

# MICROTHERM<sup>®</sup> OVERSTITCHED

## for Marine and Navy Applications

High temperature flexible microporous insulation panel



### General description

The MICROTHERM<sup>®</sup> OVERSTITCHED and OVERSTITCHED HYB are custom made flexible microporous insulation panels with very good thermal properties and superior fire protection performance. The panels are produced in a glass cloth outer envelope, making them clean and easy to handle. MICROTHERM<sup>®</sup> OVERSTITCHED is stitched in 2 directions for flexing. The formulation is an opacified blend of filament reinforced pyrogenic silica.

MICROTHERM<sup>®</sup> OVERSTITCHED-1000R is a flexible, custom made insulation panel.

MICROTHERM<sup>®</sup> OVERSTITCHED-1000R HYB 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 contaminated water is possible. Besides the glass cloth covering, it also is faced with an aluminized polyester barrier film. This film provides an additional resistance to fluids common in marine bilge water.

#### US NAVY APPROVALS

- Formerly qualified as MICROTHERM<sup>®</sup> Super G now called 1000R (Identical Product)
- Approved for N30 class fire protection on steel and aluminum decks and bulkheads
- Microtherm Overstitched 1000R HYB - Full approval by US Navy for N-30 class fire protection in bilge and wet areas

### TECHNICAL DATA

		MICROTHERM <sup>®</sup> (SEMI-)OVERSTITCHED	
Grade		-1000R	-1000R HYB
Standard finishing		E-Glass Cloth (HYB + AL Polyester)	
Stitching pitch size SEMI-OVERSTITCHED: One-directional OVERSTITCHED: Two-directional		in (mm) 2x2 (50x50)	
Classification temperature		°F (°C) 1,832 (1,000)	1,832 (1,000)
Nominal density		PCF (kg/m <sup>3</sup> ) 13.4-15.0 (215-240)	13.4-15.0 (215-240)
Compressive strength (ASTM C165)		PSI (Mpa=N/mm <sup>2</sup> ) 14.5 (0.10)	14.5 (0.10)
Thermal conductivity (ISO 8302, ASTM C177)		Btu-in/(hr-ft <sup>2</sup> -°F) (W/m-K)	
392°F / 200°C		0.1803 (0.026)	0.1803 (0.026)
752°F / 400°C		0.2080 (0.030)	0.2080 (0.030)
1,112°F / 600°C		0.2634 (0.038)	0.2634 (0.038)
1,472°F / 800°C		0.3397 (0.049)	0.3397 (0.049)
Specific heat capacity		Btu/(lb-°F) (kJ/kg-K)	
392°F / 200°C		0.2197 (0.92)	0.2197 (0.92)
752°F / 400°C		0.2388 (1.00)	0.2388 (1.00)
1,112°F / 600°C		0.2484 (1.04)	0.2484 (1.04)
1,472°F / 800°C		0.2579 (1.08)	0.2579 (1.08)
Shrinkage Full soak 24h - 1832°F / 1000°C		% < 3	< 3
Approvals - US Navy N-30		Areal weight (lbs/sf)	Thickness
Steel Deck / Restricted Bulkhead		1.04 <sup>1</sup>	2 x 8mm
Steel Unrestricted Bulkhead		1.16 <sup>1</sup>	1 x 8mm ea side
Aluminum Deck / Restricted Bulkhead		1.24 <sup>2</sup>	2 x 10.5mm
Aluminum Unrestricted Bulkhead		2.56 <sup>2</sup>	2 x 10.5mm ea side
Aluminum Deck / Restricted Bulkhead		TBD	2 x 10.5mm (Limited)

<sup>1</sup> Facing Fiberglass "Navy Cloth"

<sup>2</sup> Facing Aluminized Polyester

