



WDS[®] Flexipor[®]

Product Data Sheet

Product Description

WDS Flexipor is a light weight microporous flexible insulation designed for applications where high compressive strength, flexibility associated to low thermal conductivity are the main selection criteria. WDS Flexipor is a sheet constituted of a microporous insulation compact core covered with a low bio persistence fiber paper on both sides which is then encapsulated in a PE foil to provide high flexibility of the finished product.

Produced with our exclusive WDS Technology process, WDS Flexipor features extremely good handling properties, low thermal conductivity coefficient giving it very good insulating properties in limited thickness allowing to design equipment where high energy efficiency, space optimization and reduction of weight are premium factors to be considered.

Features

- Very high compressive resistance
- Flexible
- Not affected by thermal shock
- Homogeneous and compact mineral structure
- High stability over a wide range or temperature
- Easy to cut and die cut
- Available in a wide variety of format and thicknesses

Benefits

- Dimensionally stable over time and up to the maximum using temperature
- Helps to control energy efficiency and heat flow very precisely
- Easy to cut and with proven installation techniques
- Freedom in engineering at the design stage
- Increases effective volume inner capacity or reduces encumbrance in equipment and apparels of any kind.
- Very low weight lining system can be foreseen due to the extremely favorable product density/ thickness ratio
- Environmentally friendly

Applications

- Back up insulation of transfer and process ladles
- Transfer metal equipment
- Rotary kilns
- Batteries
- Electronic devices
- Parts in the automotive industry
- Pipes
- Exhaust systems

Environmental and Health Safety

WDS Flexipor does not contain any hazardous or decomposition substance according to the EU Directive 2006/1907/EEC and IARC. The fibers or filaments used as reinforcement of the mineral core are also exonerated from any classification as defined by the WHO (World Health Organization) and EU Directive 97/69/EC.

Resistance to Moisture and Water

WDS Flexipor core has a 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. Non condensed moisture does not affect the product.

Sensitivity to liquids of WDS Flexipor is eliminated by using a surface treatment such as temperature resistant aluminum foil or shrink-wrapped PE Film. Should the PE foil be removed, the material will be no longer water resistant.

Properties		WDS Flexipor
Classification Temperature, °C (°F)		1050 (1922)
Density, kg/m ³ (pcf), nominal		375 (23.4)
Cold Compression Strength, MPa (psi), ASTM C 165		0.94 (136.3)
Linear Shrinkage, % , ASTM C 365		
	Full soak, 1000°C (1832°F), 24 hours	<4.0
	One sided soak, 1000°C (1832°F), 12 hours	<1.0
Chemical Analysis, % weight basis after firing		
	Silica, SiO ₂	55-75
	Zirconium Silicate, ZrSiO ₄	20- 40
	Others	0-3
Thermal Conductivity, W/m•K (BTU•in/hr•ft ² •°F), ASTM C 177		
	200°C (392°F)	0.022 (0.153)
	400°C (752°F)	0.027 (0.187)
	600°C (1112°F)	0.034 (0.236)
	800°C (1472°F)	0.046 (0.319)

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) proving condensation is avoided

Standard Dimensions and Availability

Dimensions, mm (in)	Thickness, mm (in)
1000 x 600 (40 x 24)	5, 7, 9, 10, 12 (0.2, 0.28, 0.36, 0.40, 0.48)
600 x 500 (24 x 20)	
500 x 300 (20 x 12)	
300 x 300 (12 x 12)	

Whilst the values and application information in this datasheet are typical, they are given for guidance only. The values and the information given are subject to normal manufacturing variation and may be subject to change without notice. Morgan Advanced Materials – Thermal Ceramics makes no guarantees and gives no warranties about the suitability of a product and you should seek advice to confirm the product's suitability for use with Morgan Advanced Materials - Thermal Ceramics.