

Superwool[®] Plus and HT Pyro-Bloc[®] Modules

Product Data Sheet



Product Description

Superwool Plus and Superwool HT Pyro-Bloc Modules feature exceptional thermal and physical properties. Our Superwool Plus Pyro-Bloc Modules are manufactured using patented low biopersistent fibre manufacturing technology that produces an ultra low shot fibre product that features an improved handleability and nuisance dust is effectively eliminated.

Superwool Plus and Superwool HT Pyro-Bloc Modules come standard with a Y-Anchor or M-Anchor system for an easy installation and affixing to furnace, boiler or kiln linings. Pyro-Bloc 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.

Please review the best internal anchoring hardware options with your regional Morgan Advanced Materials-Thermal Ceramics Sales Representative and Applications Engineering team. Additionally, we recommend following the Superwool Plus and Superwool HT Pyro-Bloc 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 (2192°F)
 - Superwool HT Pyro-Bloc tested at 1300°C (2372°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.

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Properties	Superwool Plus Pyro-Bloc Modules	Superwool HT Pyro-Bloc Modules
Colour	White	White
Classification Temperature, °C (°F)	1200 (2190)	1300 (2370)
Continuous Use Temperature, °C (°F)	1100 (2010)	1200 (2190)
Melting Temperature, °C (°F)	1325 (2400)	1425 (2600)
Density, kg/m ³ (pcf)	160, 192 (10, 12)	160, 192, 240 (10, 12, 15)
Specific Heat Capacity, kJkg•K, 1090°C (1994°F)	1.05	1.22
Loss of Ignition, LOI, %, 2 hours @ 800°C (1472°F)	<1	<1
Linear Shrinkage, %, after 24 hours, EN 1094-1		
1000°C (1832°F)	<1.5	0.2
1100°C (2012°F)	-	0.5
1200°C (2192°F)	-	0.8
Chemical Analysis, %		
Silica, SiO ₂	62 - 68	70 - 80
Calcium oxide, CaO	26 - 32	18 - 26
Magnesium oxide, MgO	3 - 7	<5
Other	<1	<3

Thermal Conductivity, W/m•K, per ASTM C201					
	Superwool Plus Pyro-Bloc Modules		Superwool HT Pyro-Bloc Modules		
Density, kg/m ³ (pcf)	160 (10)	192 (12)	160 (10)	192 (12)	240 (15)
200°C	0.06	0.05	0.15	0.08	0.06
400°C	0.11	0.09	0.17	0.12	0.10
600°C	0.17	0.15	0.21	0.17	0.15
800°C	0.24	0.21	0.3	0.25	0.22
1000°C	0.32	0.28	0.4	0.33	0.29
1200°C	-	-	0.54	0.44	0.39
Thermal Conductivity, BTU•in/hr•ft², per ASTM C201					
500°F	0.51	0.42	1.06	0.63	0.51
1000°F	1.04	0.90	1.37	1.07	0.93
1500°F	1.71	1.49	2.09	1.74	1.54
1832°F	2.22	1.94	2.78	2.29	2.01
2000°F	2.50	2.20	3.21	2.64	2.34
2200°F	-	-	3.77	3.06	2.71

Product Availability

Superwool Plus and Superwool HT Pyro-Bloc 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.

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.