

Promat

MICROTHERM[®] PANEL

High temperature microporous insulation panel



General description

The MICROTHERM[®] PANEL range of products are custom made microporous insulation panels with very good thermal properties. The panels are produced in a glass cloth outer envelope, making them clean & easy to handle. The formulation is an opacified blend of filament reinforced pyrogenic silica (alumina for 1200 grade).

MICROTHERM[®] PANEL-1000R is a lightweight, custom made insulation panel.

MICROTHERM[®] PANEL-1000R HY is a custom made insulation panel with a hydrophobic core treatment to repel water. It is ideal for applications where contact with liquid water or condensation (dew point) is possible.

MICROTHERM[®] PANEL-1200 is an alumina based, custom made insulation panel which is capable of withstanding peak temperatures of 2,192°F.

TECHNICAL DATA

Grade		-1000R	-1000R HY	-1200
Standard finishing		Glass cloth (E-Glass)*		
Classification temperature	°F (°C)	1,832 (1,000)	1,832 (1,000)	2,192 (1,200)
Nominal density	PCF (kg/m ³)	14.9 (240)	16.2 (260)	24.9 (400)
Compressive strength (ASTM C165)	PSI (Mpa=N/mm ²)	21.8 (0.15)	17.4 (0.12)	52.2 (0.36)
Thermal conductivity (ISO 8302, ASTM C177)				
392°F (200°C)	Btu-in/hr-ft ² ·°F	0.16 (0.023)	0.16 (0.023)	0.20 (0.029)
752°F (400°C)		0.18 (0.026)	0.18 (0.026)	0.23 (0.033)
1,112°F (600°C)	(W/m·K)	0.22 (0.031)	0.22 (0.031)	0.27 (0.039)
1,472°F (800°C)		0.27 (0.039)	0.27 (0.039)	0.31 (0.044)
Specific heat capacity				
392°F (200°C)	Btu/lb·°F	0.22 (0.92)	0.22 (0.92)	0.21 (0.89)
752°F (400°C)		0.24 (1.00)	0.24 (1.00)	0.24 (0.99)
1,112°F (600°C)	(kJ/kg·K)	0.25 (1.04)	0.25 (1.04)	0.25 (1.04)
1,472°F (800°C)		0.26 (1.08)	0.26 (1.08)	0.26 (1.07)
Shrinkage				
1-sided 12h - 1,832°F (1,000°C)				
Full soak 24h - 1,832°F (1,000°C)	%	< 0.5	< 0.5	< 0.05
Full soak 24h - 2,102°F (1,150°C)		< 3	< 3	< 0.1
		-	-	< 3

* Special coverings and coatings are available on request.

DELIVERY SIZES

Although there are some standard stock sizes available, MICROTHERM[®] PANEL can be custom made according to customer specifications. Please contact your regional Promat agency to request your MICROTHERM[®] PANEL sizes. The available thickness range depends on the material grade:

Grade		-1000R	-1000R HY	-1200
Thickness range	in (mm)	1/8 - 2 (3 - 50)	1/8 - 1 5/8 (3 - 40)	1/8 - 1 5/8 (3 - 50)

PRODUCTION TOLERANCES

If length is	in (mm)	≤ 63 (1,600)
Length and width	in (mm)	± 0.125 (3)
Thickness	in	T ≤ 0.375: ± 0.02
	in	0.375 < T ≤ 1.1875: ± 0.03
	in	1.1875 < T ≤ 2: ± 0.06
	mm	T ≤ 10: ± 0.5
	mm	10 < T ≤ 30: ± 0.8
	mm	30 < T ≤ 50: ± 1.5

Note: Only valid for rectangular & square shapes.

Properties & advantages

- Custom made
- Extremely low thermal conductivity
- High thermal stability
- Available in different temperature grades, including a hydrophobic version
- Non-combustible
- Clean and easy to handle
- Simple to cut and shape (procedure can be found on our website)
- No harmful respirable fibres
- Environmentally friendly, free of organic binders
- Resistant to most chemicals

Application areas

Microporous insulation offers an extremely low thermal conductivity, close to the lowest theoretically possible at high temperatures. Microporous materials are the preferred choice when a large temperature reduction is required within a limited space, or when strict heat loss or surface temperature requirements are specified.

HEAVY INDUSTRY

- Back-up insulation in industrial furnaces
- Aluminium industry (launders, holding furnace)
- Glass and ceramics industry
- Annealing and galvanizing lines

OIL AND GAS

- Petrochemical industry (cracking furnace, hydrogen reformer,...)

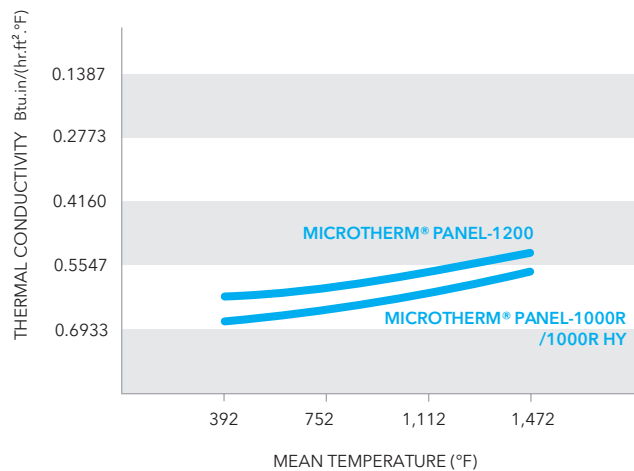
OEM

- Night storage heaters

Working & processing

MICROTHERM® PANEL can be shaped easily with a simple cutter (the procedure can be found on our website). The panels can be fixed in place with glue or by mechanical means such as anchors, pins and clips. They can also be fitted inside a frame concept, which is customer specific.

Thermal conductivity



All specified technical data are mean values from the production which are subject to the usual fluctuations and do not represent guaranteed properties in the sense of a guarantee. All information corresponds to the current state of the art and has been presented and described to the best of our knowledge. Changes due to new findings are possible, errors and misprints are not excluded. With regard to any liability, our delivery and payment terms apply exclusively. Request safety datasheet. With the publication of this edition, all previously published datasheets are invalid. © Copyright Etex NV, Brussels, Belgium. All rights reserved. 2021-05

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