

Data sheet

ENGLISH

# WDS<sup>®</sup> Ultra Plus Panel and Ultra Plus Panel HY

## Description

**WDS Ultra Plus Panel is a rigid compact microporous insulation constituted of a mineral core enveloped in a non-combustible cloth typically being E Glass.**

Its engineered mineral matrix is designed for applications where the lowest shrinkage up to 1000°C (1832°F) is the main selection criteria.

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

## Environmental and Health Safety

WDS Ultra Plus Panel 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 Plus Panel can also be supplied in an hydrophobic version which is water repellent in its entire thickness; the water repellent treatment withstands up to 250°C (482°F).

Non condensed moisture does not affect the product, even in its hydrophilic version.

## Features

- Best-in-class amongst other market solutions within the same classification temperature and similar chemistry, for the lowest shrinkage it provides up to its classification temperature
- Improved (low) thermal conductivity in the widest temperature spectrum
- Not affected by thermal shock
- Good resistance to compression associated to its low density
- Excellent cutting properties
- Non combustible

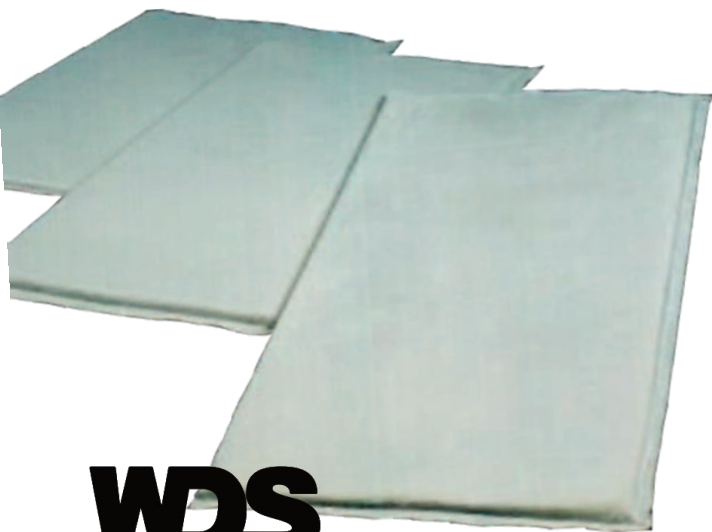
## Benefits

- Dimensionally stable over time 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.
- Largest product dimensions available
- Environmentally friendly

## Applications

WDS Ultra-Plus Panel is designed to meet high dimensional stability as highly effective back-up insulation even under very high temperature exposure and features the lowest shrinkage amongst those products from our range classified 1000°C (1832°F).

| Process                     | Application  |
|-----------------------------|--|
| Agglomeration and Sintering | Metals production  |
| Calcining                   | Lime calcining   |
| Curing and Forming          | Coating, polymer production, enameling   |
| Firing                      | Heating of clay, frits   |
| Drying                      | Organic compound and water removal, recycling                                    |
| Forming                     | Extrusion, molding   |
| Fluid heating               | Chemical production, reforming, distillation, cracking, hydro-heating            |
| Heating and Melting         | Casting, metals making, glass making, recycling                                  |
| Heat Treating               | Hardening, annealing, tempering  |
| Incineration                | Waste handling and disposal, recycling   |
| Metal Reheat, Tempering     | Forging, rolling, extruding, annealing, galvanizing, coating, joining, tempering |
| Separating                  | Air separation, refining, chemical cracking                                      |
| Smelting, Melting           | Metals making, glass making  |
| Heating                     | Hot air and water production   |
| Energy Collection           | Solar energy collection  |
| Energy Production           | Production of electricity and distribution                                       |
| Energy Storage              | Transport, energy distribution   |



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|   | Test Method | WDS Ultra Plus Panel | WDS Ultra Plus Panel HY |
|---|-------------|----------------------|-------------------------|
| <b>Water Resistance</b>   |             | Hydrophilic          | Hydrophobic             |
| <b>Classification Temperature, °C (°F)</b>                                      |             | 1000 (1832)          | 1000 (1832)             |
| <b>Density, kg/m<sup>3</sup> (pcf), nominal</b>                                 |             | 255 (15.9)           | 255 (15.9)              |
| <b>Cold Compressive strength, MPa (psi)</b>                                     | ASTM C 165  | 0.28 (40.6)          | 0.25 (36.2)             |
| <b>Linear Shrinkage, %</b>  |             |                      |                         |
| Full soak, 1000°C (1832°F), 24 hours  | ASTM C365   | <2.5                 | <2.5                    |
| One side exposed soak, 1000°C (1832°F), 12 hours                                |             | <0.6                 | <0.6                    |
| <b>Thermal Conductivity, W/m·K (BTU·in/hr·ft<sup>2</sup>·°F), per ASTM C177</b> |             |                      |                         |
| 200°C (392°F)   | ASTM C177   | 0.023 (0.159)        |                         |
| 400°C (752°F)   |             | 0.026 (0.180)        |                         |
| 600°C (1112°F)  |             | 0.031 (0.216)        |                         |
| 800°C (1472°F)  |             | 0.040 (0.277)        |                         |
| <b>Chemical Analysis, % weight basis after firing</b>                           |             |                      |                         |
| Silica, SiO <sub>2</sub>  |             | 60-80                |                         |
| Silicon Carbide, SiC  |             | 15-30                |                         |
| Others  |             | 5-15                 |                         |
| Loss of Ignition, Dry condition)  |             | <2.0                 |                         |

## Shelf life

- The product has unlimited shelf life when properly stored in dry conditions; moisture does not affect the products however condensation should be avoided for the hydrophilic version.

## Size and Availability

| Board Size, mm (in)       | Thickness, mm (in)  |
|---------------------------|---|
| 1000 x 1000 (39.3 x 39.3) | 10, 12, 15, 17, 20, 25, 30, 35, 40, 45, 50<br>(0.4, 0.5, 0.6, 0.7, 0.8, 1, 1.18, 1.37, 1.57, 1.77, 2) |
| 1000 x 600 (39.3 x 23.6)  |   |
| 915 x 610 (36.0 x 24.0)   |   |

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