



# Superwool<sup>®</sup> XTRA Papers

## Product Data Sheet

### Product Description

Superwool XTRA Paper is manufactured using our patented Superwool XTRA composition and technology. Superwool XTRA Paper, our newest innovation **does not form respirable crystalline silica** and is designed to offer **excellent performance in demanding high temperature applications**.

Superwool XTRA has excellent thermal and mechanical insulation properties and handleability is exceptional. Extreme flexibility and high tensile makes Superwool XTRA Paper ideally suited to applications requiring further processing (laminated composites, die-cutting, rolling, folding as examples).

Superwool XTRA Paper provides stability and resistance to chemical attack and is unaffected by incidental spills of oil or water. Thermal and physical properties are restored after drying. An organic binder burns out cleanly at approximately 300°C (572°F) upon initial firing, with ignition starting at 180°C (356°F).

### Features

- Excellent thermal stability results in reliable and consistent thermal insulating performances:
  - Very low thermal conductivity
  - Immune to thermal shock
  - Low heat storage
- No formation of respirable crystalline silica when exposed to high temperatures
- Excellent resistance to chemicals and pollutants, especially alkali metals
- No reaction with alumina based bricks in application in the range of the typical use temperature
- Low Shot fibre which provides a smooth surface finish with improved handleability
  - Excellent tensile strength results in:
  - Strong resistance to tearing
  - Excellent flexibility
  - Easily die-cut to form complex shapes for high temperature gasketing
- Precise dimensional tolerances, including thickness

### 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 XTRA Papers
Colour		White
Classification Temperature, °C (°F)		1400 (2550)
Density, kg/m <sup>3</sup> (pcf)		190 - 210 (12 - 13)
Tensile Strength, MPa (psi), EN 1094-1		>0.45 (>65.25)
Permanent Linear Shrinkage, %, EN 1094-1 (2008)		
	After 24 hours, 1400°C (2550°F)	<3
Chemical Analysis, %		
	Alumina, Al <sub>2</sub> O <sub>3</sub>	32 - 38
	Silica, SiO <sub>2</sub>	27 - 33
	Potassium Oxide, K <sub>2</sub> O	23 - 28
	Zirconia Oxide, ZrO <sub>2</sub>	5 - 9
	Magnesium Oxide, MgO	0.5 - 1.5
	Other Oxides	<0.5
	Loss of Ignition, LOI	8
Thermal Conductivity, W/m·K (BTU·in/hr·ft <sup>2</sup> ), ASTM C201		
	Measured density, kg/m <sup>3</sup> (pcf)	<u>190 (12)</u>
	200°C (390°F)	0.05 (0.35)
	400°C (750°F)	0.08 (0.56)
	600°C (1110°F)	0.13 (0.90)
	800°C (1470°F)	0.21 (1.46)
	1000°C (1830°F)	0.30 (2.08)
	1200°C (2190°F)	0.41 (2.84)

### Product Availability

Superwool XTRA Paper is manufactured in Europe. Please contact your regional Morgan Advanced Materials - Thermal Ceramics representative to support providing specific packaging availability for your local business needs.

Thickness, mm (in)	Length, m (ft)
1 (0.04)	40 (131)
2 (0.08)	20 (66)
3 (0.12)	15 (49)
4, 5, 6, 7, 8, 9, 10 (0.16, 0.20, 0.24, 0.27, 0.31, 0.35, 0.39)	10 (33)

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.