



# EST™ Compression Papers

## Product Data Sheet

### Product Description

Our portfolio of EST compression papers especially designed to accommodate the cyclical expansion of pouch and prismatic cells experience during normal operation.

The EST C30 and EST C310 Papers take advantage of our low biopersistent Superwool® fibers, combined with a proprietary formulation to control the overall compression forces within targeted ranges. This material is designed to go between either pouch or prismatic cells, depending on their required compression characteristics, to delay propagation in case of thermal runaway.

### Benefits

- Meets UL94 V-0 requirements
- Excellent finished surface
- Easily cut to shape
- Adhesive capable design

### Applications

- Lithium ion pouch Cell-Cell protection
- Lithium ion prismatic Cell-Cell protection

### 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.

# EST™ Compression Paper

## Product Data Sheet



	EST C30 Paper	EST C310 Paper
Colour	White / Off-White	White / Off-White
Classification Temperature, °C (°F)	1100 - 1300 (2010 - 2370)	1100 - 1300 (2010 - 2370)
Density, kg/m <sup>3</sup> (pcf)	240 - 310 (15 - 19)	400 - 510 (25 - 32)
Tensile Strength, kPa (psi)	>205 (>29.7)	>1350 (195)
Loss of ignition, LOI, %	14 - 19	22 - 23
Dielectric Breakdown, kV/mm, kΩ	>2	>1.9
Thickness, mm (in)	0.8 - 6 (0.03 - 0.24)	0.8 - 6 (0.03 - 0.24)**
<b>Compression Resistance, kPa (psi)</b>		
20% deflection	25 - 35 (3.6 - 5.0)	295 - 340 (43 - 49)
60% deflection	380 - 470 (55 - 68)	1700 - 1970 (247 - 286)
<b>UL94 Rating</b>	> or = 1mm UL94V-1 All other thicknesses UL94 V-O	All thicknesses UL94V-0
<b>Thermal Conductivity, W/m·K (BTU·in/hr·ft<sup>2</sup>·°F), Descending</b>		
	<u>ASTM C201</u>	<u>ASTM C177</u>
200°C (392°F)	0.06 (0.42)	0.06 (0.42)
400°C (752°F)	0.08 (0.55)	0.08 (0.55)
600°C (1112°F)	0.11 (0.76)	0.10 (0.71)
800°C (1472°F)	0.15 (1.04)	0.13 (0.88)
1000°C (1832°F)	0.20 (1.39)	0.16 (1.10)

\*\*Note Limited to 2mm in rolled form (thicker material in sheeted form)

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.