



# Microtherm<sup>®</sup> Insulation for petrochemical and industrial pipeline applications

**Lightweight**, ultra thin systems for optimum efficiency

#### PETROCHEMICAL APPLICATIONS

Microtherm<sup>®</sup> microporous insulation products are ideal for optimising the efficiency of petrochemical applications by minimising heat losses.

A Microtherm<sup>®</sup> insulation system is the thinnest available. It is fast and clean to apply and will not deteriorate with time.

#### INDUSTRIAL PIPELINE APPLICATIONS

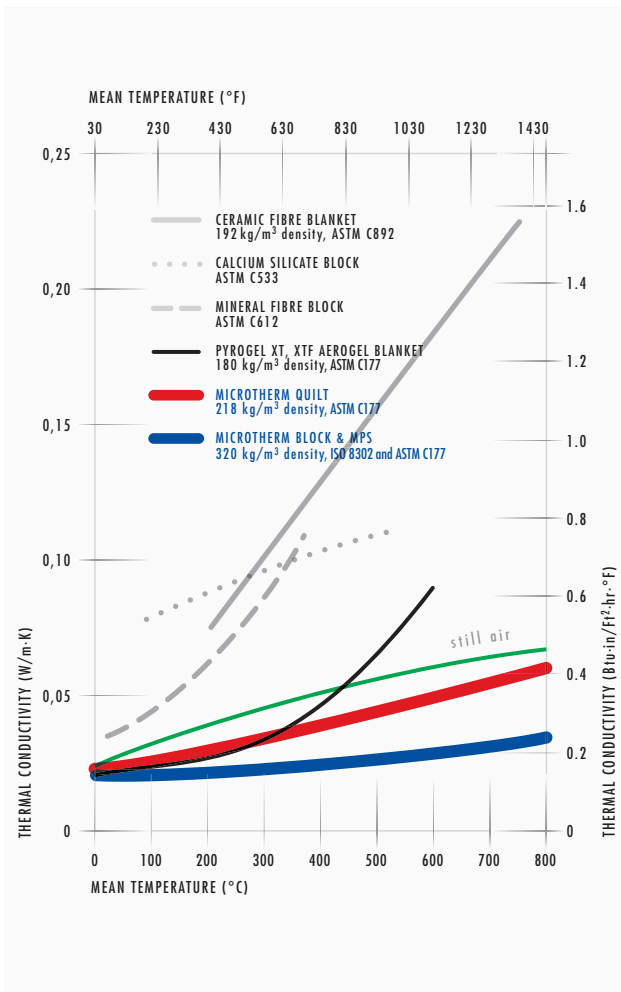
Microtherm<sup>®</sup> insulation is available as pre-moulded shapes, or as flexible or slatted panels. Microtherm<sup>®</sup> is fully load bearing and allows the individual insulation of multiple pipes routed in close proximity.



Microtherm<sup>®</sup> - cool answers to hot problems

 **MICROTHERM**  
THERMAL INSULATION SOLUTIONS

# The company, the products, the benefits



The Microtherm Group of companies has been the global market leader in high temperature thermal insulation solutions for almost 40 years.

Microtherm® is a microporous insulation with a thermal conductivity so low that it is almost down to the lowest theoretically possible figure according to the laws of physics - an insulation with a thermal conductivity even lower than that of still air!

This very low thermal conductivity is also remarkably stable over a wide range of temperatures right up to a maximum of 1000 °C (1832 °F) thanks to the inclusion of an opacifier to block the transmission of all infra red radiation.

### Properties

- Formulation based on pyrogenic silica with an opacifier and E-glass filament reinforcement.
- Capable of continuous exposure to 1000 °C (1832 °F).
- No known health hazards when used within prescribed working temperature limits.
- Non-combustible.
- Environmentally safe.

