

PROMALIGHT® MACHINED PARTS

Precision machined high temperature components



General description

PROMALIGHT® MACHINED PARTS are very accurately premachined microporous insulation components with very good thermal and mechanical properties. They are available with various coatings and coverings, for incorporation into demanding products and assemblies. The formulation is an opacified blend of filament reinforced pyrogenic silica (alumina for 1200 grade).

PROMALIGHT® MACHINED PARTS are 100% tailor made from selection of material grade right through to product finishing. They are based on the PROMALIGHT® product range.

TECHNICAL DATA

PROMALIGHT® MACHINED PARTS					
Grade		-1000X (HD)	-1000R (HD)	-1000R HY	-1200
Standard finishing		Customer specific*			
Additional protection option		Mica			
Classification temperature	°F (°C)	1,832 (1,000)	1,832 (1,000)	2,192 (1,200)	2,192 (1,200)
Nominal density	PCF (kg/m ³)	19.4 (310)	21.8 (350)	>18.7 (>300)	>25.0 (>400)
Compressive strength (ASTM C165)	PSI (Mpa=N/mm ²)	59.5 (0.41)	46.4 (0.32)	46.4 (0.32)	78.3 (0.54)
Thermal conductivity (ISO 8302, ASTM C177)					
392°F / 200°C		0.16 (0.023)	0.15 (0.022)	0.15 (0.022)	0.20 (0.029)
752°F / 400°C	Btu·in/hr·ft ² ·°F	0.18 (0.026)	0.17 (0.024)	0.17 (0.024)	0.23 (0.033)
1,112°F / 600°C	(W/m·K)	0.21 (0.030)	0.20 (0.029)	0.20 (0.029)	0.27 (0.039)
1,472°F / 800°C		0.25 (0.036)	0.24 (0.034)	0.24 (0.034)	0.31 (0.044)
Specific heat capacity					
392°F / 200°C		0.21 (0.86)	0.22 (0.92)	0.22 (0.92)	0.21 (0.89)
752°F / 400°C	Btu/lb·°F (kJ/kg·K)	0.23 (0.96)	0.24 (1.00)	0.24 (1.00)	0.24 (0.99)
1,112°F / 600°C		0.25 (1.03)	0.25 (1.04)	0.25 (1.04)	0.25 (1.04)
1,472°F / 800°C		0.26 (1.07)	0.26 (1.08)	0.26 (1.08)	0.26 (1.07)
Shrinkage					
1-sided 12h - 1,832°F / 1,000°C	%	< 0.5	< 0.5	< 0.05	< 0.05
Full soak 24h - 1,832°F / 1,000°C		< 3	< 3	< 0.1	< 0.1
Full soak 24h - 2,102°F / 1,150°C		-	-	< 3	< 3

* Various coatings and coverings are available on request.

DELIVERY SIZES

PROMALIGHT® MACHINED PARTS are 100% tailor made. Size availability to be agreed with the customer in the engineering stage.

PRODUCTION TOLERANCES

PROMALIGHT® MACHINED PARTS are 100% tailor made, from grade to finishing. Production tolerances to be agreed with the customer in the engineering stage.

Properties & advantages

- custom made, precisely machined
- extremely low thermal conductivity
- high thermal stability
- available in different grades
- available with various coatings and coverings
- non-combustible
- 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

- compact, high temperature protection
- data loggers (protection of electronic components)
- black box and VDR (Voyage Data Recorder) for air, rail, and marine
- complex assemblies

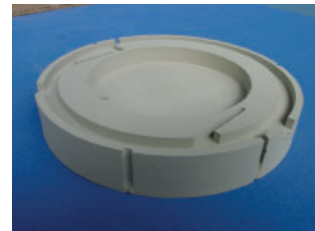
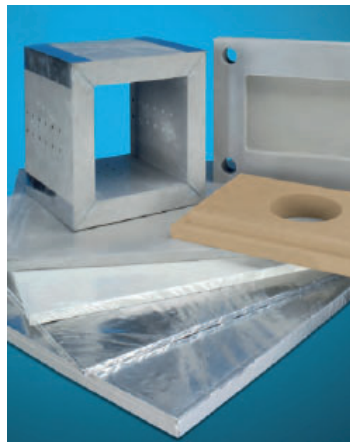
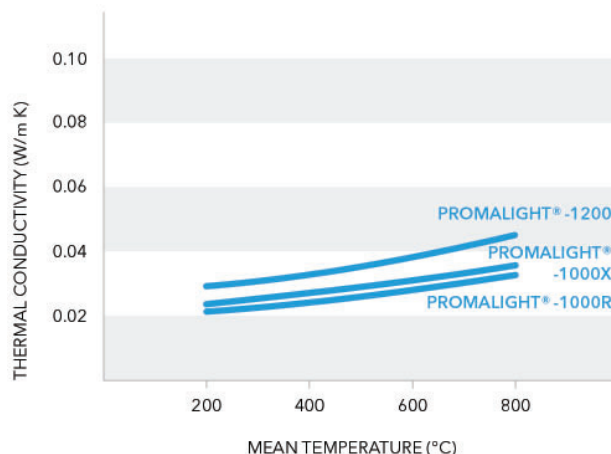
ENERGY

- fuel cells (SOFC) and reformers
- thermal Batteries

Working & processing

PROMALIGHT® MACHINED PARTS are 100% custom made. If some additional shaping would be required, this can either be done manually with hand tools, or using stationary wood or metal processing machinery. They can be cut, sawn, drilled and punched. The parts can be fixed in place with glue or by mechanical means such as anchors, pins and clips.

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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