# CALCON 1100-SC

**Calcon** is a lightweight, pressure-resistant, and high-temperature-resistant insulation material based on calcium silicate, developed with a focus on environmental sustainability. It has proven its reliability as a backing insulation material in a wide range of industrial applications.

In sectors such as industrial furnace construction, drying systems, and equipment manufacturing, as well as in the cement and petrochemical industries, **Calcon** is frequently chosen as a cost-effective insulation solution.

In addition to its excellent thermal properties, **Calcon** is resistant to reducing protective gases such as hydrogen ($H_2$), carbon monoxide (CO), methane ($CH_4$), ammonia ($NH_3$), and nitrogen ($N_2$).

**Calcon** boards are surface-active and absorb moisture. When used in combination with refractory concrete, it is recommended to apply a hydrophobic sealing primer during the board production process. This eliminates the need for time-consuming work with barrier films.

**Calcon** is safe to use and recognized as an environmentally friendly construction material. It is certified with an internationally harmonized Type III environmental label in accordance with ISO 14025 and EN 15804. Disposal is handled as standard construction waste.

## Machining

Calcon elements can be processed using standard woodworking equipment. It is recommended to use an appropriate dust extraction system during machining. For personal protection, wearing a dust mask is advised. Upon request, we can manufacture custom parts using our advanced CNC machining and grinding equipment.

## Key Characteristics

- Environmentally responsible composition
- Excellent thermal insulation performance
- Easy to process with standard tools
- Resistant to reducing protective gases
- Low bulk density for lightweight applications
- Minimal heat storage capacity
- Available in large-format boards







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LD: C32.8

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## Chemical Analysis

| | | |
|---|---|---|
| Upper application limit temperature EN 1094-6 | °C | 1050 |
| Bulk density (± 10 %) EN 1602 | kg/m³ | 250 |
| Open porosity (in acc. with standard) EN 993-1 | % | 90 |
| Compression strength EN 826 | MPa | 1.6 |
| Flexural strength EN 12089 | MPa | 0.5 |
| Shrinkage after 12 h by upper application limit temperature Length and width EN 1094-6 | % | 1.1 |
| Thermal conductivity λ at $t_m$ | | |
| 200 °C | W/(m K) | 0.08 |
| 400 °C | W/(m K) | 0.10 |
| 600 °C | W/(m K) | 0.12 |
| 800 °C | W/(m K) | 0.18 |
| EN 12667 | | |
| Specific thermal capacity | kJ/(kg K) | 0.8 – 1.2 |
| Coefficient of thermal expansion 20°C - 750°C DIN 51045-5 | | |
| ⊥ perpendicular to board plane | $K^{-1} \times 10^{-6}$ | ⊥ 6.4 |
| // parallel to board plane | $K^{-1} \times 10^{-6}$ | // 6.4 |
| Chemical composition | | |
| Calcium silicate hydrate | % | 91 |
| $R_x O_x$ (R=Fe, Ti, K, Na) | % | 1 |
| Annealing loss | % | 8 |

## Dimensions

| | |
|---|---|
| Standard sizes Length x width mm | 500 (±2) x 1,250 (0/+10) |
| | 1,000 (±2) x 1,250 (0/+10) |
| | 1,500 (±2) x 1,250 (0/+10) |
| | 1,000 (±2) x 625 (±2) |

Thickness mm 25/30/40/50/60/65/70/75/80/90/100

Tolerances standard board unpolished
Thickness mm ≤ 50 ± 2; > 50 -3/+2
ground on one side ±0.6
ground on both sides ±0.4



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