



Siltherm Board

Rigid Microporous Insulation



1100°C



1000x600
mm



10-50
mm

Siltherm Board is a rigid, high integrity microporous board offering superior insulation properties combined with good handleability.

Produced from an opacified blend of pyrogenic silica with a filament reinforcement, this board is available in a 1000 and 1100 grade, in a raw state (i.e. no encapsulation) or enhanced in a variety of coverings, such as shrink wrapped PE foil, glass fibre or aluminium encapsulation, as well as in hydrophobic grade.

The unparalleled thermal resistance provided by Siltherm microporous insulation products makes them a realistic alternative and best cost competitive choice on the market to other lightweight insulation solutions, such as millboards, low density calcium silicate, vermiculite, temperature resistant fibres or wool based blankets and boards, whilst also delivering benefits in terms of space optimisation and reduced weight.

Features and Benefits

Microporous insulation offers considerable and measurable advantages in terms of thermal management, energy efficiency and reduction of carbon footprint; the integration of microporous insulation in your heat containment systems and equipment provides a set of unique and measurable assets which impact at environmental, operational, social, economic and strategic levels like no other insulation can.

Features

- Extremely low thermal conductivity over a wide temperature range and up to its classification temperature.
- High thermal stability over time, no ageing effect.
- Low shrinkage.
- Thermal shock resistant.
- Inorganic and non-combustible.
- Wide range of sizes available to order.
- Alternative grades available to suit the application.
- Simple to handle, cut, and shape.
- No harmful respirable fibres.
- Environmentally friendly.
- Resistant to most chemicals.

Benefits

- Allows more freedom in engineering at the design stage.
- Increases capacity of existing equipment or reduces external space and weight.
- Reduces carbon footprint and energy consumption.
- Improves productivity and, in metallurgy and glass production specifically, also the quality of the finished product.
- Contributes to a safer working environment.
- Large product range sizes available.
- Alternative grades to suit the application.
- No thermal shift effect.
- Various encapsulation options available.

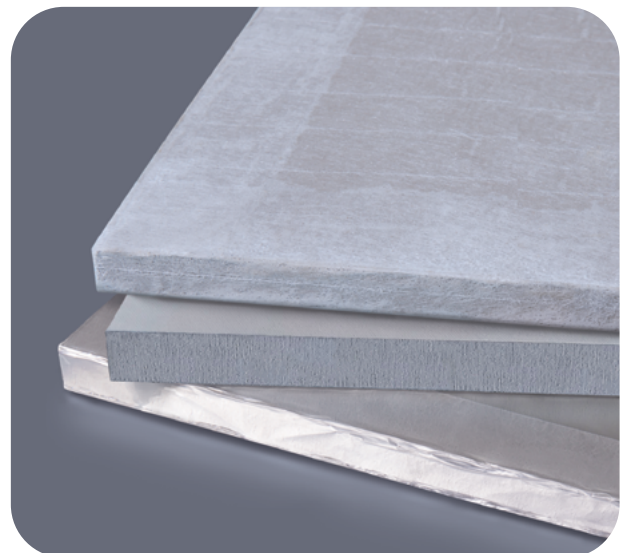
Typical Applications

As backup insulation in:

- **Metallurgy:** forging furnaces; reheating furnaces; soaking pit covers; heat barriers.
- **Oil and Gas:** crackers; distillation units; reformers.
- **Ceramic:** all types of kilns (roller, tunnel, shuttle); kiln cars.
- **Aluminium:** pyrolysis cells; holding/melting furnaces; launders; remelters; metal transfer systems.
- **Glass:** melting furnaces; regenerators; refiners; forehearths.

As machined components in:

- **Fuel cells:** In and around BOP and Stack in SOFC, PEMFC and MCFC.
- **Data Loggers:** used to protect and control temperature inside the device, data logger, monitor, portable measurement instruments, temperature recorders.





