

# FREEFLOW®-1000X



### Free pouring granules of high temperature insulation

FREEFLOW® is a pourable microporous powder with very good thermal properties. The formulation is an opacified blend of pyrogenic silica.

FREEFLOW® is suitable for filling complex shapes and cavities with demanding thermal specifications. It offers insulation solutions for applications where no other conventional insulation can be used.

FREEFLOW® has been recently improved by upgrading its formula. It now offers the same thermal performance at a reduced density, resulting in a lower installed cost.

### Technical data

<b>Grade</b>		1000X
<b>Classification temperature</b>	°C	1000
<b>Nominal bulk density</b>	kg/m <sup>3</sup>	185
<b>Nominal tap density</b>	kg/m <sup>3</sup>	240
<b>Thermal conductivity</b> (in-house cylindrical cell test method)		
200 °C	W/m K	0.026
400 °C	W/m K	0.036
600 °C	W/m K	0.049
800 °C	W/m K	0.064
<b>Specific heat capacity</b>		
200 °C	kJ/kg K	0.93
400 °C	kJ/kg K	1.02
600 °C	kJ/kg K	1.06
800 °C	kJ/kg K	1.10
<b>Shrinkage</b>		
Full soak 24h - 800 °C	%	< 0.5
Full soak 24h - 1000 °C	%	< 3

### Delivery sizes

FREEFLOW® is a granular powder in which the granule size (bead size) can vary between 0.3 and 2.5 mm. The standard bag size is 15 kg.

### Production tolerances

The tolerance on the density of FREEFLOW® is  $\pm 30 \text{ kg/m}^3$ .

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### Properties & advantages

- Low thermal conductivity
- High thermal stability
- Non-combustible
- Easy to install
- Suitable for automated feeding of complex shapes
- 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.

#### ENERGY

- Fuel cells (SOFC) and reformers

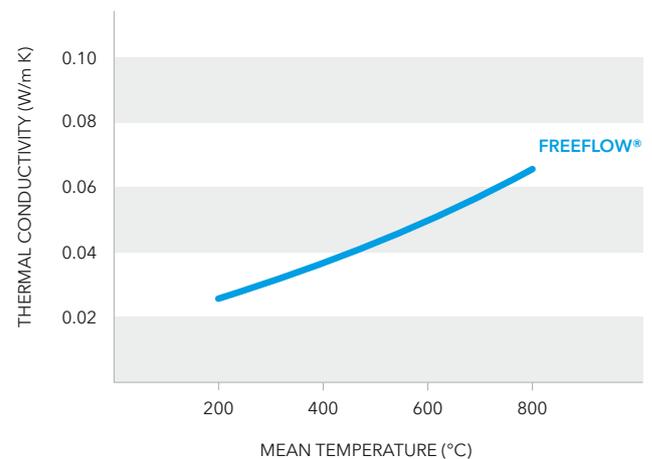
#### TRANSPORTATION

- Filling of complex cavities

### Working & processing

FREEFLOW® is a pourable microporous powder. To obtain the optimal thermal performance it is necessary to achieve the specified "tap density", for example by filling under vibration.

### Thermal conductivity



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