

Data sheet

**WDS® High**

ENGLISH

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**Description**

**WDS® High is a microporous insulation material which has an extremely low thermal conductivity coefficient giving it very good insulating properties. WDS® High can be protected by various wrapping possibilities, this allows an easy and dust-free installation as well as protecting the product from moisture.**

WDS® High consists of inorganic silicates. The main constituent is fumed silica; the other components are opacifiers to minimize infrared radiation.

WDS® High (core material) is not flammable and meets the requirements acc. to DIN EN 13501-1 for fire protection class A1.

**Application**

Tried and tested applications for WDS® High include insulation for heat-treatment furnaces in the aluminum industry and back-up insulation in the industrial furnace industry.

**Advantages**

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



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

- Heat treatment systems for glass
- Fire protection equipment
- Electronic devices
- Plant construction parts
- Chimneys, pipes

**Form of delivery**

**Standard sizes:**

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

**Standard thicknesses:**

- 10mm, 12mm, 15mm, 17mm, 20mm, 25mm, 30mm, 35mm, 40mm, 45mm, 50mm
- Maximum Size: 1200mm x 1000mm x thickness 0.4 inch, 0.5 inch, 0.6 inch, 0.7 inch, 0.8 inch, 1 inch, 1.2 inch, 1.4 inch, 1.6 inch, 1.8 inch, 2 inches
- Maximum Size: 47 inches x 39 inches x thickness
- Tolerances acc. to DIN ISO 2768
- Tolerance class "c", coarse. Thickness ± 1,0mm

Special formats available on request.

**Restrictions on applications**

WDS® High 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.

The moisture sensitivity of WDS® High can be greatly improved or eliminated by using a surface treatment such as aluminum foil or shrink wrapping with PE Film.

**Shelf life**

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

**Thermal Shock Resistance**

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

**Safety directions**

WDS® High 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® High does not use any dangerous decomposition substances and according to current knowledge, it does not cause any problems to human health or the environment.

**Composition**

Silicon dioxide	SiO <sub>2</sub>	approx. 80%
Zirconium silicate	ZrSiO <sub>4</sub>	approx. 15%
Others		approx. 5%

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# WDS<sup>®</sup> High

Metric information

Physical properties		
Colour		White
Nominal density kg/m <sup>3</sup>		250 - 310
Classification temperature °C		1100
Recommended temperature of use °C		1000
Shrinkage % @1000°C for 12 hrs exposed on single side AAW 906-00		0.6
Linear shrinkage % 24hrs full soak	@950°C	1.6
	@1000°C	3.5
Cold compressive strength N/mm <sup>2</sup> ASTM C165		0.386
Compressive strength MPA ASTM C165 @600°C		1.3
Specific heat capacity kJ/kg·K DIN 51007 @700°C		0.963
Thermal conductivity W/m·K ASTM C177	@50°C	<0.022
	@200°C	0.022
	@400°C	0.030
	@600°C	0.043
	@800°C	0.060

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

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The data presented in this leaflet are in accordance with the present state of our knowledge, but do not absolve the user from carefully checking all supplies immediately on receipt. We reserve the right to alter product constants within the scope of technical progress or new developments. The recommendations made in this leaflet should be checked by preliminary trials because of conditions during processing over which we have no control, especially where other companies' raw materials are also being used. The recommendations do not absolve the user from the obligation of investigating the possibility of infringement of third parties' rights and, if necessary, clarifying the position. Recommendations for use do not constitute a warranty, either express or implied, of the fitness or suitability of the product for a particular purpose.

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Imperial information

Physical properties		
Colour		White
Nominal density pcf		15.6 - 19.4
Classification temperature °F		2012
Recommended temperature of use °F		1742
Shrinkage % @1832°F for 12 hrs exposed on single side AAW 906-00		0.6
Linear shrinkage % 24hrs full soak	@1742°F	1.6
	@1832°F	3.5
Cold compressive strength N/mm <sup>2</sup> ASTM C165		0.386
Compressive strength MPA ASTM C165 @1112°F		1.3
Specific heat capacity of raw panel kJ/kg·K DIN 51007 @1292°F		0.963
Thermal conductivity BTU·in./hr·ft <sup>2</sup> ·°F ASTM C177	@122°F	<0.15
	@392°F	0.15
	@752°F	0.21
	@1112°F	0.30
	@1472°F	0.42

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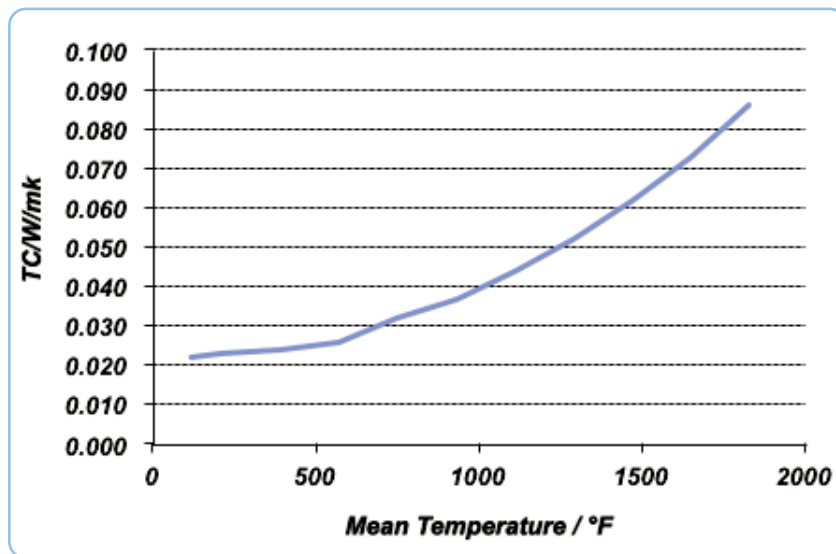
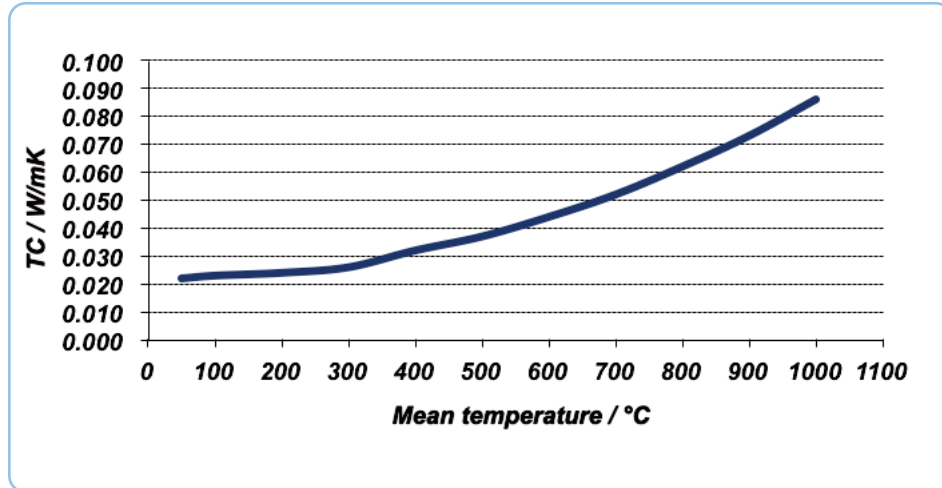
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Thermal conductivity as a function of mean temperature



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