

## Klasse C-board® Calcium Silicate Cement Board

### Product Description:

C-board is a high-performance calcium silicate cement board suitable for A1 Non-Combustible applications. This is the ultimate board with a high flexural strength, impact strength, durability, and high racking resistance. Rated as a Category A board to BS EN 12467:2012+A2 2018 where the board may be subjected to heat, high moisture and severe frost. It also has good acoustic and thermal insulation properties to meet various end applications.

### Where to use:

Primarily used as an external sheathing board on both metal and timber structures of all types of façade solutions. Ideal for use in modular and offsite builds, as well as floor and roof constructions. C-board is also considered suitable for use with external wall insulation systems, cement based render and for flexible thin coat renders.

### Product Information:

**Composition** – Manufactured using cement, calcium silicate and cellulose fibres with performance enhancing special additives. Then laminated and cured using autoclaving, under high steam and pressure to give a stable crystalline structure.

**Appearance** – Light Grey

|                                      | Tolerances |        |       |       |       |       |
|--------------------------------------|------------|--------|-------|-------|-------|-------|
| Length                               | +/- 5mm    | 2400mm |       |       |       |       |
| Width                                | +/- 5mm    | 1200mm |       |       |       |       |
| Thickness                            | +/- 1mm    | 6mm    | 9mm   | 12mm  | 16mm  | 18mm  |
| Average Weights (kg/m <sup>2</sup> ) |            | 7.37   | 11.28 | 15.20 | 19.97 | 22.57 |
| Edge Type                            |            | Square |       |       |       |       |

### Performance Information:

| Parameter  | Test Standard/Condition | Typical Value                      |
|--|-------------------------|------------------------------------|
| <b>Physical &amp; Mechanical Characteristics</b> |                         |                                    |
| Apparent Density Dry in kg/m <sup>3</sup>        | BS EN12467              | > 1200                             |
| Shrinkage Dimensions %                           | Dry saturated condition | 0.19                               |
| Moisture Content %                               | Ambient                 | < 12                               |
| Water Absorption %                               | By Weight               | ~38                                |
| Bending Strength in Mpa                          | BS EN12467              | Longitudinal – 14 & Transverse – 8 |
| Modulus of Elasticity in MPa                     | BS EN12467              | > 4000                             |
| Impact Strength in J/m <sup>2</sup>              | -                       | > 2100                             |
| <b>Chemical Characteristics</b>                  |                         |                                    |
| Surface Alkalinity pH                            | -                       | 8 – 9                              |

| Durability & Aging Characteristics       |                           |                                |
|--|---------------------------|--------------------------------|
| Warm Water Test                          | BS EN12467                | Pass, for 56 days              |
| Freeze/Thaw                              | BS EN12467                | Pass, for 100 cycles           |
| Soak/Dry                                 | BS EN12467                | Pass, for 50 cycles            |
| Heat/Rain                                | BS EN12467                | Pass, for 50 cycles            |
| Water Impermeability                     | BS EN12467                | Pass – Category A              |
| Thermal Characteristics                  |                           |                                |
| Thermal Conductivity in W/mK             | ASTM C 177 / ISO 8302     | 0.18                           |
| Fire Characteristics                     |                           |                                |
| Reaction to Fire                         | BS EN13501-1              | Class A1                       |
| Non-combustible                          | BS 476: Part 4            | Non-combustible                |
| Surface Spread of Flame                  | BS 476: Part 7            | Class 1                        |
| Fire Propagation                         | BS 476: Part 6:1989       | I=0.7                          |
| Ignitability                             | BS 476: Part 5:1979       | Class 'P' Not easily ignitable |
| Acoustic Characteristics                 |                           |                                |
| Acoustic Insulation in dB (Single Board) | ISO:140 (Part III) - 1995 | 32-34                          |
| Environmental Characteristics            |                           |                                |
| Mould/Fungal Growth                      | IS 4873                   | Free from Fungal Growth        |
| Termite Resistance                       | IS 4873                   | No Termite attack              |
| Borer Resistance                         | IS 4873                   | No Borer attack                |
| VOC Organic Emission                     | ISO 16000-6               | Not Detected                   |
| Asbestos Identification                  | X ray Diffraction Method  | Free from Asbestos             |

### Exposure and Durability:

C-board has been tested in accordance with BS EN 12467 and is classified as a Category A product. This confirms that the board is suitable when subjected to heat, high moisture and severe frost.

C-board should be sealed with Klasse airtight tape or Klasse FireFend sealant within 3 months of installation, when installed in accordance with our installation guide boards can then be left exposed for up to 12 months.

C-board can be used without a breather membrane where required by design but our standard guidance would be to add a breather membrane over the external/exposed face of the board in accordance with BS 5250, to ensure that the outer weatherproofing layer should have adequate resistance to wind-driven rain, particularly in regions classified as severe exposure.

Provided that C-board is used in accordance with our standard installation guide, and is fixed to satisfactory, stable and durable backgrounds and protected by suitable cladding by fully trained operatives, the boards will have a life equal to that of the building in which they are installed, typically up to 60 years.

### Handling and Storage:

When manually handling C-board, consideration of the correct manual handling technique must be made to limit risk, according to the Manual Handling Operations Regulations 1992.

C-board is supplied on pallets and is secured with edges and corners protected. Packs should be removed using a forklift truck or hydraulic trolley and stored in dry, flat conditions either on the pallet they came on or on supports with maximum 800mm centres. Boards should never be stored on their edge, upright or directly on the floor.

C-board <18mm thick is not suitable to be used as a platform or deck, it will not support body weight and therefore it is important that installers use an independent support mechanism.

### Fixing and Finishing:

C-board can be cut with tungsten carbide tipped blades at 3000–4000rpm boards can be sawn, planed, routed, nailed or screwed.

Boards are installed vertically or horizontally in a staggered brick pattern with wingtip self-drilling 4.8 x 38 x 9mm head diameter fasteners located at least 13mm but no more than 20mm from the board edges with corner fixing being 50mm in from the edge. Fix to light gauge steel frame studs at maximum 600mm centres with fixings at a maximum 300mm centres.

Allow a gap of 3-6mm between all joints to allow for expansion and movement - should be sealed with FireFend silicone sealant or airtight joint tape. Silicone sealant provides a robust weather seal limiting the opportunity for water and air leakages, but more importantly when the through wall is required to be fire resistant. Airtight tape may be used where no fire resistance or acoustic insulation is required.

C-board is considered suitable for use with adhesive fixed external insulation system.

### Health & Safety:

See the separate Material Safety Data Sheet [available on the website](#). Fibre cement is made up of a small number of natural ingredients so is not hazardous.

### Waste and Recycling:

C-board is fully recyclable, comes with minimal packaging and the pallets are made of recyclable material.

The information contained in this Data Sheet is believed to be correct at the date of publication and is designed only as guidance for the safe use, storage and handling of the product. The information included is given in good faith and apply to uses described. Klasse Group does not accept responsibility for issues arising from using products in applications different from those described or failure to correctly follow the information or instructions as described. This data sheet and the information it contains is not intended to supersede any terms or conditions of sale and does not constitute a specification. Recommendations for use should be verified with a suitable expert or professional for suitability and compliance with actual requirements, specifications and any applicable laws and regulations.