

Data sheet

**WDS® Flexipor®**

ENGLISH

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**Description**

**WDS® Flexipor® is a microporous insulation material which has an extremely low thermal conductivity coefficient giving it very good insulating properties. WDS® Flexipor® is produced with temperature resistant soluble paper on both sides which is then wrapped in PE film, this enhances the flexibility purposes of the product.**

WDS® Flexipor® is designed with no gaps. This has a significant improvement on insulation due to decrease in heat transition. It can be used up to a maximum application temperature of 1050°C (1922°F). WDS® Flexipor® consists of inorganic silicates. The main constituent is fumed silica; the other components are opacifiers to minimize infrared radiation and reinforce glass filaments.

WDS® Flexipor® (core material) is not flammable and meets the requirements of IMO FTPC and DIN EN 13501-1, part 1 class A1.

**Application**

Tried and tested applications for WDS® Flexipor® include back-up insulation in the steel and non-ferrous metals industry.

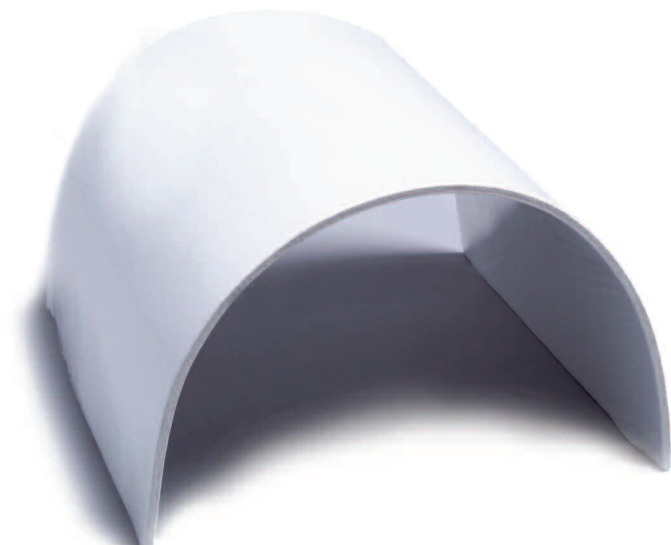
**Typical applications**

WDS® Flexipor® is also successfully used as insulation material in the following areas:

- Heat treatment systems for metals
- Heat treatment systems for glass
- Fire protection equipment
- Electronic devices
- Metrology and instrumentation
- Plant construction parts
- Parts in the automotive industry
- Chimneys, pipes and diesel exhaust systems

**Advantages of WDS® Flexipor®**

- Controls energy emissions, precisely
- Reduces weight and volume
- Increases heat retention
- Increases effective volume



**Thermal Shock Resistance**

WDS® Flexipor® is insensitive to high and low temperature thermal shocks.

**Form of delivery**

**Standard sizes:**

- 300mm x 300mm  
(12 inch x 12 inch)
- 500mm x 300mm  
(20 inch x 12 inch)
- 600mm x 500mm  
(24 inch x 20 inch)
- 1000mm x 600mm  
(39 inch x 24 inch)

Special formats available on request

**Standard thicknesses:**

- 5mm, 7mm, 9mm, 10mm, 12mm  
(0.2 inch, 0.28 inch, 0.35 inch, 0.39 inch, 0.47 inch)
- \* only 5mm, 7mm, 9mm
- \*\* additional 12mm
- Tolerances acc. to DIN ISO 2768
- Tolerance class "c", coarse
- Thickness ± 1,0mm

**Restrictions on Applications**

WDS® Flexipor® has a non-porous surface therefore it is sensitive to all liquids that can wet it; this includes substances such as water, oil and petroleum spirit, since they can destroy the pore structure. Due to the reasons above, please ensure that the film is not damaged before or during the installation. Damaged edges must be protected with an AL-adhesive tape.

**Shelf life**

- WDS® Flexipor® has unlimited shelf life if it stored properly
- WDS® Flexipor® must be handled and stored in dry conditions.
- WDS® Flexipor® is resistant to diffusion by atmospheric humidity (water vapor).

**Composition**

Silicon dioxide	SiO <sub>2</sub>	approx. 50%
Zirconium	ZrSiO <sub>4</sub>	approx. 45%
Others		approx. 5%

**Safety directions**

WDS® Flexipor is not a hazardous substance according to the EU Directive 2006/1907/EEC. The fibers used for mechanical reinforcement have a diameter of > 5 µm; therefore they are not respirable (in accordance to the WHO definition). WDS® Flexipor® does not use any dangerous decomposition substances and according to current knowledge, it does not cause any problems to human health or the environment.

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# WDS® Flexipor®

Metric information

Physical properties		
Colour		White
Nominal density kg/m <sup>3</sup>		280 - 350
Classification temperature °C		1100
Recommended temperature of use °C (core material)		1050
Linear shrinkage % exposed on single side AAW 906-00 12hrs 1000°C		0.6
Linear shrinkage % 24hrs full soak		
	@950°C	1.7
	@1000°C	3.6
Compressive strength MPa ASTM C165 @RT		0.607
Specific heat capacity kJ/kg·K DIN 51007 @700°C		0.902
Thermal conductivity W/m·K ASTM C177		
	@22.5°C	0.022
	@200°C	0.023
	@400°C	0.027
	@600°C	0.034
	@800°C	0.046

The above data are only intended as a guide and should not be used in preparing specifications.

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# WDS® Flexipor®

Imperial information

Physical properties		
Colour		White
Nominal density pcf		17.48 - 21.85
Classification temperature °F		2012
Recommended temperature of use °F (core material)		1912
Linear shrinkage exposed on single side AAW 906-00 12hrs 1832°F		0.6
Linear shrinkage % 24hrs full soak	@1742°F @1832°F	1.7 3.6
Compressive strength MPa ASTM C165 @RT		0.607
Specific heat capacity kJ/kg·K DIN 51007 @1292°F		0.902
Thermal conductivity BTU·in./hr·ft <sup>2</sup> ·°F ASTM C177	@68°F @392°F @752°F @1112°F @1472°F	0.15 0.16 0.19 0.24 0.32

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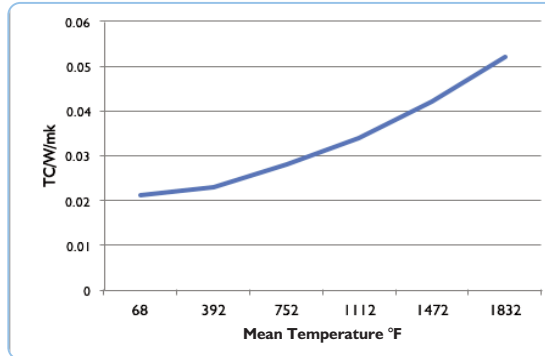
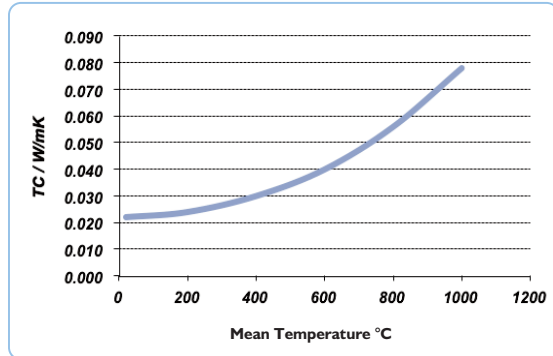
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Thermal conductivity as a function of mean temperature



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