



Alphawool™ Blanket

Product Datasheet

Product Description

Alphawool blankets are high temperature, light weight and flexible products made from polycrystalline mullite/alumina fibre only, needled on both sides, and contains no binder or other added constituent. It can be used at continuous operating temperatures up to 1600°C, under oxidizing, neutral or slightly gas-rich conditions, retaining its dimensional stability and fibrous structure after extended use at this temperature.

- Alphawool is more resistant to acid and alkaline solutions than conventional alumino-silicate fibre blankets.
- Being virtually free of shot, it has exceptionally good thermal insulation characteristics.
- With flexibility at high temperatures, Alphawool blankets are suited for various types of module systems.

Features

- Classification temperature of 1600°C (2912°F)
- Superior thermal conductivity
- Very low shrinkage at 1600°C
- Resistant to thermal shock
- Good sound absorption
- High tensile strength and hot strength
- Chemically stable and corrosion-resistant
- Low heat storage

Applications

- Furnace and kiln lining (heat treatment, ceramic fast firing, petroleum and chemical)
- High temperature gaskets
- Furnace door seals
- High temperature filter media

Environmental & Health Safety

Polycrystalline Wools are not classified as hazardous in Europe or Asia. They have no requirements for warning labels under GHS (Globally Harmonized System for the classification and labelling of chemicals).

In Europe, Polycrystalline Wools have been registered under REACH and a conclusion of non-hazardous has been reached by the registrants following evaluation of available data. All Morgan Advanced Materials Polycrystalline Wool products are therefore regarded as non-hazardous under the classification and labelling regulation in Europe.

Some types of Polycrystalline Wool are considered as category 2 carcinogens under USA HazCom2012 following their inclusion in the RCF IARC evaluation, however the Alphawool family contains a very low percentage of respirable fibres and is therefore considered to be outside the scope of this inclusion.

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Properties		Alphawool Blanket
Colour		White
Maximum Continuous Use Temperature, °C(°F)		1600 (2912)
Shot Content, ≥45µm, %		0.5
Chemical Structure, Al ₂ O ₃ :SiO ₂ , %		72.28
Specific Gravity, g/cm ³		3.1
Average Fibre Diameter, µm		6.5
Tensile Strength (NF-B-40454), kPa		
Measured Blanket Density, kg/m ³ (pcf), 96 (6)		100
Measured Blanket Density, kg/m ³ (pcf), 128(8)		120
Linear Shrinkage, %, EN 1094-1		
	1600°Cx 24h	1

Thermal Conductivity, W/m·K, per ASTM C201			
Density, kg/m ³ (pcf)	96(6)		128(8)
	600°C	0.14	
1000°C	0.34		0.27
1200°C	0.47		0.37

Standard Dimensions and Availability

Alphawool Blankets are available in the following thicknesses by density.

Please contact your regional Morgan Advanced Materials - Thermal Ceramics representative to support providing specific packaging availability for your local business needs.

Standard Dimensions:

- 3600mm x 610mm
- 7200 mm x 610 mm
- 14400 mm x 610 mm

Thickness, mm	Density, kg/m ³	
	96	128
6	X	X
7.5	X	X
10	X	X
12.5	X	X
15	X	X
20	X	X
25	X	X

The product(s) represented are intended for industrial refractory applications. The values and application information in this datasheet 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.