

Wedge CalSil650LD | Low Density Calcium Silicate Board

Wedge CalSil650LD is a premium-grade, low-density calcium silicate insulation board designed for high-temperature industrial applications up to 650°C. Engineered for superior thermal efficiency, this rigid board combines low thermal conductivity with excellent mechanical strength, making it ideal for insulation of pipes, boilers, furnaces, and process equipment. Manufactured in compliance with international standards such as ASTM C533, the material is inorganic, non-combustible, and asbestos-free, ensuring high safety and long-term durability in demanding environments. Its low-density structure enables easier handling and installation while maintaining strong structural integrity and resistance to thermal shrinkage.



Calcium Silicate Insulation – Technical Specification

Property	Unit	CalSil650LD 230)	CalSil650LD 230)
Bulk Density	kg/m ³	230 (±10%)	250 (±10%)
Compressive Strength	MPa	≥0.50	≥0.60
Flexural Strength	MPa	≥0.30	≥0.45
Thermal Conductivity	W/m·K	≤0.060	≤0.062
Maximum Service Temperature	°C	650	650
Linear Shrinkage	%	≤2	≤2

Thermal Conductivity (W/m·K)

Temperature	ASTM C533	Wedge CalSil650LD
50°C	≤0.060	≤0.052
93°C	≤0.065	≤0.0535
100°C	—	—
149°C	≤0.072	≤0.054
200°C	≤0.079	≤0.056
260°C	≤0.087	≤0.0757
300°C	—	—
371°C	≤0.102	≤0.0923
400°C	—	—
500°C	—	≤0.098
538°C	≤0.111	≤0.1002

Dimensions & Tolerances

Product Form	Length (mm)	Width (mm)	Thickness (mm)	Inside Diameter (ID)
Slab / Board	100 – 600	100 – 300	30 – 100	—
Pipe Section	100 – 600	100 – 300	30 – 100	As per requirement

Dimensional Tolerances: Length: ±2 mm | Width: ±2 mm | Thickness: ±1.5 mm

Chemical Composition

Component	Content (%)
SiO ₂	37 – 42%
CaO	29 – 34%
Al ₂ O ₃	10 – 12%
MgO	1.8 – 2.1%
Fe ₂ O ₃	3 – 4%
Na ₂ O + K ₂ O	0.9 – 1.2%
Loss on Ignition (mainly H ₂ O)	12 – 17%

Key Features

- Low density for easy handling and reduced structural load
- Excellent thermal insulation performance
- High compressive and flexural strength
- Non-combustible and fire-safe material
- Low shrinkage at high temperatures
- Long service life with stable performance

Applications

- Industrial piping insulation
- Boilers and furnaces
- Petrochemical plants
- Power plants
- Equipment and vessel insulation

Safety & Handling

- Non-toxic and asbestos-free
- Use protective equipment during cutting/installation
- Store in dry conditions to maintain performance

