



# Superwool<sup>®</sup> Plus Board

## Product Data Sheet

### Product Description

Superwool Plus Board is made from our patented Superwool low biopersistent fibres. This organic board is manufactured using pure raw materials and the latest Vacuum Forming technology, to offer excellent thermal and physical performance features in high-temperature applications.

Superwool Plus Board have high refractoriness and excellent non-wetting characteristics with molten aluminium. Superwool fibres provide excellent stability and resistance to most types of chemical attacks.

Lower thermal conductivity, superior mechanical properties and high-temperature stability offer unmatched performance reliability of the Superwool Plus Board. If wet by water, steam or oil, thermal and physical properties are restored upon drying.

Superwool Plus Board is ideally suited to a wide range of applications and are available in various dimensions. The continuous use temperature depends upon the application and we encourage contacting your regional Morgan Advanced Materials - Thermal Ceramics representative to support specific application requirements.

### Features

- Rigid, self-supporting, fibre insulating board
- Very low thermal conductivity
- Opportunity to reduce backup insulation thickness up to 50% when replacing insulating firebrick or castable
- Low heat storage
- Good thermal shock resistance allows use in applications with large variations in temperature and cyclic operation
- Non-wetting to molten aluminium
- Good machinability for cutting and shaping to different sizes and shapes

### Applications

- Furnace, Kiln, and Oven hot face and backup linings
- Insulation backup to:
  - Firebrick and insulating firebrick
  - Refractory monolithics utilizing rammed linings or shapes
- Flue and Chimney linings, Hot gas duct lining
- Ingot mould hot tops
- Applications with direct molten aluminium contact
- Consumer appliances like ovens, water heaters, night storage heaters
- Gaskets, Seals, Expansion joints
- Molten Metal trough covers
- Heat Shields for personal protection
- Heat processing equipment

### Environmental & Health Safety

Superwool low biopersistent fibres manufactured by Morgan Advanced Materials are not classified as carcinogenic by IARC or under any national regulations on a global basis. They have no requirements for warning labels under GHS (Globally Harmonised System for the classification and labelling of chemicals).

In Europe, Superwool fibres meet the requirements specified under Note Q of European Regulation EC/1272/2008 (on Classification, Labelling and Packaging of substances and mixtures). All Morgan Advanced Materials Superwool low biopersistent fibre products are therefore exonerated from classification and labelling as hazardous in Europe.

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Properties		Superwool Plus Board
Color		white
Classification Temperature, °C (°F), ISO 10635		1100 (2012)
Continuous Use Temperature, °C (°F)		1000 (1832)
Density, kg/m <sup>3</sup> (pcf), ASTM C612-14		330 (20.6)
Compressive strength, 10% deformation, MPa (psi), ASTM C165		0.3 (44)
Permanent Linear Shrinkage, %, 24 hours, ISO 10635		
	1100°C (2012°F)	2.5
	1300°C (2372°F)	-
Modulus of Rupture, MPa (psi), ASTM C165		0.8 (116)
Loss of Ignition, LOI, %		8.0
<b>Chemical Analysis, %</b>		
	Silica, SiO <sub>2</sub>	69
	Calcium oxide + Magnesium oxide, CaO + MgO	31
	Other	<0.8
<b>Thermal Conductivity, W/m·K (BTU·in/hr·ft<sup>2</sup>), per ASTM C201</b>		
	200°C (392°F)	0.05 (0.38)
	400°C (752°F)	0.08 (0.56)
	600°C (1112°F)	0.11 (0.77)
	800°C (1472°F)	0.15 (1.03)
	1000°C (1832°F)	0.19 (1.32)
	1200°C (2192°F)	-

### Product Availability

Superwool Plus Boards are manufactured and available globally, but packaging, density, thickness, width and length vary by region.

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

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.