Siltherm Board

Technical Specification

| CHARACTERISTICS | TEST METHOD | UNITS | GRADE 1000 | GRADE 1100 | |
|---|-------------|-------------------|------------|------------|-------|
| Classification Temperature | | °C | 1000 | 1050 | |
| Nominal Density | | kg/m ³ | 280 | 300 | |
| Cold Compressive Strength 10% deformation | ASTM C165 | MPa | 0,67 | 0,67 | |
| Thermal Conductivity ¹ mean temperature of | ASTM C177 | W/m•K | 200°C | 0.022 | 0.028 |
| | | | 400°C | 0.023 | 0.029 |
| | | | 600°C | 0.027 | 0.032 |
| | | | 800°C | 0.034 | 0.037 |
| Specific Heat Capacity | | kJ/kg•K | 200°C | 0.86 | 0.93 |
| | 400°C | | 0.94 | 0.96 | |
| | 600°C | | 0.96 | 1.02 | |
| | 800°C | | 0.99 | 1.07 | |
| Linear Shrinkage ¹ 24 hr full soak | ASTM C356 | % | 1000°C | ≤2.5 | ≤0.5 |
| | | | 1050°C | - | ≤3.5 |
| Typical Chemical Composition | | | | | |
| SiO ₂ | | | 55-80 | 50-75 | |
| SiC | | % | 15-30 | 15-25 | |
| Al ₂ O ₃ | | | - | 5-10 | |
| Others | | | 5-15 | 5-15 | |
| Loss on Ignition, dry conditions | | | <2.0 | <2.0 | |

¹ Pure core tested

Standard Dimensions, Tolerances and Coverings

| CHARACTERISTICS | SIZES (mm) | SURFACE COVERINGS OPTIONS | TOLERANCES (mm) |
|---|------------|-----------------------------------|-----------------|
| Standard Sizes (Length x Width) ² | 1000 x 600 | PE, GF (2 GF or 6 GF), | ±3 |
| Maximum Sizes (Length x Width) | 1200 x 600 | ALU ³ (2 ALU or 6 ALU) | |
| Standard Thicknesses ² | 5-50 | | ±1 |

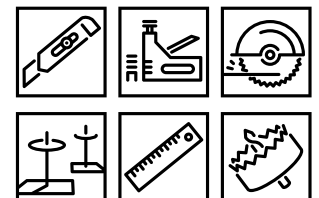
² Other sizes and thicknesses are available on demand

³ PE = Polyurethane Foil; GF = Glass Fleece; ALU = Aluminium Foil

Cutting and Fixing

Siltherm Board can be cut, shaped, sawn, drilled and punched with conventional woodworking hand tools and automatic machinery and fixed as with other similar insulation materials using glue, retaining pins or anchors.

For environmental, health & safety information, please refer to our Material Safety Data Sheet.



ISO9001:2015
CERTIFIED

The values given in this datasheet are subject to normal manufacturing variation, they are provided for guidance only and may be subject to change without notice. Recommendations for use are not intended to, and do not constitute a warranty, express or implied, of the suitability of the product for a particular use. The user is responsible for determining the suitability of Siltherm products for each application. Siltherm shall not be responsible whether in contract or tort or otherwise howsoever for any consequential loss or damage caused by or arising out of your selection of the Siltherm products or for any consequential loss or damage caused by or arising from any recommendations of use of the Siltherm products in any way whatsoever by you or any other third party.

silthermgroup.com

SILTHERM Group Holdings Ltd ... B-10, NO. 2842, East Xingang Road • Haizhu District • Guangzhou, P.R. China t. +86 (20) 3195 8289 info@siltherm.com
SILTHERM Europe Ltd Paramount House, Corrig Road • Sandyford Business Park • Dublin, D18 R9C7, Ireland t. +353 (0) 1 255 1800 info@siltherm.eu
SILTHERM Japan Ltd Arca central 14F, 1-2-1 Kinshi • Sumida-ku • Tokyo, 130-0013 Japan t. +81 3 6853 6764 info@siltherm.jp