



# WDS<sup>®</sup> Ultra Board

## Product Data Sheet

### Product Description

WDS Ultra Board is a light weight microporous insulation with an engineered mineral matrix designed for applications up to 950°C (1742°F) where high compressive strength associated to low density is the main selection criteria.

Like any other microporous insulation of our industrial range produced with our exclusive WDS Technology process, WDS Ultra Board 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

- Best-in-class for highest compressive resistance it provides within its nominal density.
- Not affected by thermal shock
- Improved product mineral matrix core features minimal dust release and very good handling and machining abilities
- Improved temperature resistance
- Homogeneity throughout the entire surface and thickness of the board leading to consistency in performances per square area of material installed

### Benefits

- Dimensionally stable over time up to maximum continuous use temperature
- 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.
- Largest product dimensions available
- Very low weight lining system can be foreseen due to the extremely favorable product density / thickness ratio
- Environmentally friendly

### Applications

- Metal production
- Petrochemical process units
- Energy storage
- Fuel Cells
- Glass making
- Ceramic kilns
- Cement kilns
- Power Generation
- Incineration

### Environmental and Health Safety

WDS Ultra Board 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 Ultra Board 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 densify the pore structure which would in turn affect the insulation properties. Non condensed moisture, on the contrary, does not affect the product.

Sensitivity to liquids of WDS Ultra Board can be fully eliminated by using a surface treatment such as temperature resistant aluminum foil or shrink-wrapped PE Film.

# WDS<sup>®</sup> Ultra Board

## Product Data Sheet



Properties		WDS Ultra Board
Classification Temperature, °C (°F)		950 (1742)
Density, kg/m <sup>3</sup> (pcf), nominal		230 (14.4)
Cold Compression Strength, MPa (psi), ASTM C 165		>0.38 (59.45)
Linear Shrinkage, %, ASTM C 365		
	Full soak, 950°C (1742°F), 12 hours	<2.0
Chemical Analysis, %		
	Silica, SiO <sub>2</sub>	75-85
	Silicon Carbide, SiC	12-20
	Others	3-10
	Loss of Ignition, Dry condition	<1.5
Thermal Conductivity, W/m·K (BTU·in/hr·ft <sup>2</sup> ·°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)	0.044 (0.305)

### Shelf Life

- WDS Ultra Board has unlimited shelf life if it stored properly
- WDS Ultra Board must be handled and stored in dry conditions
- WDS Ultra Board 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 650 (39 x 24.41)	10, 12, 15, 17, 20, 25, 30, 35, 40, 45, 50
1320 x 1000 (47.24 x 39.27)	(0.4, 0.5, 0.6, 0.7, 0.8, 1, 1.18, 1.37, 1.57, 1.77, 2)

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.