

Data sheet

WDS® Granulate

ENGLISH

Metric information - Page 2
Imperial information - Page 3

Description

WDS® Granulate is a microporous insulation material which has an extremely low thermal conductivity coefficient giving it very good insulating properties.

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

WDS® Granulate is non-flammable and meets the requirements of DIN EN 135401-1; part I, A1.

Application

WDS® Granulate is a free-flowing WDS® grade that offers excellent insulating properties. It is specially developed for filling insulation panels. The inorganic granules are specially modified for the filling of voids and spaces of complex geometry.

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

- Industrial chimneys
- Measuring instruments
- Industrial plants
- Insulated vessels
- Special machinery

Advantages of WDS® Granulate:

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

Processing

WDS® Granulate is generally filled under suction or vibration. In larger rooms in which the previous methods cannot be applied, the assistance of external vibrator facilities are available. In all cases there is a compression of the granules. To ensure there is no settling during use, the granules are mechanically compressed by up to 10%. The individual granules consist of a greater volume, i.e. they expand, when destroyed.

Form of delivery

WDS® pellets are supplied in a granular form delivered in bulk bags.

Restrictions of use

WDS® Granulate has a non-porous surface therefore it is sensitive to all liquids that can wet it; this includes substances such as water, oil, petroleum spirit, since they can destroy the nanopores.

Water vapor does not have a destructive effect on WDS® Granulate.

Shelf life

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

Composition

Silicon dioxide	SiO ₂	approx. 70%
Silicon carbide	SiC	approx. 30%

Thermal Shock Resistance

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

Safety directions

WDS® Granulate is not a hazardous substance according to the EU Directive 2006/1907/EEC. WDS® Granulate 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[®] Granulate

Metric information

Physical properties	
Colour	Grey
Nominal density kg/m ³	110 - 135
Classification temperature °C	1000
Recommended temperature of use °C	950
Tapped density kg/m ³	130 - 160
Vibration density kg/m ³	180 - 220
Thermal conductivity at average temperature of 22.5°C and density 165kg/m ³ W/m·K	0.025
with density 200kg/m ³ W/m·K	
@50°C	0.026
@200°C	0.027
@400°C	0.035
@600°C	0.049
@800°C	0.068

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

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WDS® Granulate

Imperial information

Physical properties		
Colour		Grey
Nominal density pcf		7 - 8.6
Classification temperature °F		1832
Recommended temperature of use °F		1742
Tapped Density pcf		8.1 - 10.0
Vibration Density pcf		11.2 - 13.7
Thermal Conductivity		
72.5°F with density 10.3 pcf, BTU·in/sq.ft·h·°F		0.17
with density 12.49 pcf BTU·in/sq.ft·h·°F	@122°F	0.18
	@392°F	0.19
	@752°F	0.24
	@1112°F	0.34
	@1472°F	0.47

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