### Benefits

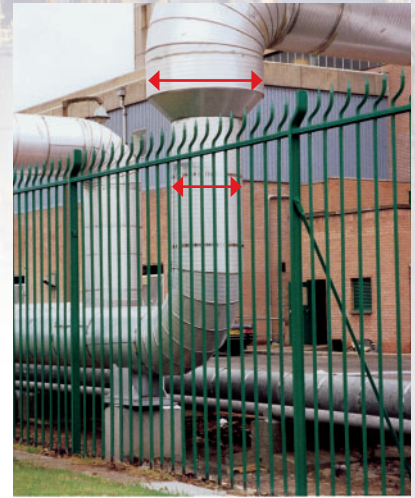
- Only around one quarter the thickness of conventional insulations at high temperature.
- Lightweight but load bearing.
- Thinnest protection optimises available working volume.
- Can be supplied pre-formed or can be easily shaped and fitted on site.
- Widest product range includes moulded products, flexible quilted and slatted panels and MT Thermosphere mouldable paste.

Microtherm® Slatted Panel Comparison with Mineral Wool 150 mm Dia. Pipe at 600°	Mineral Wool	Microtherm® for equivalent Temperature	Microtherm® for equivalent Heat Loss
Horizontal pipe. Emissivity 0,9 natural convection Ambient Temperature = 20°C			
Pipe Diameter (mm)	150	150	150
Overall Diameter (mm)	310	206	188
Insulation Thickness (mm)	80	28	19
Cold Surface Temperature (°C)	65	65	86
Heat Loss W/m run	480	346	480
Relative Volume of Insulation	1	0,27	0,17

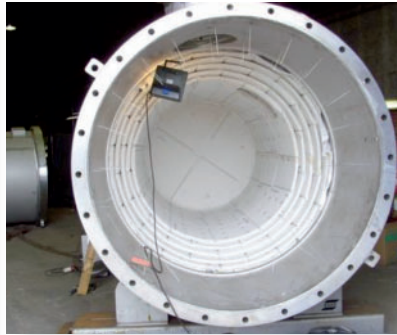
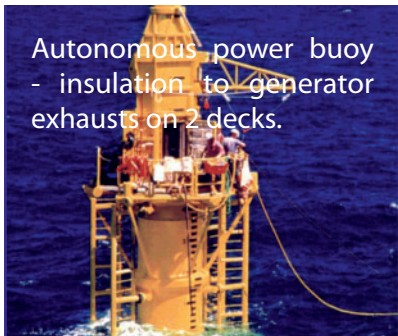
## The applications



- Styrene monomer plants.
- Steam super-heater manifolds.
- Polyethylene plants.
- Refining
- Offshore processing.
- Asphalt transfer lines.
- Hydrogen reforming.
- Catalytic cracker plant.
- Fired heater backup insulation.
- Bio gas generation.
- Fluidised bed reactors.



Save space with Microtherm®

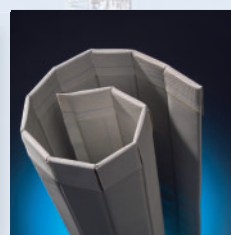
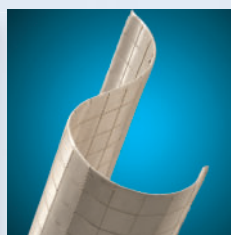
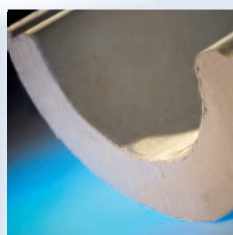


## Standard ASTM C1676 – Microporous insulation

Responding to industry needs for standardization, Microtherm has recently worked closely with ASTM International to produce the first recognised standard for microporous insulation, ASTM C1676.

C1676 requires that the material's performance has been verified through standardized test methods in approved laboratories. The performance criteria include not only the typical insulation characteristics of thermal conductivity and high temperature shrinkage, but also parameters critical to the petrochemical industry such as flame spread, compressive strength, and corrosiveness.

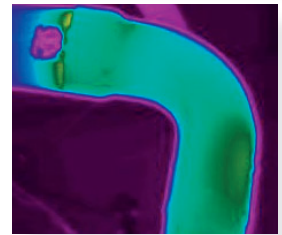
## Microtherm® pipeline insulation - why use anything but the best!



# Microtherm - the complete service package



- Problem analysis
- Thermal calculations
- Product design
- Performance testing
- System design
- Performance verification
- Installation support and coordination



# The Microtherm Group - truly global service of the highest standard



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