Leca® Underfloor Solutions

SAVE TIME AND MONEY RENOVATING AND BUILDING NEW FLOORS WITH LECA® UNDERFLOOR SOLUTIONS

Leca® Insulation Fill is lightweight insulation that cuts foundation time by hours.

Leca® Uno for filling and leveling interior and exterior floors, applied in a single layer - increasing thermal and acoustic improvement of floors.

Virtually eliminates the need for multiple heavy vehicle journeys through the site during the works

Leca® Insulation Fill - It's the energy efficient way to create foundations for renovation and new build

One Product That Offers Two Solutions, Leca® Insulation Fill is the fastest and easiest method of preparing an insulated ovesight for a concrete slab or screed.

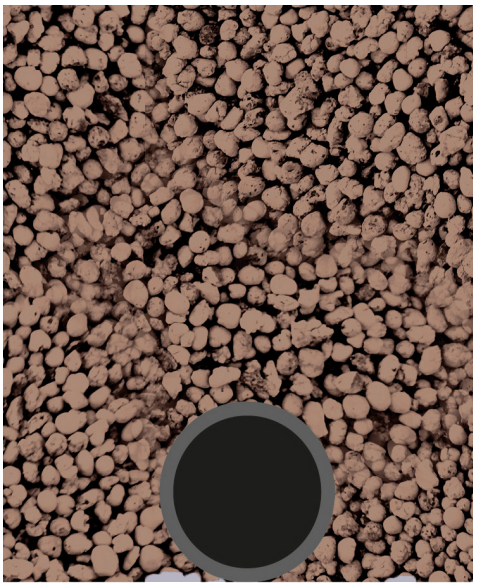
Leca® Insulation Fill is lightweight insulation that cuts foundation time by hours. It is available in 50 litre bags, making insulated foundations (which supports Part L of the Building Regulations) a simple, one man process. What is really clever about Leca® Insulation Fill in bags is that it is stored in the bag, collected and transported in the bag, laid in the site in the bag and covered in concrete - still in the bag.

The cost and time saving solution for refurbishment

Leca® Insulation Fill saves around 40 man hours per house during installation of insulated solid floors. It cuts turnaround times, minimises disruption for residents and enables two labourers to prepare a 40m2 base in just one hour, compared to two days for three labourers to do the same job using hardcore and polystyrene insulation. It also virtually eliminates the need for heavy lorry journeys during works.

Support the UK Building Regulations for Thermal Insulation with Leca® Insulation Fill

U-value (W/m2K)	Nominal Depth(mm)	Quantity (No. of bags)
0.22	300	6 bags per m^2
0.45	150	3 bags per m^2



Complies with 20kg legal lifting limit per person

Leca® Underfloor FIll is A1 Fire Rated (Euro Class A1)

Support the UK Building Regulations with Leca ® Underfloor FIll

Leca® Expanded Clay Insulation Fill is Ideal for:

Extensions
Conservatories
Garages
Refurbishments
Conversions
Driveways
Drainage
General back fill

Comparing Hardcore Fill to Leca® Insulation Fill (40m2 Base)

TRADITIONAL METHOD

Each house (40m2 base) requires approx. 24 tonnes of conventional hardcore

- at least one heavy lorry journey per house
- damage to roads, pavements and underground services
- traffic, noise, potential danger to residents

2. Hardcore must be unloaded outside property

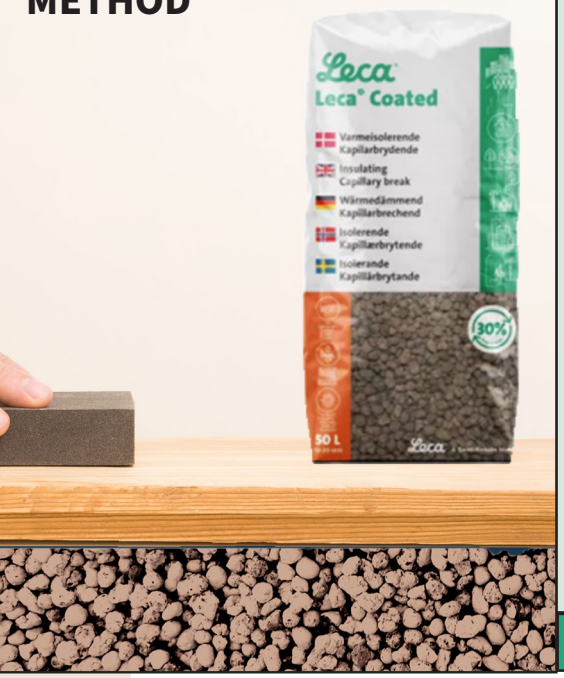
- creates mess and can attract vandals
- requires shovelling into barrows and barrowing into the properties
- requires tipping, speading and compaction with a whacker plate
- requires reloading of excess & cleaning up of exterior

