



Superwool[®] Plus Pyro-Fold[™] and Pyro-Stack[™] Modules

Product Data Sheet

Product Description

Superwool Plus Pyro-Fold and Pyro-Stack Bloc Modules feature exceptional thermal and physical properties. With classification temperatures of 1200°C (2190°F), Superwool Plus Pyro-Fold and Pyro-Stack Modules are made from our Superwool Plus Blankets that are manufactured using patented low biopersistent fibre manufacturing technology that produces a low shot fibre product that features an improved handleability and nuisance dust is eliminated.

Superwool Plus Pyro-Fold and Pyro-Stack Modules come standard with a Y-Anchor or M-Anchor system for an easy installation and affixing to furnace, boiler or kiln linings. Superwool Plus Pyro-Fold and Pyro-Stack Modules exhibit outstanding insulating properties at elevated temperatures and have excellent thermal stability and retain their original soft fibrous structure up to its maximum continuous use temperature. Superwool Plus Pyro-Fold and Pyro-Stack Modules do not contain binder or lubricant and do not emit any fumes or smell during the first firing.

Please review the best internal anchoring hardware options with your regional Morgan Advanced Materials Sales Representative and Applications Engineering team. Additionally, we recommend following the Pyro-Fold and Pyro-Stack Design and Installation Guidelines for either Y-Anchor or M-Anchor hardware.

Features

- Excellent thermal stability results in reliable and consistent thermal insulating performances
- Immune to thermal shock
- Binder or lubricant free
- Thermal stability
- Low heat storage
- High erosion resistance no damage up to 50 m/sec:
 - Superwool Plus Pyro-Bloc tested at 1200°C (2190°F)
- Excellent resistance to chemicals and pollutants, especially alkali metals
- Excellent tensile strength
- Good sound absorption

Applications

- Power generation especially HRSG stack and duct insulation
- Petrochemical and Refinery applications:
 - Ethylene Cracking Furnaces
 - Ammonia, Hydrogen and Methanol Reformers
 - Delayed Cokers and Refinery Heaters
 - Flare Stacks
- Industrial Furnace, Boiler and Heater linings
 - Iron & Steel
 - Ceramics

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 Pyro-Fold™ and Pyro-Stack™ Modules

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Properties	Superwool Plus Pyro-Stack Modules	Superwool Plus Pyro-Fold Modules
Colour	white	white
Classification Temperature, °C (°F), EN 1094-1 (2008)	1200 (2190)	1200 (2190)
Continuous Use Temperature, °C (°F)	1000 (1830)	1000 (1830)
Density, kg/m³ (pcf), EN 1094-1 (2008)	128, 149, 172 (8, 9.3, 10.7)	170 (10.7)
Specific heat capacity, kJ/kg·K, 1090°C (1994°F)	1.05	1.05
Chemical Analysis, %		
Silica, SiO ₂	62-68	62-68
Calcium Oxide, CaO	26-32	26-32
Magnesium Oxide, MgO	3-7	3-7
Other	<1	<1
Thermal Conductivity, W/m·K, ASTM C201		
Density, kg/m³ (pcf)	192 (12)	170 (10.7)
200°C	0.06	0.07
400°C	0.09	0.10
600°C	0.14	0.15
800°C	0.22	0.22
1000°C	0.32	0.31
Thermal Conductivity, BTU·in/hr·ft²·°F, ASTM C201		
500°F	0.49	0.57
1000°F	0.86	0.94
1500°F	1.56	1.59
1832°F	2.22	2.15
2000°F	2.60	2.50

Product Availability

Pyro-Fold and Pyro-Stack Modules are manufactured and available globally, but packaging, density and thickness availability will vary by region.

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

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.