

Product Description

WDS MultiFlex Plus is a flexible quilted blanket available both in an hydrophilic and hydrophobic formulation which is specifically designed for applications requiring flexibility and twisting properties, together with low shrinkage, good handling and cutting properties and very low thermal conductivity up to 1000°C (1832°F).

Like any other microporous insulation of our industrial range produced with our exclusive WDS Technology process, it features extremely good handling and cutting 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 & Health Safety

WDS MultiFlex Plus quilted blankets do not contain any hazardous substance as defined by EU Directive 2006/1907/EEC and IARC. The fibers or filaments used as reinforcement of the mineral core are also exonerated from any classification falling under EU Directive 97/69/EC.

Resistance to Moisture and Water

WDS MultiFlex Plus 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.

Alternatively, the product can be supplied with an aluminum encapsulation which prevents water absorption up to 500°C (932°F). Non condensed moisture does not affect the product, even in its hydrophilic version.



Features

- Flexible in three dimensions, can be twisted
- Inorganic
- Very low thermal conductivity in a wide temperature spectrum
- Not affected by thermal shock
- Improved product mineral matrix core features minimal dust release and very good handling and machining abilities
- Good resistance to compression associated to its low density
- Homogeneity throughout the entire surface and thickness of the blanket leading to consistency in performances per square area of material installed
- Water-repellent version available

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
- Allows freedom in engineering at the design stage
- Increases effective volume inner capacity or reduces encumbrance in equipment, pipes and apparels of various nature having curved or irregular surface and geometry.
- Large size allowing faster installation time
- Addresses Corrosion Under Insulation concerns
- Environmentally friendly

Application

WDS MultiFlex Plus microporous insulation blankets are designed to be installed on curved or irregular surfaces and 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 and transfer pipes and pipelines
- Turbines
- Exhausts
- Fuel cells
- Any equipment and apparatus with curved or irregular surfaces

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 MultiFlex Plus | WDS MultiFlex Plus HY |
|---|-------------|--------------------|-----------------------|
| Water Resistance | | Hydrophilic | Hydrophobic |
| Surface Covering | | E-Glass Cloth | |
| 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 | 0.35 (50.7) | 0.30 (43.5) |
| Linear Shrinkage, %, ASTM C365 | | | |
| Full soak, 1000°C (1832°F), 24 hours | ASTM C365 | <3.0 | <3.0 |
| One side exposed soak, 1000°C (1832°F), 12 hours | | <0.6 | <0.6 |
| Thermal Conductivity, W/m•K (BTU•in/hr•ft²•°F), per ASTM C177 | | | |
| 200°C (392°F) | ASTM C 177 | 0.026 (0.180) | |
| 400°C (752°F) | | 0.030 (0.208) | |
| 600°C (1112°F) | | 0.034 (0.235) | |
| 800°C (1472°F) | | 0.039 (0.270) | |
| Chemical Analysis, % weight basis after firing | | | |
| Silica, SiO ₂ | | 55 - 75 | |
| Silicon Carbide, SiC | | 25 - 40 | |
| Others | | 3 - 10 | |
| Loss of Ignition, Dry condition | | <2.5 | |

Shelf life

- Keep the product in dry conditions and in its original packaging.
- The material remain stable over time and has no aging effect.

Standard Dimensions and Quilting Options

| Board Size, mm (in) | Thickness, mm (in) | Quilting Options, on demand |
|--------------------------|---|---|
| 1000 x 500 (39 x 19.5) | 5, 6, 8, 10, 12 (0.20, 0.25, 0.31, 0.39, 0.50) | 2D: Semi-quilted (L or W) 3D: Full-quilted (L or W) Stitching path options: 25 x 25mm (1 x 1in) 50 x 50mm (2 x 2in) |
| 915 x 610 (36 x 24) | | |
| 1000 x 1000 (39 x 39) | | |
| 1200 x 1000 (47.24 x 39) | | |

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