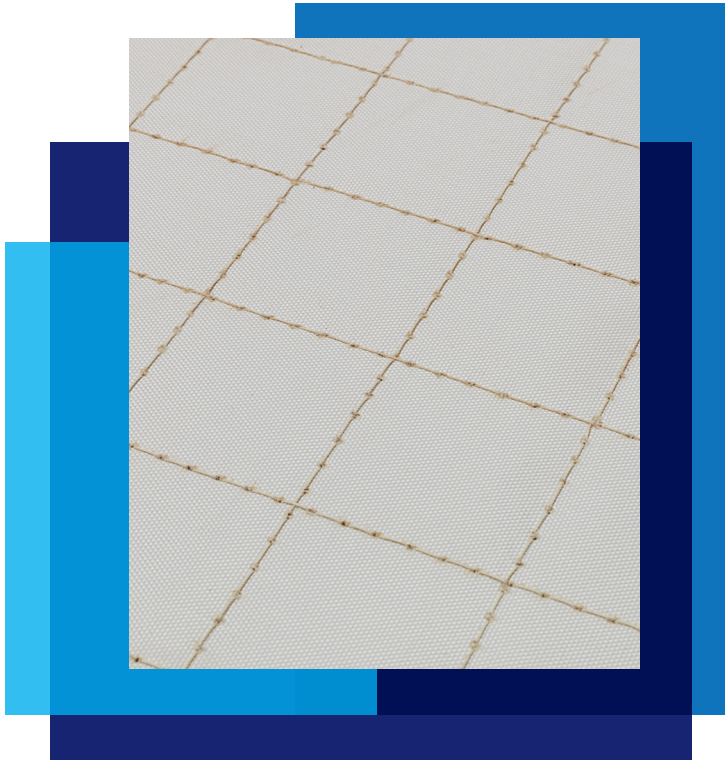


MICROTHERM[®] OVERSTITCHED

High temperature flexible microporous insulation panel



General description

The MICROTHERM[®] OVERSTITCHED and SEMI-OVERSTITCHED range of products are custom made flexible microporous insulation panels with very good thermal properties. The panels are produced in a glass cloth outer envelope, making them clean and easy to handle.

Stitching can be one-directional (2D flexure) for the MICROTHERM[®] SEMI-OVERSTITCHED panels, or two-directional (3D flexure) for the MICROTHERM[®] OVERSTITCHED panels. The formulation is an opacified blend of filament reinforced pyrogenic silica (alumina for 1200 grade).

MICROTHERM[®] (SEMI-)OVERSTITCHED-1000R is a flexible, custom made insulation panel.

MICROTHERM[®] (SEMI-)OVERSTITCHED-1000R HY is a flexible, 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[®] (SEMI-)OVERSTITCHED-1200 is a flexible, alumina based, custom made insulation panel which is capable of withstanding peak temperatures of 2,192°F.

TECHNICAL DATA

		MICROTHERM [®] (SEMI-)OVERSTITCHED		
Grade		-1000R	-1000R HY	-1200
Standard finishing		Glass cloth (E-Glass)*		
Stitching pitch size	in (mm)	2 (50)		
SEMI-OVERSTITCHED: One-directional				
OVERSTITCHED: Two-directional				
Classification temperature	°F (°C)	1,832 (1,000)	1,832 (1,000)	2,192 (1,200)
Nominal density	PCF (kg/m ³)	13.7 (220)	16.2 (260)	21.8 (350)
Compressive strength (ASTM C165)	PSI (Mpa=N/mm ²)	20.3 (0.14)	17.4 (0.12)	31.9 (0.22)
Thermal conductivity (ISO 8302, ASTM C177)				
392°F (200°C)	Btu-in/hr-ft ² -°F (W/m-K)	0.18 (0.026)	0.18 (0.026)	0.24 (0.034)
752°F (400°C)		0.21 (0.030)	0.21 (0.030)	0.28 (0.040)
1,112°F (600°C)		0.26 (0.038)	0.26 (0.038)	0.34 (0.049)
1,472°F (800°C)		0.34 (0.049)	0.34 (0.049)	0.44 (0.063)
Specific heat capacity				
392°F (200°C)	Btu/lb-°F (kJ/kg-K)	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)		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	%	< 0.5	< 0.5	< 0.05
soak 24h - 1,832°F (1,000°C) Full		< 3	< 3	< 0.1
soak 24h - 2,102°F (1,150°C)		-	-	< 3

* Special coverings and coatings are available on request.

DELIVERY SIZES

Although there are some standard stock sizes available, MICROTHERM® (SEMI-)OVERSTITCHED can be custom made according to customer specifications. Please contact your regional Promat agency to request your MICROTHERM® (SEMI-)OVERSTITCHED sizes. The standard thickness range is from 1/8" up to 3/8". Additionally, thicknesses between 3/8" and 5/8" are available on request.

PRODUCTION TOLERANCES

Length and width	in (mm)	± 1/8 (3)
Thickness	in (mm)	± 1/50 (0.5)

Properties & advantages

- Custom made and flexible
- Extremely low thermal conductivity
- High thermal stability
- Shock and vibration resistant
- Available in different temperature grades, including a hydrophobic version
- Non-combustible
- Clean and easy to install
- Simple to cut and shape
- No harmful respirable fibers
- 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.

OIL AND GAS

- Petrochemical industry
- Piping insulation
- Back-up insulation in refractory lined pipes
- Hot pipe support insulation
- Filler material for mattresses
- Cassettes
- Heat shields
- Expansion joints
- PFP (Passive Fire Protection)

ENERGY

- Turbine insulation
- Pipe insulation

HEAVY INDUSTRY

- Rotary kiln insulation
- Exhaust system

TRANSPORTATION

- Thermal batteries
- Exhaust systems
- PFP of train floors

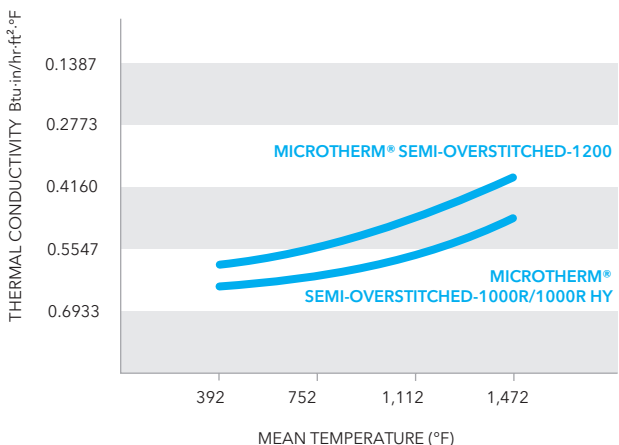
MARINE

- Exhaust systems
- Engines

Working & processing

MICROTHERM® (SEMI-)OVERSTITCHED 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. For piping applications, the panels are installed with wire and straps, identical to conventional insulation materials (the procedure can be found on our website).

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

Etex Industry c/o Microtherm N.V., Industriepark-Noord 1, 9100 Sint-Niklaas, Belgium | T +32 (0)3 760 19 80 | F +32 (0)3 760 19 99
industry@promat.com | www.promat.com/industry