3. Polystyrene is delivered in large sheets

- requires cutting
- blows around in the wind
- can be damaged when walked on

= 1 HOUSE, 3 LABOURERS, 2 WHOLE DAYS

LECA® INSULATION FILL METHOD



Each house (40m2 base) requires approximately 130 bags of Leca® Insulation Fill which weighs less than 2 tonnes

- smaller truck to deliver
- less noise, less danger to residents,

less damage

2. Bags are simple to unload (only 15kg)

- single man lift
- carry straight into house
- lay on floor
- no compaction required
- no wastage
- no mess

= 1 HOUSE, 2 LABOURERS,1 HOUR!

Next Step in Sustainability

We believe that our Leca® products have a positive effect on every stage of the product lifecycle from Production, Transport, Construction, Living to Re-cycling. This strong lightweight and inert aggregate can be used everywhere, and can be re-used / re-cycled - and can even be returned back to the Earth.

We like to call it 'Borrowed from Nature'.

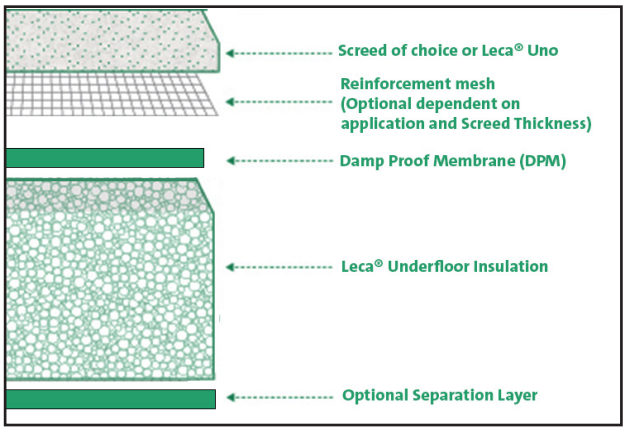
This is not just another nice story on sustainability, we are actually doing this!

More than just an Underfloor Lightweight Fill

When Leca® Expanded Clay is applied to any groundwork project - it offers solutions to more problems - so you can simply feel assurance in your building development. It is a lightweight and sustainable construction material but brings so much more....

Installing Leca® Underfloor Insulation

Typical Installation



Leca® Insulation Fill is lightweight insulation that cuts foundation time by hours. It is available in 50 litre bags, making insulated foundations which comply with the new Part L of the Building Regulations a simple, one man process. What is really clever about Leca® Insulation Fill in bags is that it is stored in the bag, collected and transported in the bag, aid in the site in the bag and covered in concrete - still in the bag.

Leca 50L Insulation Bags can be simply laid into the ground

The 50 litre bags weigh just 15kg and are easily portable. There's no mess, no need for heavy machinery, no heavy lifting and no waste!

Delivery Made Simple

At Leca® UK we have accumulated a wealth of experience to successfully transport and deliver Leca® Lightweight Expanded Clay Aggregate to diverse construction projects throughout the UK.

Depending on the project requirement and location, we will source the vehicles to best suit the project requirement. For more information on your delivery requirements please Contact Us.

1. **50L Bags**- suitable for small domestic projects and can arrive palletised - ready for installation

2. **Bulk Bags** (2.2m3) - Ideal for larger scale projects.

3. **Pneumatic Delivery** - Leca® LWA benefits from its ability to be pneumatically delivered. The LWA is blown out through a 5 "hose at a rate of 1 m3 per minute.

