

WDS[®] High

Characteristics

WDS[®] High is a microporous insulation material with an extremely low coefficient of thermal conductivity, i.e. with very good insulating properties.

WDS[®] High consists of inorganic silicates. The main constituent is fumed silica, the other components are opacifiers for minimizing infrared radiation.

The sensitive microporous structure is protected by various wrapping possibilities. The wrapping offers easy dustfree installation as well as protection from moisture.

WDS[®] High (core material) is not flammable and meets the requirements acc. to DIN ISO 4102 for fire protection class A1.

Application

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

In these applications, WDS[®] High fulfills several functions, such as:

- Precisely controlled energy emission
- Reduction of weight and volume
- Increase of heat retention
- Increased 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

1. Standard sizes:

- 1000 mm x 600 mm x X
- 600 mm x 500 mm x X

2. Standard thicknesses (X):

- 10 mm, 12mm, 15 mm, 17mm, 20 mm, 25 mm, 30 mm, 35 mm, 40 mm, 45 mm, 50 mm
- **Tolerances acc. to DIN ISO 2768**
® Tolerance class "c", coarse. Thickness ±1,0mm
- also available in customized panel forms
- max. Size 1200 mm x 1000 mm x thickness



Restrictions on application

WDS[®] High is sensitive to all liquids that can wet it, such as water, oil, petroleum spirit, since they can destroy the nanoporous structure.

The moisture sensitivity of WDS[®] High can be greatly improved or eliminated altogether by suitable surface treatment (e.g. PE film, aluminum foil, or liquid coatings)

Shelf life

WDS[®] High has an unlimited shelf life. WDS[®] High must be handled and stored in dry conditions. WDS[®] High is resistant to diffusion by atmospheric humidity (water vapor).

Composition

Silicon dioxide	SiO ₂	approx. 80%
Zirconium silicate	ZrSiO ₄	approx. 15%
Others		approx. 5%.

Thermal shock resistance

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

Product data

Physical properties		Standards	Units	Values
Color				White
Bulk density			kg / m ³	250 - 310
Max. application temperature			°C	1050
Cold compression strength		DIN 53421	N / mm ²	1 – 3
Hot compressive strength	700°C		N / mm ²	1,3
Linear shrinkage / long term	Temperature at all sides 800°C / 24h		L = 0.3%, B = 0.4 % H = 0.8 %	
Specific heat	400 °C		KJ/Kg K	1.05
Thermal conductivity	200 °C	DIN 51046	W / mK	0.021

Safety directions

WDS[®] High is not a hazardous material as defined in EU directive 91/155/EEC.
The fibers used for mechanical reinforcement of WDS[®] High are not respirable as defined by WHO.
WDS[®] High does not liberate hazardous decomposition products and, as far as is known at present, does not cause any problems to human health.

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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