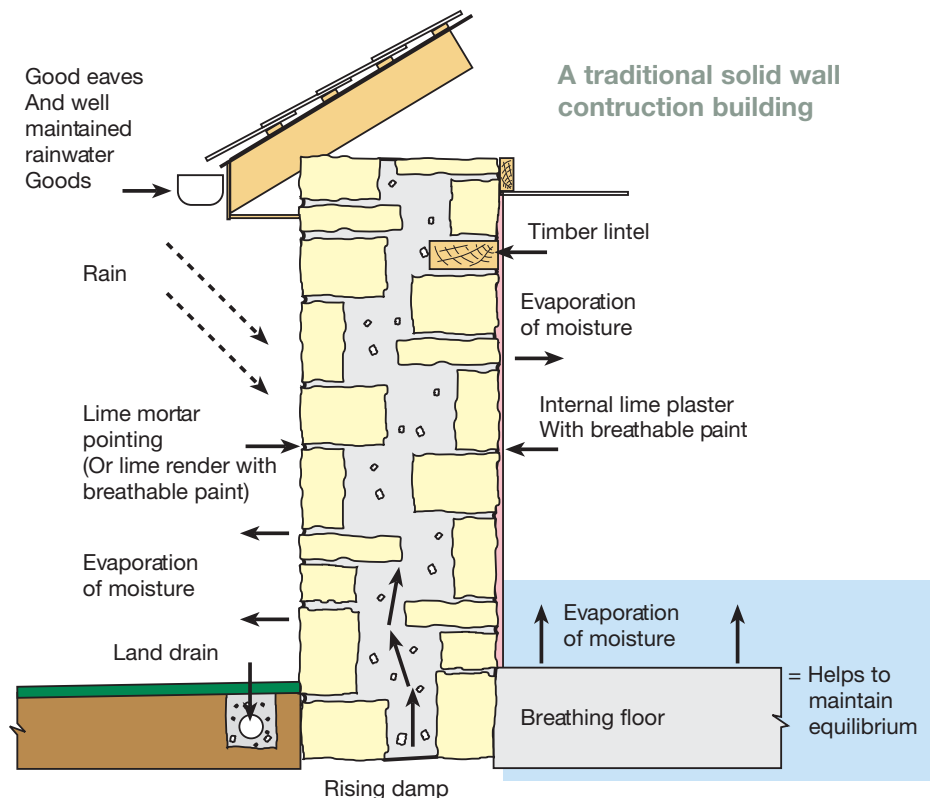
Both require special conditions to ensure that they are not adversely affected by the temperature, and more importantly, Relative Humidity, prevailing within the building.

Excessive heat and/or dryness would, for instance, cause the timbers to dry out too quickly, resulting in twisting, shrinkage and cracking; whilst the lime-plastered walls would crack, loose adhesion and fail. Conversely, too much moisture and/or very

low temperatures would result in condensation and mould growth. It was important therefore to find a method of controlling the relative humidity levels within the building so that both the historic, and new oak, timberwork would not be adversely affected. The use of a controllable under-floor heating system combined with an insulated limecrete floor fed by a Ground Source Heat Pump was seen as an ideal way of minimising such problems, enabling the building to dry out gently and naturally, whilst moderating the internal environment for staff and visitors".

EXTRACT FROM HERITAGE MAGAZINE BY DR GERALLT NASH,
CURATOR, NATIONAL MUSEUM OF WALES, ST FAGANS.

The 'breathing' qualities of the floor make it highly suitable for solid wall construction buildings as it works in harmony with the rest of the building (see below). It has therefore also been used in 100s of private restoration projects for individual rooms or complete ground floors all over the UK.



ecological new builds

less impact on the environment

The floor is a perfect choice for ecological new builds using natural materials such as straw, wood because of the unique way in which it deals with moisture. The flexural qualities of the floor are also advantageous in these circumstances.

It has therefore been chosen and used on private and commercial new builds in straw bale and earth as well as other modern breathing wall systems (see our Wall Systems brochure).

The recycled aggregate in the insulation layer offers excellent insulation as well as engineering qualities.

Recycled aggregates can also be used in the screed (Glasscrete™ Screed).

Finally, it is recyclable at the end of its useful life - the construction industry is responsible for contributing some 70 million tonnes of waste to landfill annually in this country, it is therefore important to consider what will eventually happen to the building materials we choose to use today.

meeting individual requirements

We have invested heavily in researching and developing this flooring system to ensure that we are able to provide the best materials and support for your specific situation.

