

VERSION: 02

ISSUED: JAN 2025

**LARSEN**

**TILING**

**TECHNICAL DATA SHEET**

# THERMAL CONSTRUCTION BOARD

**HIGH PERFORMANCE TILE BACKER BOARD**

**EASY TO INSTALL**

**INSULATING - ENHANCES UNDERTILE HEATING**

**WATERPROOF - IDEAL FOR WETROOMS**

**SOUND REDUCTION**

Larsen Thermal Construction Board is a multi-purpose lightweight construction board, designed for the application of all tile types, cement based screeds and synthetic renders. It is manufactured using high density extruded polystyrene which provides excellent insulating properties. The extruded polystyrene core has a factory applied reinforced cement coating which provides excellent impact strength, sound reduction and fire resistance making them ideal for construction. can be used anywhere were tile is applied; on floors, walls, ceilings and even counter tops. It should be used especially in wet areas such as bathrooms and kitchens where walls and floors are particularly exposed to moisture.



For further information, consult our Technical Department.

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## TECHNICAL DATA SHEET

### PRODUCT INFORMATION

SIZE:	1200 x 600 mm boards 6mm and 10mm thick
COLOUR:	Buff coloured insulation layer faced with cement
HAZARD INFORMATION:	No significant Hazard
STORAGE CONDITIONS:	Store in sealed containers in dry conditions, protected from extremes of temperature
SHELF LIFE:	Indefinite stored in good conditions

### APPLICATION INFORMATION

THICKNESS:	6mm, 10mm and 12.5mm
WEIGHT:	6mm – 2.35kg per board 10mm – 2.37kg per board 12.5mm – 2.42kg per board
MAXIMUM WEIGHT OF WALL TILING:	80kg/m <sup>2</sup>
COMPRESSIVE STRENGTH: (10% deformation)	300 kPa
THERMAL CONDUCTIVITY:	0.033 W/mK
U VALUE:	6mm – 3.05 W/m <sup>2</sup> K 10mm – 2.23 W/m <sup>2</sup> K 12.5mm – 1.91 W/m <sup>2</sup> K
WATER ABSORPTION:	0.6% by volume
SERVICE TEMPERATURE:	-50°C to +75°C
SOUND REDUCTION:	( $\Delta L_w$ ) = 19dB BS EN ISO 10140-3 test result based on 6mm board
FORE CLASSIFICATION:	Class O / Euroclass E

## DIRECTIONS FOR USE

### FIXING TO WALLS

6mm 10mm or 12.5mm boards may be used when overboarding an existing wall board or directly to brick/block walls.

**ONLY 10 and 12.5mm boards are suitable for fixing directly to studs.**

### BRICK/BLOCK WALLS

Ensure that the existing wall surface is sound and free of dust and grease and of sufficient strength for the installation. If the wall has a finished plaster surface and is in a good condition, it may be possible to adhere the board without removing the existing plaster, however professional advice on the stability of the wall structure should be sought. Plastered walls **MUST** be sealed prior to fixing boards. To fix board to walls, cement based flexible tile adhesive should be used. Wherever possible we recommend that the boards are bonded to the wall using a solid bed of adhesive. Boards should be installed staggered to prevent joints lining up, making sure that there are no air gaps beneath the boards. Once the adhesive has set additionally securing of the boards using the appropriate screws and washers at 300mm centres positioned around the perimeter of the boards at a maximum of 600mm centres. This is recommended when installing heavy and large format tiles. Tape all joints using a self-adhesive alkaline resistant or if boards are installed in an area subject to water ingress Larsen Self Adhesive Tanking Tape should be used over all joints, corners and screws.

### FIXING TO STUD WALLS

Vertical studs should be set at a maximum of 300mm centres for 10mm boards and 300mm or 400mm centres for 12.5mm boards. (Note – Minimum stud centres should be set subject to load requirements.) All board edges must be supported by timber noggins and fixed using approximately 15 fixings for a 1200mm x 600mm board. 35mm diameter washers must be used under the head of a steel screw. Screw down until the washer bites into the board. Tape all joints using a self-adhesive alkaline resistant tape or if boards are installed in an area subject to water ingress Larsen Self Adhesive Tanking Tape should be used over all joints, corners and screws.

## DIRECTIONS FOR USE (continued)

### TILING TO BOARDS ON WALLS

Once the adhesive for securing the boards has hardened and all joints have been covered with an alkaline resistant tape or suitable waterproofing joint system, tiles can then be fixed directly to the board surface. Priming is generally not necessary.

Any Larsen cement based adhesives may be used depending on tile and application. Correctly installed Larsen Thermal Construction Boards can support up to 80kg/m<sup>2</sup> of wall tiling (including adhesive) compared to only 20kg/m<sup>2</sup> for finish plaster or 32kg/m<sup>2</sup> for plasterboard directly.

