Refractory Ceramic Fiber Bulks

Datasheet Code US: 514-200 Updated: 02/2016

Kaowool® Bulk is produced from kaolin clay by fiberization of melt by high pressure air attenuation. Kaowool Bulk is the industry standard and is rated to 2300°F (1260°C).

Kaowool HP Bulk is produced from a high purity blend of alumina and silica by fiberization of melt by high pressure air attenuation. Kaowool HT Bulk is rated to 2400°F (1315°C).

Cerafiber® Bulk is produced from a high purity blend of alumina and silica by fiberization of melt by the spinning process, as are all “Cera” fibers. Cerafiber Bulks is rated to 2400°F (1315°C).

Cerachem® Bulk is produced from a blend of alumina, silica and zirconia by fiberization of melt by the spinning process. Cerachem fibers are designed to resist excessive shrinkage at elevated temperatures and are rated to 2600°F (1426°C).

Cerachrome® Bulk is produced from a blend of alumina, silica and chromia by fiberization of melt by the spinning process. Cerachrome fibers are rated to 2600°F (1426°C).

Engineered Fibers are based on Thermal Ceramics’ extensive family bulks. Removing unfiberized shot content, sizing the fibers and applying surface coatings by various techniques allows specific fiber requirements to be tailored for customer applications. Typical applications for Engineered Fibers include plastic reinforcement, metal matrix composites and select automotive applications.

Features

- Excellent insulating performance
- Excellent thermal shock resistance
- Low heat storage capacity
- Different compositions, grades and forms to meet a variety of needs

Applications

- Expansion joints
- Low mass kiln cars
- Tube seal fabrication
- Thermal and acoustical insulation
- Filtration media
- Reinforcement and filler for plastics, resins and paints
- Fillers for mastics, cements and vacuum formed boards and shapes

Chemical Precautions

Exceptions include hydrofluoric acid, phosphoric acids, and strong alkalies. If wet by oil or water, thermal and physical properties will be fully restored after drying

Morgan Advanced Materials

Thermal Ceramics

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Physical Properties

	Kaowool®	Kaowool HP	Cerafiber®	Cerachem®	Cerachrome®
Color	off white	white	white	white	blue/green
Continuous Use Temp, °F (°C)	2000 (1093)	2150 (1177)	2150 (1177)	2400 (1315)	2500 (1371)
Classification Temp, °F (°C)	2300 (1260)	2400 (1315)	2400 (1315)	2600 (1426)	2600 (1426)
Specific Heat, BTU/lb•°F @ 1800°F (kJ/kg•°C @ 982°C)	0.26 (1.08)				
Fiber Length, in (mm)	½ - 4 (13-100)		½ - 10 (13-250)		

Chemical Analysis, %, Weight Basis After Firing

Alumina, Al_2O_3	45	46	46	35	43
Silica, SiO_2	50 - 55	54	54	50	54
Zirconia, ZrO_2	-	-	-	15	-
Ferric oxide, Fe_2O_3	1.0	-	-	-	-
Titanium oxide, TiO_2	2.2	-	-	-	-
Alkalis (NaO_2+K_2O)	0.2	-	-	-	-
Other	-	trace	trace	trace	3
Leachable chlorides	1 - 2	trace	trace	trace	trace

Availability and Packaging

	Grade	Typical Fiber Index	Fiber Length	Lubrication
Kaowool	BN	45-55%	4 in (100mm)	No
	D	45-55%	4 in (100mm)	No
	A	45-55%	4 in (100mm)	Yes
	HM-12	50%	½ in (13mm)	No
	HM-25	50%	1 in (25mm)	No
	HM-50	50%	2 in (50mm)	No
Kaowool HP	HY	45-55%	½ in (13mm)	No
	HA	45-55%	½ in (13mm)	No
	A	45-55%	4 in (100mm)	Yes
Cerafiber, Cerachem, Cerachrome	111	45-55%	up to 10 in (250mm)	Yes
	112	45-55%	up to 10 in (250mm)	No
	HM-12	50%	½ in (13mm)	No
	HM-25	50%	1 in (25mm)	No
	HM-50	50%	2 in (50mm)	No
Engineered Fibers	Various	60-90%	Various	No

Thermal Ceramics Bulk fibers are packaged in cartons or bags and stretch-wrapped onto pallets. Standard Packaging on Lubricated Bulk Fibers is 25 lb cartons. Standard Packaging on Un-Lubricated Bulk Fibers is 40 or 50 lb bags. Please check with your Morgan Advanced Materials office for current lead times and availability.