Superwool® Prime Pyro-Bloc® Modules

Product Data Sheet

Product Description

Superwool Prime Pyro-Bloc Modules, our newest fibre chemistry for applications requiring high performance with a classification temperature of 1300°C (2370°F), feature exceptional thermal and physical properties. Superwool Prime Pyro-Bloc Modules feature excellent performance in high erosion applications. Our Superwool Prime Pyro-Bloc Modules are manufactured using patented low biopersistent fibre manufacturing technology that produces a low shot fibre product that features improved handleability.

Superwool Prime 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. Additionally, Pyro-Bloc Modules monolithic structure permits maximum module-module compression and easily conforms to irregular steel shell surfaces during installation.

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-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 tested at 1300°C (2370°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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Thermal Ceramics is a business of Morgan Advanced Materials

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Properties	Superwool Prime Pyro-Bloc Modules
Colour	White
Continuous Use Temperature, °C (°F)	1150-1200 (2100-2190)
Classification Temperature, °C (°F), EN 1094-1 (2008)	1300 (2370)
Density, kg/m³ (pcf), EN 1094-1 (2008)	160, 192, 240 (10, 12, 15)
Specific Heat Capacity, kJ/kg.K, 1000°C (1832°F)	1.20
Loss of Ignition, %, EN 1094-1 (2008)	
2 hours @ 650°C (1202°F)	<0.2
2 hours @ 800°C (1472°F)	<1
2 hours @ 1025°C (1877°F)	<0.4
Linear Shrinkage, %, after 24 hours, EN 1094-1 (2008)	
1300°C (2370°F)	2.2
Chemical Analysis, %	
Silica, SiO_2	64-70
Calcium Oxide, CaO	29-35
Other	<3

Thermal Conductivity, W/m•K, ASTM C201	Superwool Prime Pyro-Bloc Modules		
Density, kg/m³	160	192	240
200°C	0.07	0.07	0.07
400°C	0.10	0.10	0.10
600°C	0.16	0.14	0.14
800°C	0.23	0.21	0.20
1000°C	0.34	0.29	0.28
1200°C	0.47	0.40	0.38
Thermal Conductivity, BTU•in/hr•ft²•°F, ASTM C201	**Superwool Prime Pyro-Bloc Modules**		
Density, pcf	10	12	15
500°F	0.54	0.55	0.54
1000°F	0.95	0.88	0.88
1500°F	1.68	1.48	1.45
1832°F	2.35	2.04	1.96
2000°F	2.74	2.36	2.26
2200°F	3.25	2.80	2.65

Product Availability

Superwool 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.

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