### PLASTERING

As required, Larsen Thermal Construction Boards may be skim coated with plaster to receive paint or other finishes. In this case the boards should be installed as normal, including scrim tape and then primed with Larsen Plaster Grip prior to skimming.

### FIXING TO FLOORS

6mm, 10mm or 12.5mm boards may be used when overboarding existing flooring boards or directly to concrete/screed. Boards are not suitable for direct installation to joists. Avoid electrical cables or pipework that may be concealed under the floor and ensure the correct screw length is used.

### FIXING TO TIMBER FLOORS

Boards may be used as an overlay on rigid but dimensionally unstable backgrounds. Boards should be fixed using 35mm diameter fixing washers and suitable screws. Fixings should be installed at 200mm centres, i.e. 21 fixings per 1200mm x 600mm board. Boards should be installed staggered to prevent joints lining up, making sure that there are no gaps between the boards.

For best results it is recommended to install boards with a combination of adhesive and mechanical fixings. First install boards with a flexible cement based rapid set tile adhesive with a suitable notched trowel ensuring a solid bed of adhesive (100% coverage). Allow adhesive to set and then install fixings and washers as above at a maximum of 300mm centres. i.e. 15 fixings per 1200mm x 600mm board. Tape all joints using a self-adhesive alkaline resistant tape or if boards are installed in an area subject to water ingress Larsen Self Adhesive Tanking Tape should be used over all joints, corners and screws.

### FIXING TO CONCRETE/SCREED FLOORS

Prior to fixing the board, all traces of loose material should be removed back to the concrete substrate. The floor should be level and dust free. We recommend sealing the floor with Larsen Acrylic Primer before the boards are laid. New concrete or screed should be correctly cured and dry prior to fixing the board. Any slight depressions in the concrete floor will normally be taken up with the thickness of the adhesive, however, if significant undulations exist, the floor should first be levelled with, for example, Larsen SLC1550.

The boards can be fixed using cement based flexible rapid set tile adhesive. Apply a bed of adhesive to the floor using a suitable trowel to provide a solid bed. Boards should be installed staggered to prevent joints lining up, making sure that there are no air gaps beneath the boards. Do not allow the adhesive to form a dry skin prior to bonding the boards. Tape all joints using a self-adhesive alkaline resistant tape or if boards are installed in an area subject to water ingress Larsen Self Adhesive Tanking Tape should be used over all joints and corners.

Note – Boards can be fitted over calcium sulphate screeds. The screeds must be treated as for normal tiling i.e. be mechanically prepared, dry to 0.5%CM and sealed with Acrylic primer. It is also worth noting that calcium sulphate screeds typically enclose underfloor heating systems and the application of a thermal insulating board on top will greatly reduce the heating efficiency.

## DIRECTIONS FOR USE (continued)

### EXPANSION/MOVEMENT JOINTS

Larsen Thermal Construction Boards must not bridge expansion/movement joints in the subfloor. These joints must be carried through the board and tiling and should be sealed in the appropriate manner.

### TILE CHOICE FOR FLOORS

When choosing tiles for your floor it is important to consider point loading. Applying larger tiles improves the board's resistance to concentrated loads. For areas that may be subject to concentrated loads over 0.21 N/mm<sup>2</sup> advice should be sought to determine suitability. All tiles must be fixed using a solid bed of adhesive ensuring no voids remain under the tiles. Any Larsen cement based adhesives may be used depending on tile and application. The chart below shows resistance to concentrated loads based on a 1mm deflection over a range of standard tile sizes.

Tile Size	Load Resistance (over tile area)
300x300mm	1888kg
150x150mm	472kg
100x100mm	210kg
50x50mm	52.5kg

Tiles smaller than 50x50mm are not suitable

### TILE FIXING TO FLOORS WITH UNDER FLOOR HEATING CABLE/MAT

Electrical heating cable or mat systems should be installed to manufacturers recommendations. Prior to fixing tiles the cables should be covered with a minimum of 5mm suitable levelling compound such as Lartex Flo or SLC1550. Once the self-levelling compound has fully cured, tile fixing can begin as normal.

### RESTRICTIONS

All tiling should be carried to current best practice including British Standards and TTA Guidance documents. Solvent based or ready mixed adhesives **MUST NOT** be used with the boards. It should not be used in place of a functioning DPM. 6mm boards are not suitable for direct fixing to studwork. No thickness of boards are suitable for direct fixing to joists. Do not bridge movement joints with boards. Significant cracks in the substrate greater than 2mm should first be adequately filled or injected. Boards on floors should not be used if tiles will be smaller than 50x50mm.