

Product Description

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

Its engineered mineral matrix is designed for applications where the lowest thermal conductivity 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 Nextra 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 Nextra 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) continuously. Non condensed moisture does not affect the product.



Features

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

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.
- Environmentally friendly

Applications

WDS Nextra 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 | Applications |
|-----------------------------|--|
| 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 |

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.

Physical, Thermal and Chemical Properties

| | Test Method | WDS Nextra Panel | WDS Nextra HY Panel |
|--|-------------|------------------|---------------------|
| Water Resistance | | Hydrophilic | Hydrophobic |
| Classification temperature, °C (°F) | | 1000 (1832) | 1000 (1832) |
| Density, kg/m ³ (pcf), nominal | | 275 (17.1) | 275 (17.1) |
| Cold Compressive Strength, MPa (psi) | ASTM C 165 | 0.25 (36.2) | 0.25 (36.2) |
| Linear shrinkage, % | | | |
| Full soak, 1000°C (1832°F), 24 hours | ASTM C 365 | <3.0 | <3.0 |
| One side exposed soak, 1000°C (1832°F), 12 hours | | <0.7 | <0.7 |
| Thermal Conductivity, W/m•K (BTU•in/hr•ft²•°F) | | | |
| 200°C (392°F) | ASTM C 177 | 0.022 (0.152) | |
| 400°C (752°F) | | 0.025 (0.173) | |
| 600°C (1112°F) | | 0.029 (0.201) | |
| 800°C (1472°F) | | 0.035 (0.242) | |
| Chemical Analysis, % weight basis after firing | | | |
| Silica, SiO ₂ | | 55 – 75 | |
| Silicon Carbide, SiC | | 25 – 40 | |
| Others | | 3 – 10 | |
| Loss of Ignition, Dry conditions | | <2.5 | |

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.

Standard Dimensions 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 (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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