

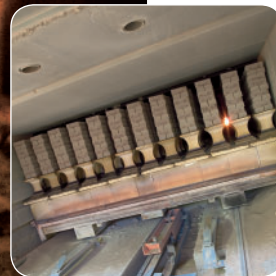
# Microtherm® Board

## Lightweight high temperature insulation

**Microtherm® Board** is a high performance thermal insulation made at a lower density than normal Microtherm products. The insulation is an opacified blend of filament reinforced pyrogenic silica, specifically blended for toughness and optimised manipulation.

### Properties

- Low density high temperature thermal insulation
- Stable thermal performance for continuous exposure to 1000°C (1832°F)
- Excellent machineability
- Non combustible
- Environmentally safe
- Free of harmful respirable fibres.



### Typical applications

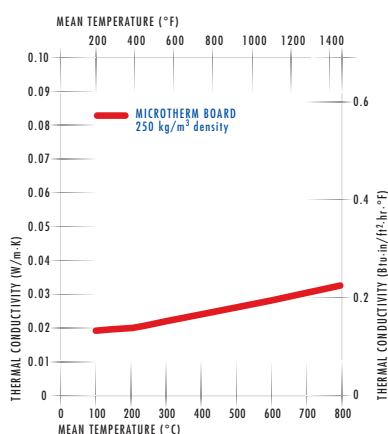
- Thermal batteries - rapid heat up
- Space and Aerospace - lower weight
- Portable fuel cells - easier to carry
- Furnaces - easy installation



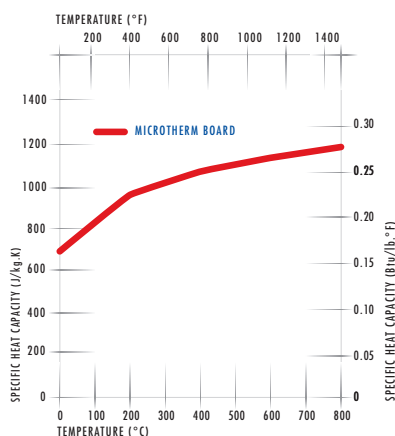
# Microtherm® Board

## TYPICAL PRODUCT CHARACTERISTICS

### Thermal Conductivity



### Specific Heat Capacity



### Size Availability

Microtherm® Board is available in the following standard dimensions.

Panel Size: 1000 mm x 550 mm (39 3/8" x 21 5/8")

605 mm x 525 mm (23 3/4" x 20 5/8").

Thickness range: 15 - 50 mm (5/8" - 2").

### Performance

Maximum temperature limits Microtherm® Board 1000 °C (1832 °F) for long term exposure.

Thermal conductivity (ISO 8302, ASTM C177) - Microtherm® Board @ 250 kg/m³ density.

0.0188 W/m.K at 100 °C mean

0.0202 W/m.K at 200 °C mean

0.0216 W/m.K at 300 °C mean

0.0233 W/m.K at 400 °C mean

0.0252 W/m.K at 500 °C mean

0.0281 W/m.K at 600 °C mean

0.0320 W/m.K at 800 °C mean

Specific heat capacity

690 J/kg.K at 0 °C

960 J/kg.K at 200 °C

1070 J/kg.K at 400 °C

1130 J/kg.K at 600 °C

1183 J/kg.K at 800 °C

Compressive modulus (ASTM C165) @ 230 kg/m³ density 3.0 MPa

Resistance at 10% deformation (ASTM C165) @ 230 kg/m³ density 0.30 MPa

### Manufacturing Tolerances

Tolerance on panel dimensions typically  $\pm 3\text{mm}$  ( $\pm 1/8"$ )

Tolerance on thickness

$\pm 0.5\text{ mm}$  ( $\pm 0.02"$ ) below 10 mm (3/8")

$\pm 0.8\text{ mm}$  ( $\pm 0.03"$ ) 10 - 30 mm (3/8" to 1 1/8")

$\pm 1.5\text{ mm}$  ( $\pm 0.06"$ ) 30.1 - 50 mm (1 1/8" to 2")

$\pm 2.0\text{ mm}$  (0.08") for 50.1 mm (2") or above.

(The above given inch dimensions are indicative only and not claimed to be exact equivalents)

### Density

Microtherm® Board 220 - 250 kg/m³.

### Standard finish styles available

Plain board

SW - shrink wrapped

SFAF - covered single face with aluminium foil

DFAF - covered both faces with aluminium foil

FWAF - fully wrapped with aluminium foil

EVNW - enveloped with non woven

### Typical Values

Performance values quoted here are for general guidance.

For more precise information and assistance with design please contact our materials specialists.

The information contained in this datasheet/brochure is intended to assist in designing with Microtherm products. It is not intended to and does not create any warranties, express or implied, including any warranty of merchantability or fitness for a particular purpose or that the results shown on this datasheet will be achieved by a user for a particular purpose. The user is responsible for determining the suitability of Microtherm products for each application. No known health hazards in normal use.