Our technical team will provide a tailor designed floor to ensure that you get the best performance for your building and meet Building Regulations* if required. All you have to do is complete the form on the rear of this information leaflet.

Factors that influence the design include:

- > wall thickness and construction type
- > floor area and perimeter length
- > substrate type
- > groundwater pressure
- > radon protection (permeable membranes do not offer radon protection)
- > intended use
- > budget

**In certain circumstances Part L Regulations do not apply to listed building works, please discuss this with the Conservation Officer in your Local Planning Authority.*

The flooring components have all been tested using British Standards - please call if you require any specific information.

underfloor heating

The flooring system can be combined with wet or electrical underfloor heating systems, we will need to know if underfloor heating is being incorporated as part of our calculations and you will need to discuss the floor with your heating supplier, please note – some suppliers may be cautious of the idea but please refer to us as we have a comprehensive list of contacts and examples.

installation

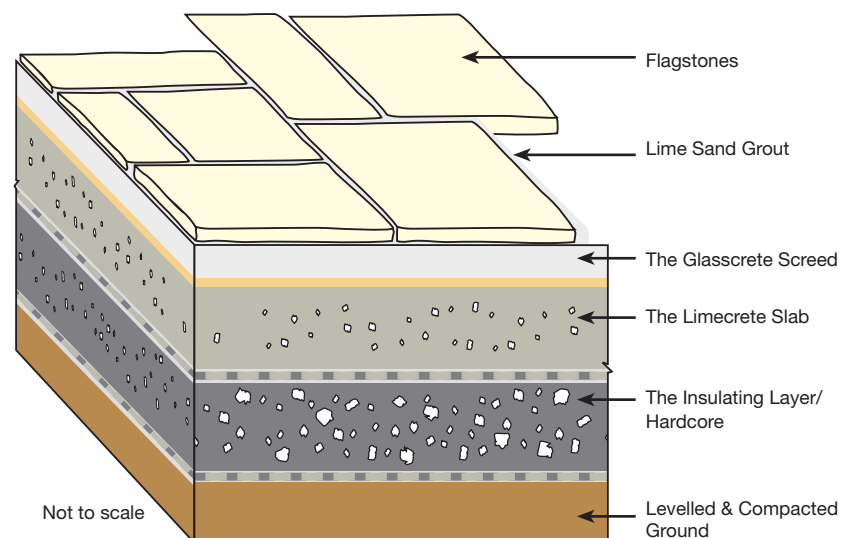
No special skills are required for installing the limecrete flooring system, it is not unlike laying a conventional cement-based concrete floor; any builders with experience in laying floors should be willing and able to do it. For larger floors, we have a range of mixers and silos available for hire to speed up the mixing process.

Installation instructions are supplied with the flooring components as well as full telephone support.

Site visits can be arranged if required although this item is chargeable.

"Thanks for your help in organising the materials. I'm very satisfied with the results of the floors they were much easier than I thought to lay - and much cheaper than all the quotes I got from other people."

DEL, MILTON KEYNES, OCTOBER 2006.



A heating pipe in the Glasscrete Screed.



Limecrete slab being laid at Grand Designs' Carmarthen House.

limecrete floor

calculation form

IMPORTANT Our calculations as well as the overall depth of excavation required for your floor should be discussed with your architect, building consultant/engineer.

Name: _____ Organisation/Company: _____

Tel: _____ Fax: _____

E mail: _____

Address for delivery: _____

Any special delivery instructions: _____

Please complete one form for each floor/room:

Type of building: _____

Name/Type of room: _____

Total Area of Floor (m²): _____ sq metres

Dimensions of room: _____ X _____ metres

Thickness of walls (mm): _____ mm

Total exposed perimeter wall (m): _____ metres

(this is the total length of wall that has an external face as opposed to internal walls)

Are you installing underfloor heating? YES NO
(Important – please discuss this flooring system with your underfloor heating supplier)

What depth of screed do you require? _____ mm
(please refer to your underfloor heating supplier)

What U-Value are you trying to achieve? _____
(We will try to achieve current Building Regulations unless you specify otherwise here.)

Any other information _____

We can not accept any responsibility for floors where we have not supplied all of the materials as the tests that we have carried out have been on our products where we fully understand their properties and qualities.

Please fax this completed form back or send it to:
Calch Tŷ-Mawr Lime Tŷ Mawr, Llangasty, Brecon, Powys LD3 7PJ
Tel: 01874 658000 Fax: 01874 658502
or request an electronic version by e-mailing tymawr@lime.org.uk

Please feel free to call if you have any further enquiries.