Complete Foundations in 60 Minutes...

Step 1 **10 Minutes**

Carry palletised bags into the property

Step 2 **20 Minutes**

Lay the bags on the ground

Step 3 **30 Minutes**

Use loose material to fill any voids & level the surface

Step 4 **40 Minutes**

Lay a 1200 gauge damp proof membrane

Step 5 **60 Minutes**

Pour concrete slab or lay screed

Step 6 **All set!**

You are ready to use your new floor

Feedback from customers

Appleby-in-Westmoreland

Castle Construction: “The use of Leca® Underfloor Insulation enabled us to save a lot of time on the contract, which was completed in two weeks compared to original estimates of at least one month.”

Decent Homes refurbishment Gateshead, Tyneside

Gateshead Housing: “Once the existing fill has been removed and the new ground prepared, the whole process of installing a new floor is greatly compressed. It takes about six working hours with Leca® Underfloor Insulation, compared with about two days if traditional aggregates are used, to get the installation ready for concreting.”

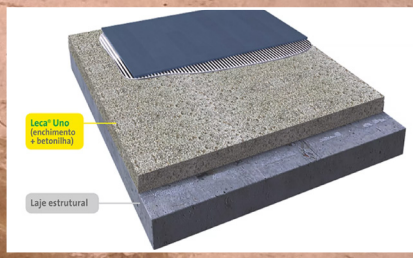
Homes refurbishment, Dudley, West Midlands

Dudley Council: “As an authority we are constantly looking for more efficient methods and, in the first instance, we looked at Leca® Underfloor Insulation because of health and safety regulations on repetitive lifting. We realised that this method would allow us to easily comply with the 20kg limit and also represented a cleaner and much quicker way to replace floors, saving substantial time and allowing earlier re-letting of properties.”

Newlook Windows of Leicester

Newlook Installations: “Leca® Underfloor Insulation bags are so easy to move around, especially where we have to negotiate narrow passageways and garages. There is no need for machines because the material does not need to be compacted and the material costs are offset by savings in labour.”

Finish the job with Leca® Uno Pre-Mixed Concrete- which completes Leca® Underfloor Solutions

