

Refractory Ceramic Fiber Blanket



Datasheet Code US: 5-14-205

MSDS Code US: 201

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Product Description

Kaowool® Blanket offers excellent handleability and high temperature stability.

Cerablanket® is produced from exceptionally pure oxides of alumina and silica using the spinning process. Cerablanket fibers have been optimized for high handling strength and offers excellent handleability and high temperature stability.

Cerachem® Blanket a 2600°F (1427°C) maximum temperature rated blanket formed from a unique, patented, spun alumina-silica-zirconia fiber. It is specially designed for applications where high fiber tensile strength, low thermal conductivity and low shrinkage are required.

Cerachrome® Blanket is made from spun alumina-silica-chromia fiber. Cerachrome Blanket with its chromia-stabilized chemistry offers improved long term shrinkage characteristics.

Mesh Enclosure is available for many blanket products. The wire mesh alloy used is determined by the atmosphere and temperature the enclosed product will see in service. Alloys of wire mesh used are:

304SS 1200°F (649°C)

430SS 1300°F (704°C)

Inconel 600 2000°F (1093°C)

The three methods of closure used in these mesh enclosed products are alloy wire, stainless steel tufting buttons, and stainless steel staples.

Features

- Excellent insulating performance
- Mechanically needed for strength and surface integrity
- Provide excellent resistance to most chemical attacks
- Unaffected by oil or water
- No organic binders

Applications

- Furnace and kiln linings
- Boiler insulations
- Glass furnace insulation
- Furnace door seals
- Duct linings
- Pipe insulations
- Mold wraps
- Thermal barriers for automotive industry
- Stress relieving
- Nuclear insulation applications
- Steam and gas turbine insulation

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Physical Properties

	Kaowool®	Cerablanket®	Cerachem®	Cerachrome®
Color	off white	white	white	blue/green
Density, pcf	3, 4, 6, 8, 10, 12	3, 4, 6, 8	4, 6, 8, 10	4, 6, 8
Thickness, in.	½, ¾, 1, 1½, 2	¼, ½, 1, 1½, 2	½, 1, 1½, 2	½, 1, 1½, 2
Continuous Temp. Use Limit, °F	2000 (1093)	2150 (1177)	2400 (1315)	2500 (1371)
Classification Temp. Rating, °F	2300 (1260)	2400 (1315)	2600 (1426)	2600 (1426)

Chemical Analysis, %, Weight Basis After Firing

Alumina, Al ₂ O ₃	45	46	35	43
Silica, SiO ₂	50 - 55	54	50	54
Calcium oxide + Magnesium oxide, CaO + MgO	0.1	1	1	-
Zirconia, ZrO ₂	-	-	15	-
Ferric oxide, Fe ₂ O ₃	1.0	0.05	0.05	-
Titanium oxide, TiO ₂	1.7	-	-	-
Alkalies as NaO ₂	0.2	0.2	0.2	-
Other	0.08	trace	trace	3
Leachable chlorides	1 - 2	trace	trace	trace

Thermal Conductivity, BTU•in./hr•ft²•°F, ASTM C 201

measured density, pcf	<u>8</u>	<u>8</u>	<u>8</u>	<u>8</u>
mean temp. @ 500°F (260°C)	0.44 (0.06)	0.44 (0.06)	0.44 (0.06)	0.44 (0.06)
@ 1000°F (538°C)	0.87 (0.12)	0.93 (0.13)	0.93 (0.13)	0.93 (0.13)
@ 1500°F (816°C)	1.45 (0.21)	1.60 (0.23)	1.60 (0.23)	1.60 (0.23)
@ 1800°F (982°C)	1.83 (0.26)	2.05 (0.30)	2.05 (0.30)	2.05 (0.30)
@ 2000°F (1093°C)	2.09 (0.30)	2.34 (0.34)	2.34 (0.34)	2.34 (0.34)
measured density, pcf	<u>6</u>	<u>6</u>	<u>6</u>	<u>6</u>
mean temp. @ 500°F (260°C)	0.47 (0.07)	0.47 (0.07)	0.47 (0.07)	0.47 (0.07)
@ 1000°F (538°C)	1.01 (0.15)	1.06 (0.15)	1.06 (0.15)	1.06 (0.15)
@ 1500°F (816°C)	1.73 (0.25)	1.90 (0.27)	1.90 (0.27)	1.90 (0.27)
@ 1800°F (982°C)	2.19 (0.32)	2.45 (0.35)	2.45 (0.35)	2.45 (0.35)
@ 2000°F (1093°C)	-	2.83 (0.41)	2.83 (0.41)	2.83 (0.41)
measured density, pcf	<u>4</u>	<u>4</u>	<u>4</u>	<u>4</u>
mean temp. @ 500°F (260°C)	0.54 (0.08)	0.54 (0.08)	0.54 (0.08)	0.54 (0.08)
@ 1000°F (538°C)	1.29 (0.19)	1.34 (0.19)	1.34 (0.19)	1.34 (0.19)
@ 1500°F (816°C)	2.30 (0.33)	2.48 (0.36)	2.48 (0.36)	2.48 (0.36)
@ 1800°F (982°C)	2.96 (0.43)	3.23 (0.47)	3.23 (0.47)	3.23 (0.47)
@ 2000°F (1093°C)	-	3.74 (0.54)	3.74 (0.54)	3.74 (0.54)

The values given herein are typical average values obtained in accordance with accepted test methods and are subject to normal manufacturing variations. They are supplied as a technical service and are subject to change without notice. Therefore, the data contained herein should not be used for specification purposes. Check with your Thermal Ceramics office to obtain current information.