AEROGUARD®

Flexible high temperature microporous insulation

AEROGUARD® is a highly flexible microporous insulation panel designed for aerospace & aeronautical applications where very good thermal properties are required together with weight constraints.

The AEROGUARD® product range is made under the most stringent quality control and with full traceability. The panels are produced in an outer envelope, making them clean and easy to handle. The formulation of the core is an opacified blend of filament reinforced pyrogenic silica.

AEROGUARD® is available in 4 different densities and various textile covering materials. Although the microporous core resists 1000 °C in all the different compositions, often the resistance of the covering material defines the choice of the right product for the application.

Technical data					
Density	kg/m³	**128**	**160**	**190**	**220**
Textile covering		SD – ED – HD*			
Stitching pitch size	mm	25 x 25			
Classification temperature	°C	1000			
Compressive strength (ASTM C165)	MPa = N/mm²	0.04	0.05	0.07	0.10
Thermal conductivity (ISO 8302, ASTM C177)					
200 °C	W/m K	0.029	0.031	0.030	0.027
400 °C	W/m K	0.043	0.040	0.037	0.031
600 °C	W/m K	0.066	0.051	0.047	0.039
800 °C	W/m K	0.098	0.064	0.060	0.050
Specific heat capacity					
200 °C	kJ/kg K	0.92	0.92	0.92	0.92
400 °C	kJ/kg K	1.00	1.00	1.00	1.00
600 °C	kJ/kg K	1.04	1.04	1.04	1.04
800 °C	kJ/kg K	1.08	1.08	1.08	1.08
Shrinkage					
1-sided 12h – 1000 °C	%	< 0.5	< 0.5	< 0.5	< 0.5
Full-soak 24h – 1000 °C	%	< 3	< 3	< 3	< 3

Textile covering materials					
Density	kg/m³	**128**	**160**	**190**	**220**
SD (Standard Duty) = E-glass (500 °C)		✓	✓	✓	✓
ED (Extended Duty) = S2-glass (700 °C)		✓	✓	✓	✓
HD (High Duty) = Silica cloth (1000 °C)		✓	✓	✓	✓

Delivery sizes

AEROGUARD® is entirely custom made according to customer specifications. Please contact your regional Promat agency to request assistance.

Production tolerances			
If density is	kg/m³	< 200	> 200
Length and width	mm	± 5	± 5
Thickness	mm	T ≤ 6.25: ± 0.75	T ≤ 10: ± 0.5
	mm	6.25 < T ≤ 10: ± 1.0	T > 10: ± 0.8
	mm	T > 10: ± 1.5	

AEROGUARD®

Properties & advantages

- Custom made and very flexible
- Lightweight
- Stringent quality control and full traceability
- Extremely low thermal conductivity
- High thermal stability
- Shock and vibration resistant
- Non-combustible
- Clean and easy to install (procedure can be found on our website)
- 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.

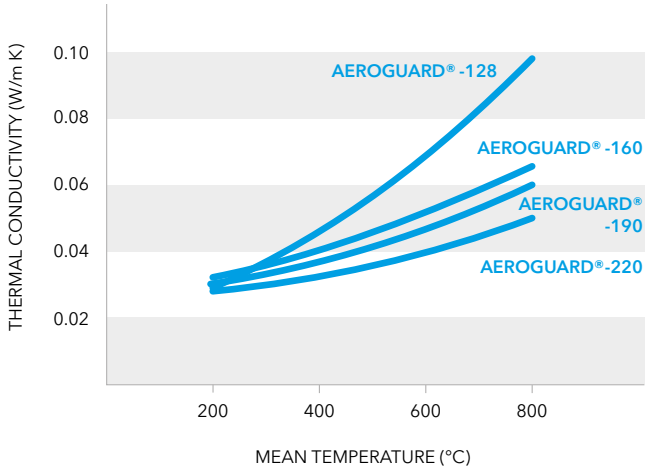
TRANSPORTATION – AEROSPACE

- Aircraft structural fire protection
- 3D geometries
- Filler material in heat shields

Working & processing

AEROGUARD® 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.

Thermal conductivity



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