



Kaowool Blanket, Kaowool S Blanket, Cerablanket®, Cerachem® Blanket and Cerachrome® Blanket are air laid into a continuous mat and mechanically needled for added strength and surface integrity. Blanket products do not contain organic binders. Thermal Ceramic Blankets provide excellent resistance to chemical attack. Exceptions include hydrofluoric acid, phosphoric acid, and strong alkalis (ie. Na_2O , K_2O). Thermal Ceramic Blankets are unaffected by oil or water. Thermal and physical properties are restored after drying.

Kaowool Blanket

Kaowool blanket is produced from kaolin, a naturally occurring alumina-silica fire clay. Kaowool, the world's most recognizable name in ceramic fiber blanket, is available in a wide variety of densities and sizes. Kaowool blanket offers excellent handleability and high temperature stability. This allows it to meet a wide range of hot face and backup insulation applications in furnaces, kilns and other equipment requiring high temperature heat containment.

Kaowool S Blanket

Kaowool S Blanket is produced from high quality spun fibers. It is available in a wide variety of densities and sizes, and offers a highly cost effective alternative to Cerablanket with its 2300° (1260°C) maximum temperature rating.

Cerablanket

Cerablanket is produced from exceptionally pure oxides of alumina and silica using the spinning process. The resultant quality spun fibers have been optimized for high handling strength, with on average the highest tensile strength of any Thermal Ceramics ceramic fiber blanket. Cerablanket is available in a wide variety of densities and sizes. Cerablanket offers excellent handleability and high temperature stability which allows it to meet a wide range of hot face and back up insulation applications in furnaces, kilns and other equipment requiring high temperature heat containment.

Cerachem Blanket

Cerachem Blanket is a 2600° (1427°C) maximum temperature rated refractory 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. Cerachem Blanket is used extensively in high temperature units in the ceramic, chemical processing, and ferrous metal industries. Thermal Ceramics Cerachem refractory blankets are ideal for a wide range of hot face lining and backup insulation applications in furnaces, kilns and other high temperature equipment.

Cerachrome Blanket

Made from spun alumina-silica-chromia fiber, Cerachrome Blanket is well suited for hot face lining applications where higher temperatures are encountered, such as soaking pit covers, reheat and forging furnaces. Cerachrome Blanket with its chromia-stabilized chemistry offers improved long term shrinkage characteristics over zirconia containing blankets such as Cerachem. Cerachrome Blanket effectively fills the gap between zirconia blankets and high alumina products.

Blanket Products

Product Information

Physical Properties	Kaowool	Kaowool S	Cerablanket	Cerachem	Cerachrome
Color	white	white	white	white	blue/green
Density, pcf (kg/m ³)	3, 4, 6, 8, 10, 12 (48, 64, 96, 128, 192)	4, 6, 8 (64, 96, 128)	3, 4, 6, 8 (48, 64, 96, 128)	4, 6, 8 (64, 96, 128)	4, 6, 8 (64, 96, 128)
Thickness, in. (mm)	1/8 - 1 (3.125-50)	1 - 2 (25-50)	1/4 (6.25-50)	1/2 (12.5-50)	1/2 (12.5-50)
Continuous use limit, ° (°C)	2000 (1093)	2000 (1093)	2150 (1177)	2400 (1315)	2500 (1371)
Classification temp. rating, ° (°C)	2300 (1260)	2300 (1260)	2400 (1315)	2600 (1426)	2600 (1426)
Melting point, ° (°C)	3200 (1760)	3200 (1760)	3200 (1760)	3200 (1760)	3200 (1760)