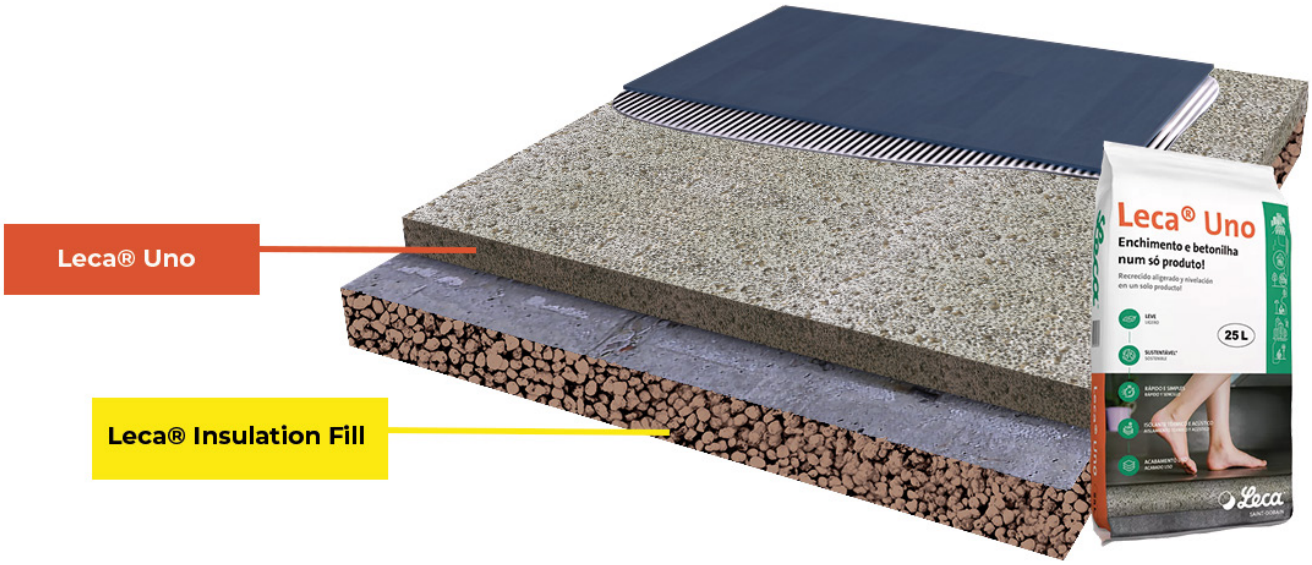


Used for filling and leveling interior and exterior floors, applied in a single layer

Increase thermal and acoustic improvement of new floor

Leca® Uno (25L bags/15kg) eliminates the need for multiple heavy vehicle journeys

Leca® Uno (25L Bags/ 15kg) for filling and leveling interior and exterior floors, applied in a single layer - increasing thermal and acoustic improvement of floors.



Leca® Uno (25L Bags) for filling and leveling interior and exterior floors, applied in a single layer - increasing thermal and acoustic improvement of floors.

Suitable for application in new construction and rehabilitation works, in thicknesses from 4 cm (minimum thickness).

Simple Steps

- Mix Leca® Uno with water (5 litres/bag) to obtain a homogeneous mixture with a shiny appearance.
- If you use a continuous mixer, the amount of water must be adjusted to the type of machine.
- Spread the material across the entire area to be filled.
- Level to the desired thickness using a level and regularize with a manual or electric trowel.
- Keep the material moist for the first few hours and create retraction joints, if necessary.
- After drying (24 hours), the material is ready to be covered with ceramic material, natural stone or floating flooring or screed.

Complete the Leca® Underfloor Solution with Uno

Product Specification:

- **Bag Weight:** 15-18kg
- **Compressive strength 28 days:** 7,4 ± 0,6 N/mm2 (7,4 ± 0,6 MPa)
- **Flexural strength 28 days:** 2,3 ± 0,6 N/mm2 (2,3 ± 0,6 MPa)
- **Fire behaviour:** non-combustible (Class A1)
- **Hardened density:** 826 ± 2 Kg/m^3
- **Thermal conductivity (according to EN 1745-2002), ʎ10,dry** = 0.30 - 0.32 W/mK
- **Thermal resistance of the hardened mixture and dry:** ʎ10, seco = 0,2768 W/m.ºC
- **Thermal resistance of the hardened and dried mixture:** R = 0,19 m2.ºC/W
- **Sound insulation index for air conduction sounds Rw (range: Rw ≤ 72 dB) for 5 cm filling (there are results for 10 and 20 cm fillings; consult Leca UK):** - Rw, without reinforcement (C100-3150; Ctr 100-3150; C100-5000; Ctr 100-5000) = 52 (-1;-5;0;-5) dB - Rw, with reinforcement (C100-3150; Ctr 100-3150; C100-5000; Ctr 100-5000) = 55 (-1;-3;0;-3) dB
- **Reduction in the transmission of percussion sounds ΔLw (range: ΔLw ≤ 50 dB) for 5 cm filling (there are results for 10 and 20 cm fillings; consult Leca UK):** ΔLw (CI,Δ) = 8 (-2) dB
- **Coverage**: 2 bags of 25 litres/m2 / 5 cm thick cover

Note: these results were obtained in laboratory tests and may vary depending on application conditions.

*** Leca® Underfloor Insulation Fill (50L) bags work perfectly with Leca® Uno**

Installing Leca® Uno

Step 1 **10 Minutes**

Prepare Leca Uno 25L Bags

Step 2 **20 Minutes**

Mix Leca Uno with water (5L/ per bag)

Step 3 **30 Minutes**

Use a continuous mixer, the amount of water must be adjusted to the type

Step 4 **40 Minutes**

Spread the material across the entire area to be filled

Step 5 **60 Minutes**

Level to the desired thickness (4cm minimum) using a level and regularize with a manual or electric trowel

Step 6 **All set!**

After drying (24 hours), the material is ready to be covered.


Leca®
SAINT-GOBAIN