

Microtherm® Standard Block High Temperature Microporous insulation

Microtherm® Block

is the basic form of Microtherm® high temperature thermal insulation. It is available in a range of grades and densities and it is supplied without any coating or covering materials for final shaping or machining by the customer.

Properties

- Formulation based on pyrogenic silica with a mineral oxide opacifier and E-glass filament reinforcement
- Microporous insulation offering close to the lowest theoretically possible thermal conductivity at high temperatures
- Microtherm® Super G grade capable of continuous operation at temperatures up to 1000 °C (1832 °F)
- Non combustible
- Environmentally friendly
- Free of harmful respirable fibres

Typical applications

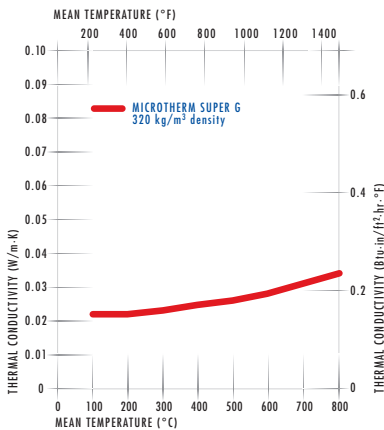
- Compact, high temperature protection
- Flight and accident recorders for air, rail, and sea - best protection in smallest volume
- Data loggers - stable and cyclable protection
- Fuel cells and reformers.



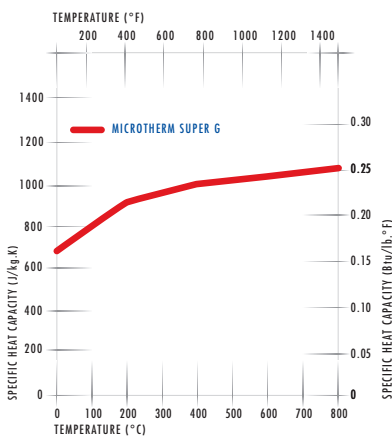
Microtherm® Standard Block

TYPICAL PRODUCT CHARACTERISTICS

Thermal Conductivity



Specific Heat Capacity



Size Availability

Normally specified by customer but limited by available tooling.

Thickness in the range 3 - 80 mm ($\frac{1}{8}$ " to $3\frac{1}{8}$ ") in 1.0 mm steps.

Performance

Maximum temperature limits Microtherm® Super G - 1000 °C (1832 °F) for long term exposure

Thermal conductivity (ISO 8302, ASTM C177) - Microtherm® Super G @ 320 kg/m³ density

0.0221 W/m.K at 100 °C mean
0.0222 W/m.K at 200 °C mean
0.0230 W/m.K at 300 °C mean
0.0244 W/m.K at 400 °C mean
0.0260 W/m.K at 500 °C mean
0.0281 W/m.K at 600 °C mean
0.0343 W/m.K at 800 °C mean

Specific heat capacity

680 J/kg.K at 0 °C
920 J/kg.K at 200 °C
1000 J/kg.K at 400 °C
1040 J/kg.K at 600 °C
1080 J/kg.K at 800 °C

Compressive Modulus (ASTM C 165) @ 350 kg/m³ density - 4.4 MPa

Resistance at 10% deformation (ASTM C 165) @ 350 kg/m³ density - 0.42 MPa

Manufacturing Tolerances

Tolerance on block dimensions typically

± 3 mm ($\frac{1}{8}$ ")

Tolerance on thickness

± 0.5 mm (± 0.02") below 10 mm ($\frac{3}{8}$ ")
± 0.8 mm (± 0.03") 10 - 29.9 mm ($\frac{3}{8}$ " to $1\frac{1}{8}$ ")
± 1.5 mm (± 0.06") 30 - 49.9 mm, ($1\frac{1}{8}$ " to 2")
± 2.0 mm (0.08") for 50 mm (2") or above.

Density

Microtherm® Super G 320 - 400 kg/m³.

Standard finish styles available

Plain uncoated block.

Typical Values

Performance values quoted here are for general guidance.

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

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