Chemical Analysis, Nominal %

Alumina, Al ₂ O ₃	45	35 - 47	46	35	43
Silica, SiO ₂	50 - 55	49 - 54	54	50	54
Ferric oxide, Fe ₂ O ₃	1.0	0.05 - 1.5	0.05	0.05	-
Titanium oxide, TiO ₂	1.7	0.05 - 1.9	-	-	-
Calcium oxide, CaO	0.1	0.05	0.05	0.05	-
Magnesium oxide, MgO	trace	0.05	0.05	0.05	-
Alkalies as, Na ₂ O	0.2	0.2	0.2	0.2	-
Boron Oxide, B ₂ O ₃	0.08	-	-	-	-
Chromium Oxide, Cr ₂ O ₃	-	-	-	-	3
Zirconia	-	0 - 15	-	15	-
Other	-	0 - 3	trace	trace	trace
Leachable chlorides	1 - 2	0 - 3	trace	trace	trace

Thermal Conductivity, BTU•in./hr•ft²•°F (w/m•K), ASTM C 201

Mean temperature, 8pcf

@ 500° (260°C)	0.44 (0.06)	0.44 (0.06)	0.44 (0.06)	0.44 (0.06)	0.44 (0.06)
@ 1000° (538°C)	0.87 (0.12)	0.93 (0.13)	0.93 (0.13)	0.93 (0.13)	0.93 (0.13)
@ 1500° (816°C)	1.45 (0.21)	1.60 (0.23)	1.60 (0.23)	1.60 (0.23)	1.60 (0.23)
@ 1800° (982°C)	1.83 (0.26)	2.05 (0.30)	2.05 (0.30)	2.05 (0.30)	2.05 (0.30)
@ 2000° (1093°C)	2.09 (0.30)	-	2.34 (0.34)	2.34 (0.34)	2.34 (0.34)

Mean temperature, 6pcf

@ 500° (260°C)	0.47 (0.07)	0.47 (0.07)	0.47 (0.07)	0.47 (0.07)	0.47 (0.07)
@ 1000° (538°C)	1.01 (0.15)	1.05 (0.15)	1.06 (0.15)	1.06 (0.15)	1.06 (0.15)
@ 1500° (816°C)	1.73 (0.25)	1.90 (0.27)	1.90 (0.27)	1.90 (0.27)	1.90 (0.27)
@ 1800° (982°C)	2.19 (0.32)	2.45 (0.35)	2.45 (0.35)	2.45 (0.35)	2.45 (0.35)
@ 2000° (1093°C)	-	2.83 (0.41)	2.83 (0.41)	2.83 (0.41)	2.83 (0.41)

Mean temperature, 4 pcf

@ 500° (260°C)	0.54 (0.08)	0.54 (0.08)	0.54 (0.08)	0.54 (0.08)	0.54 (0.08)
@ 1000° (538°C)	1.29 (0.19)	1.34 (0.19)	1.34 (0.19)	1.34 (0.19)	1.34 (0.19)
@ 1500° (816°C)	2.30 (0.33)	2.48 (0.36)	2.48 (0.36)	2.48 (0.36)	2.48 (0.36)
@ 1800° (982°C)	2.96 (0.43)	3.23 (0.47)	3.23 (0.47)	3.23 (0.47)	3.23 (0.47)
@ 2000° (1093°C)	-	-	3.74 (0.54)	3.74 (0.54)	3.74 (0.54)

Military Specifications and Approvals

Mil-I-23128A	3, 6 pcf blanket
Mil-I-24244	All blankets
Mil-I-23128B	6, 8 pcf blanket

Water Leachable Elements on Surface of Fiber, typical quantities, PPM

Boron	40	Sulphur	10
Chlorine	<10	Sodium	40
Fluorine	<5	Silicate	125

Acoustical performance per ASTM C-423 A and E-795, Sound Absorption Coefficient

Kaowool Blanket	250Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	NRC
1 st - 4 pcf	0.29	1.00	1.04	0.99	0.98	0.85
1 st - 8 pcf	0.50	0.92	0.91	0.91	0.94	0.80
2 nd - 4 pcf	0.92	1.01	1.01	1.03	1.10	1.00
2 nd - 8 pcf	0.80	0.72	0.86	0.92		

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.

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