

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>	50%
Zirconium silicate	ZrSiO <sub>4</sub>	45%
Others		5%



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Metric information

Physical properties		
Colour		White
Nominal density kg/m <sup>3</sup>		250 - 310
Classification temperature °C		1100
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		0.939
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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Data sheet  
WDS® High

Imperial information

Physical properties		
Colour		White
Nominal density pcf		15.6 - 19.4
Classification temperature °F		2012
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		0.939
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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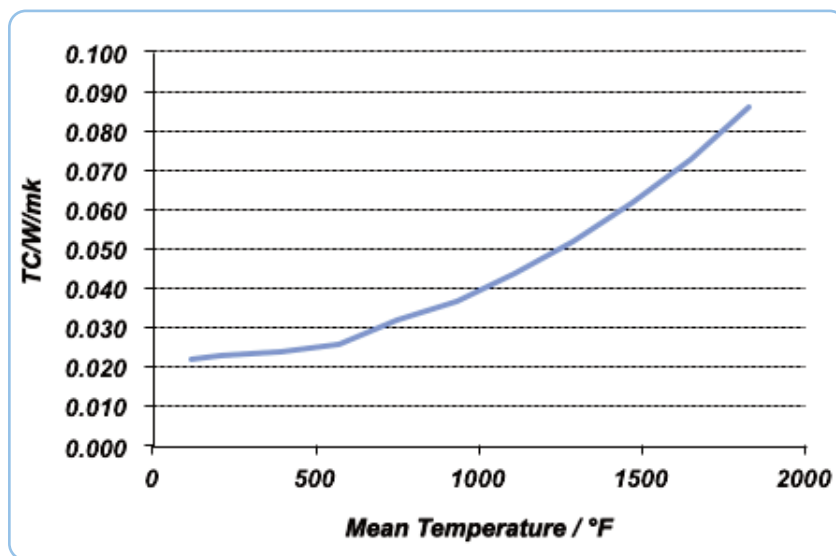
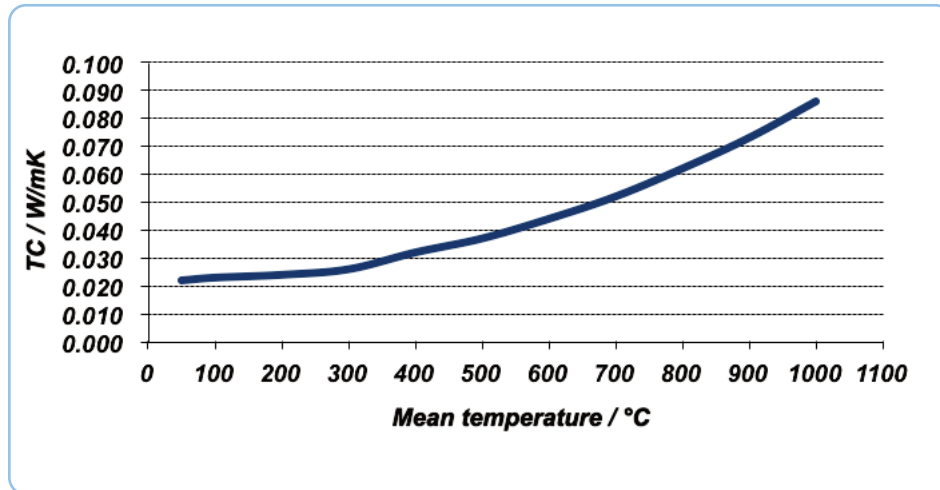
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**WDS® High**

Thermal conductivity as a function of mean temperature



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