Kaowool® Papers

Product Data Sheet

Product Description

High-performance paper and felt products from Thermal Ceramics are the preferred choice over traditional fiberglass, textile, or metal products for thermal, acoustical, or filtration management.

Kaowool Flex-Wrap is produced from a blend of Kaowool high purity ceramic fibers and organic binders. Due to its low organic binder content, off-gassing is at a minimum. This specialty paper is noted for its excellent flexibility, outstanding handling characteristics, and high insulating value at high temperatures.

Kaowool 500 and 700,Grade paper products are produced from Kaowool high purity fibers and organic binders. Each of these paper products are noted for their excellent tensile strengths and outstanding handling characteristics.

Kaowool 2000 Grade paper is produced from cleaned Kaowool high purity ceramic fibers and organic binders. The special cleaning process makes a premium grade paper product with a very high quality surface finish and texture.

Kaowool 2600 Grade paper is produced from a blend of Kaowool and Cerachem® ceramic fibers and organic binders. The various features of Kaowool 2600 make it an excellent choice for higher temperature heat treating and gasketing applications where standard ceramic fiber papers break down.

Kaowool 3000 Grade paper is produced from Denka® alumina fibers and organic binders.

Features

- Low thermal conductivity and heat storage
- Excellent flexibility for wrapping applications
- Easily die cut to form complex shapes
- Thin, flexible high temperature insulation
- Excellent tensile strength
- Excellent high temperature backup and expansion joint material.

Applications

- High temperature gaskets and seals
- Refractory back-up insulation
- Appliance insulation
- Separating media for heat treating metals
- High temperature filtration
- High temperature expansion joint packing
- Glassware separating media
- Parting agent for brazing operations
- Hot face and backup lining for lab furnaces
- Aluminum distributor pan lining
- Super alloy ingot mold lining and hot tapes

Chemical Properties

A small amount of organic combustible binder will burn out at approximately 300°F (149°C). Caution should be exercised during the initial heating. Adequate ventilation should be provided to avoid potential flash ignition of the binder out-gassing or avoid air entry while at elevated temperature.

www.morganthermalceramics.com
Email: marketing.tc@morganplc.com
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Physical Properties	Kaowool Flex-Wrap	Kaowool 500	Kaowool 700	Kaowool 2000	Kaowool 2600	Kaowool 3000
Color	white	white	white	white	white	white
Density, pcf (kg/m2)	11-13 (176- 208)	12-14 (192-224)	11-13 (176-208)	11-14 (176-224)	10-13 (160-208)	7-10 (112- 160)
Fiber Index, %	50	50	55	80	55	99
Continuous use limit, °F (°C)	2150 (1176)	2150 (1176)	2150 (1176)	2150 (1176)	2450 (1343)	2800 (1538)
Maximum temp rating, °F (°C)	2300 (1260)	2300 (1260)	2300 (1260)	2300 (1260)	2600 (1426)	3000 (1648)
Melting point, °F (°C)	3200 (1760)	3200 (1760)	3200 (1760)	3200 (1760)	3200 (1760)	3600 (1982)
Tensile strength, psi (MPa)	<25 (0.17)	75-100 (0.51-0.68)	75-100 (0.51-0.68)	75-100 (0.41)	75-100 (0.68-0.79)	25-40 (0.17-0.27)
Fired tensile strength	2 - 3	2 - 3	2 - 3	2 - 3	2 - 3	-
Loss Of Ignition	3 - 7	6 - 10	6 - 10	6 - 10	6 - 10	6 - 10
Chemical Analysis. % Weight basis after firing						
Alumina, Al2O3	47	47	47	47	35	95
Silica, SIO2	53	53	53	53	51	5
Zirconia, ZiO2	-	-	-	-	14	-
Other	trace	trace	trace	trace	trace	trace
Thermal Conductivity, BTU•in/hr•ft2 (W/m•K), ASTM C 201						
Mean temperature						
@ 500°F (260°C)	0.39 (0.06)	0.43 (0.06)	0.40 (0.06)	0.38 (0.05)	0.37 (0.05)	0.36 (0.05)
@ 1000°F (538°C)	0.69 (0.10)	0.69 (0.09)	0.63 (0.09)	0.56 (0.08)	0.63 (0.09)	0.53 (0.08)
@ 1500°F (816°C)	0.96 (0.14)	1.07 (0.15)	0.95 (0.14)	0.80 (0.11)	1.02 (0.15)	0.80 (0.11)
@ 2000°F (1093°C)	-	1.58 (0.23)	1.38 (0.20)	1.11 (0.16)	1.57 (0.23)	1.20 (0.17)
@ 2200°F (1204°C)	-	-	-	-	1.85 (0.27)	-
@ 2400°F (1316°C)	-	-	-	-	2.16 (0.31)	-
@ 2500°F (1371°C)	-	-	-	-	-	1.78 (0.26)
@ 2600°F (1427°C)	-	-	-	-	2.52 (0.36)	-
@ 2800°F (1538°C)	-	-	-	-	-	2.22 (0.32)
Standard Sizes						
Thickness, in. (cm)	1/16 to 1/4 (0.15 to 0.63)	1/16 to 1/4 (0.15 to 0.63)	1/32 to 1/4 (0.08 to 0.63)	1/32 to 1/4 (0.08 to 0.63)	1/16 to 1/4 (0.08 to 0.63)	1/32 to 1/4 (0.15 to 0.63)
Width, in. (mm)	24, 48 (60,120)	12, 24, 48 (30,60,120)	12, 24, 48 (30,60, 120)	12, 24, 48 (30,60, 120)	12, 24, 48 (30.60. 120)	24 (60)

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