



## SUPER-INSULATION FLEXIBLE AEROGEL



*Synthetic, porous, ultralight materials offering exceptional properties suitable for a variety of cryogenic applications*



# OUR PRODUCT

**Active Aerogels** develops and produces materials for high demanding thermal insulation.

Being one of the most innovative manufacturers of highly adaptable aerogels, we offer a range of different solutions for complex geometries allowing freedom of design.

Our silica based aerogels are synthetic, porous and ultralight, offering a combination of properties that render the aerogels as an excellent solution for cryogenic applications.

- ▶ Low thermal conductivity
- ▶ No glass transition temperature
- ▶ Excellent thermal shock resistance
- ▶ Low thermal expansion
- ▶ Highly hydrophobic
- ▶ Low density
- ▶ Low dielectric constant
- ▶ Cost effective
- ▶ Design freedom



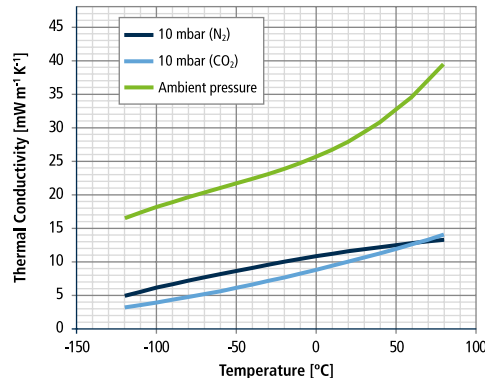
# SILFLEX

Silflex is a super-insulation flexible panel that can be easily cut, rolled and shaped for application on odd geometries.

This product presents lower particle shedding when compared with other aerogel panel products making Silflex easier to install.

Silflex main applications include:

- ▶ Pipework systems - liquid and gas transport
- ▶ Storage tanks
- ▶ Dewars
- ▶ Process equipment – industrial process components



## Properties

Density [kg m <sup>-3</sup> ]	105 ± 2
Thickness [mm]	8 – 30
Service temperature [°C]	-250 to 350
Thermal conductivity [mW m <sup>-1</sup> K <sup>-1</sup> ]	26
Atmospheric pressure, 10 °C EN 12667:2001, HFM 436/3/1 Lambda, NETZSCH	
Coefficient of thermal expansion [10 <sup>-6</sup> K <sup>-1</sup> ]	1.1
-120 °C, TMA 402 F3, NETZSCH	
Flexural modulus [kPa]	51
ASTM D790-10	
Tensile strength [kPa]	85
ISO 1798:2008	
Hydrophobic	✓
Thermal cycling	✓
-100 to 100 °C, 10 cycles, 10 <sup>-5</sup> mbar – ECSS-Q-ST-70-04	
Relative permittivity	1.18
Mutual Impedance method	



**Silfoam** offers an innovative and easy way for applying aerogel insulation. This product can be easily sprayed or applied with plaster tools on small or large complex structures.

Furthermore, **Silfoam** has a very low particle shedding and self-adhesion to several materials (aluminium, stainless steel, glass, acrylic and others).

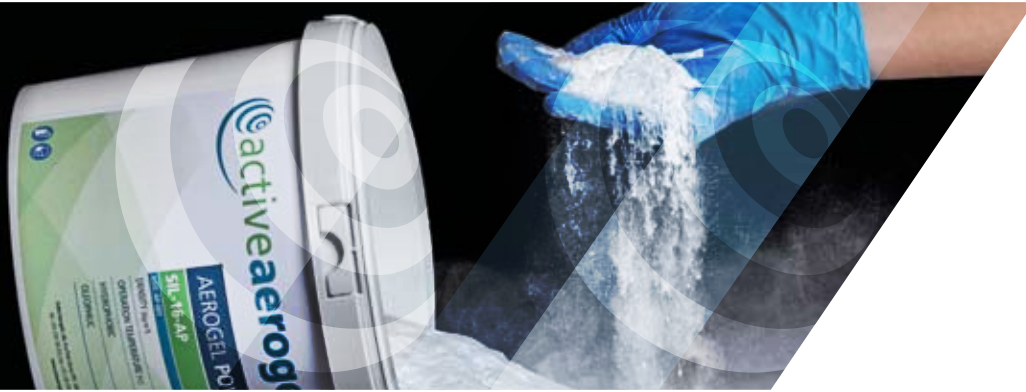
After application, **Silfoam** can be dried at ambient temperature and pressure. For faster drying, higher temperatures (below 60 °C) can be used.

## Properties

Density [kg m <sup>-3</sup> ]	105 to 120
Service temperature [°C]	-196 to 250
Thermal conductivity [mW m <sup>-1</sup> K <sup>-1</sup> ] Atmospheric pressure, 10 °C EN 12667:2001 – HFM 436/3/1, NETZSCH	27
Coefficient of thermal expansion [10 <sup>-5</sup> K <sup>-1</sup> ] -120 °C, TMA 402 F3, NETZSCH	7.4
Compressive strength [kPa]	29
Compressive modulus [kPa]	394
Hydrophobic	✓

**Silfoam** main applications are:

- ▶ Pipework systems – liquid and gas transport
- ▶ Storage tanks
- ▶ Dewars
- ▶ Process equipment – industrial process components



**Silfiller** can be used as an additive for mortars, cements, plasters, paints and coatings to enhance their thermal insulation performance. Additionally, **Silfiller** is suitable for bulk-filling of double wall cryogenic containers.

Although available in granules, a grinder/chopper machine can be used to have different particle sizes. **Silfiller** can also be delivered as powder upon request.

**Silfiller** main applications are:

- ▶ Thermal insulation additive
- ▶ Bulk-fill of double wall containers, tanks or vessels

## SILFILLER



### Properties

Density [kg m <sup>-3</sup> ]	120 to 200
Service temperature [°C]	-250 to 350
Thermal conductivity [mW m <sup>-1</sup> K <sup>-1</sup> ]	25
Atmospheric pressure, 10 °C	
EN 12667:2001, Single –specimen	
Lambda-meter EP-500, Lambda-Messtechnik GmbH Dresden	
Hydrophobic	✓



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