Mineral Wool EWI Slabs

Non-combustible stone wool insulation slabs for use in Licata external wall insulation systems. Available in a dual density (DD) grade and a high density (HD) grade.

EUROCLASS A1 | DUAL DENSITY | HIGH DENSITY

Description

The slabs are manufactured from stone wool, a mineral fibre insulation made by melting volcanic rock and spinning it into fibres, which are then bound with a small quantity of binder and water-repellent agent. The result is a rigid, dimensionally stable slab that does not burn, allows water vapour to pass through and resists water penetration.

Both grades are supplied in 1200 x 600 mm slabs and are fixed to the substrate with Licata adhesive and mechanical fixings as part of a certified Licata EWI build-up. The DD slab is the standard choice for render-finished systems on masonry and framed substrates; the HD slab is specified where a higher density board is required.

Key properties

Non-combustible

Stone wool achieves Euroclass A1, the highest reaction-to-fire classification under BS EN 13501-1. The insulation does not ignite and does not contribute to the development or spread of fire. The A1 classification stated here applies to the insulation slab itself; the fire classification of a complete wall build-up depends on all of its components and is confirmed by the relevant Licata system certificate.

Dense outer face

The outer face of the slab is dense enough to give a firm, even surface for applying the reinforced base coat, and it resists fixings being driven too far into the board.

Vapour open

The open fibre structure lets water vapour diffuse through the slab, with a vapour resistance comparable to still air, while the water-repellent treatment on the fibres prevents liquid water from being absorbed. This makes the slab suited to breathable render systems on solid-wall refurbishment.

Thermal performance

Slabs butted tightly together close up against one another to form a continuous insulating layer, reducing the heat loss that gaps between boards would otherwise cause.

Acoustic performance

Test evidence shows an improvement in the weighted sound reduction index (R_W) of up to 8 dB, depending on the substrate.

Dual Density (DD) Slab

A stone wool slab developed specifically for external wall insulation systems. It is made with a dual density process: the outer layer of each slab is noticeably denser than the rest of the board, giving a firm face for the base coat, while the softer underside takes up minor unevenness in the substrate.

The dense outer face is marked **THIS SIDE UP** so that the correct face is presented outwards on site. The slab is designed for use on the external side of any vapour barrier.

Performance	
Reaction to fire	Euroclass A1, non-combustible
Thermal conductivity (λ)	0.036 W/mK
Tensile strength perpendicular to faces	≥ 10 kPa
Compressive strength	≥ 10 kPa

Product information	
Length	1200 mm
Width	600 mm
Thickness	50 mm to 250 mm, in 10 mm increments

High Density (HD) Slab

A stone wool slab for external wall insulation systems where a higher density board is required.

Performance	
Reaction to fire	Euroclass A1, non-combustible
Thermal conductivity (λ)	0.038 W/mK (30 to 40 mm) 0.039 W/mK (over 40 mm)
Tensile strength perpendicular to faces	≥ 15 kPa
Compressive strength	≥ 10 kPa

Product information	
Length	1200 mm
Width	600 mm
Thickness	30 mm to 200 mm, in 10 mm increments

U-values: Dual Density Slab

Indicative thickness of DD slab required to achieve a given wall U-value on two typical substrates. Values are for guidance; a project-specific U-value calculation should be obtained from the Licata technical team.

Target U-value (W/m²K)	New build steel frame[1] DD slab thickness (mm)	Refurbishment, 215 mm block[2] DD slab thickness (mm)
0.30	50	110
0.29	60	110
0.28	60	120
0.27	60	120
0.26	70	130
0.25	70	130
0.24	80	140
0.23	80	140
0.22	90	150
0.21	100	160
0.20	100	170
0.19	110	170
0.18	120	190
0.17	130	200
0.16	140	210

[1] EWI system on 12 mm cement particle board, 100 mm steel frame fully filled with 100 mm mineral wool, 2 x 12.5 mm plasterboard.
[2] EWI system on 215 mm dense concrete block with 13 mm plaster.

Installing in two layers

Where the specified insulation thickness exceeds 250 mm, the slabs are installed in two layers. Use two slabs of equal thickness where possible (for example 2 x 150 mm for 300 mm). If unequal thicknesses have to be used, choose two that are easy to tell apart on site.

Sequence

- Start at the left-hand end of the elevation, at base track level.
- Where two thicknesses are used, install the thinner slab as the first layer.
- Lay all slabs in a stretcher (brick bond) pattern so that joints in one layer do not line up with joints in the other, avoiding thermal bridging.

First layer

Cut the first slab in half to 600 x 600 mm and fit it at the start of the run (Figure 1), then continue to the right with full slabs. This half slab offsets the second layer by half a slab length. Each slab is bedded in Licata adhesive and secured with one fixing at its centre.

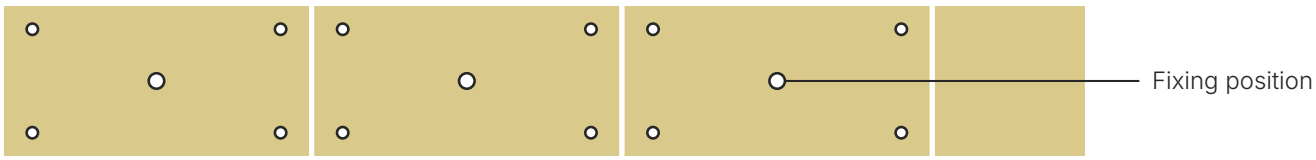


Half slab (600 x 600 mm) at the start of the run, then full slabs. One central fixing per slab.

Figure 1. First layer.

Second layer

Start the second layer from the left with full slabs and work to the right (Figure 2). No adhesive is needed between the two layers. Each slab in the second layer is secured with five fixings: one at the centre and one 100 to 150 mm in diagonally from each corner. The number of fixings may need to increase according to the project wind load calculation.



Full slabs from the left, joints offset from the first layer. Five fixings per slab: centre plus four corners.

Figure 2. Second layer.

Once the first course of both layers is complete, install the next course the same way: first layer starting with a half slab from the left (Figure 1), followed by the second layer (Figure 2).

Packaging, handling and storage

Slabs are supplied on pallets. Store indoors or under a waterproof cover, off the ground, and keep the slabs dry until they are installed and the base coat has been applied. Contact your Licata branch for pack quantities and minimum order quantities.

Health and safety

Stone wool insulation carries no hazard classification under UK REACH. Safe use instructions and the manufacturer's safety information to support COSHH risk assessments are available on request from the Licata technical team.

Notes
The information in this data sheet reflects our current knowledge and is given in good faith. It is the responsibility of the specifier and installer to confirm that the product is suitable for the intended application and to follow the relevant Licata system specification and installation guidance. Licata reserves the right to change product specifications without notice. For project-specific advice, U-value calculations, wind load fixing calculations and system certificates, contact the Licata technical team.