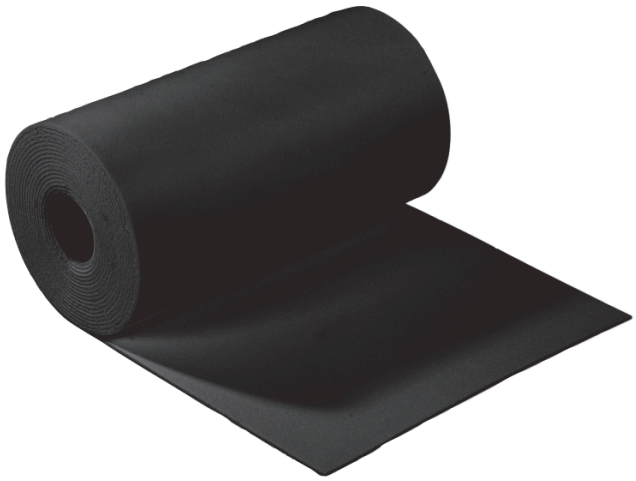


Superwool® Plus Paper

Product Data Sheet

Product Description

Superwool Paper is a unique family of paper products manufactured using our patented Superwool low biopersistent fibre in the non-woven matrix. Special organic binders and fillers are used for giving them strength and distinct physical properties suitable for a varying range of applications. Superwool Plus Paper offer excellent thermal performance over a vide temperature range.

Superwool Plus Paper is an alternative to traditional solutions due to their unmatched properties of high refractoriness, elevated temperature capabilities and lower thermal conductivity. These papers have excellent non-wetting characteristics for the applications requiring direct contact with molten aluminium.

Superwool provides stability and resistance to chemical attacks. Exceptions include hydrofluoric acid, phosphoric acid and strong alkalis (i.e. NaOH, KOH). Superwool is unaffected by incidental spills of oil or water. Thermal and physical properties are restored after drying.

Please contact your regional Morgan Advanced Materials - Thermal Ceramics representative to support your application requirements.

Features

- Low bio-persistence fibre
- Excellent thermal insulating performance
- Thin, flexible high-temperature insulation
- Immune to thermal shock
- Low heat storage
- Easily die-cut to form complex shapes for high-temperature gasketing
- Excellent tensile strength
- Low thermal conductivity
- Non-wetting to molten aluminium

Applications

- Refractory back-up in various industrial applications
- Industrial and domestic appliance gasketing
- Glassware separators and Glass tank refractory back-up
- Non-Ferrous ingot mould liners
- Aluminium transfer system backup insulation
- Parting medium in induction furnaces
- Automotive heat shields and muffler insulation
- Insulation of various consumer goods like ovens, stoves, boilers, electric heaters
- Various molten metal handling applications in steel includes
  - Investment casting mould wrapping
  - Ladle Shroud and nozzle wrapping
  - Ladle back-up
  - Gasketing

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.

Superwool® Plus Paper

Product Data Sheet

Properties	Superwool Plus Paper
Color	Black
Classification Temperature, °C (°F), EN 1094-1	1200 (2192)
Continuous Use Temperature, °C (°F)	1000 (1832)
Density, kg/m^3 (pcf), EN 1094-1	180 - 250 (11 - 16)
Tensile strength, MPa (psi), EN 1094-1	0.45 (65)
Loss of Ignition, %	<10
Permanent Linear Shrinkage, %, after 24 hours, EN 1094-1	
1200°C (2192°F)	<4
1260°C (2300°F)	-
1300°C (2372°F)	-
Chemical Analysis, %	
Alumina, Al_2O_3	trace
Silica, SiO_2	62 - 68
Calcia, CaO	26 - 32
Magnesia, MgO	3 - 7
Other	<1
Thermal Conductivity, W/m•K, per ASTM C201	
200°C	0.05
400°C	0.07
600°C	0.11
800°C	0.15
1000°C	0.21
1200°C	-
Thermal Conductivity, BTU•in/hr•ft^2, per ASTM C201	
500°F	0.38
1000°F	0.66
1500°F	1.08
2000°F	1.67
2200°F	-

The Company reserve the right to update this data sheet should any additional information become available. As our products are being used for a variety of applications under different conditions, the Company will not be held responsible for the failure of any product. Whilst all information is provided in good faith, it is up to the customer to test and establish suitability of each product via their own test methods.