

Kaowool® 333-E Paper

Datasheet Code US: 5-14-806

SDS: 231

Product Description

Kaowool 333-E expandable paper is an intumescent material produced from a unique blend of Kaowool high-purity ceramic fibers, special additives, and organic binders in a special paper-making process. At maximum expansion which occurs at approximately 1200°F (649°C), the paper expands up to 400% of its thickness.

This results in the 333-E Paper being an excellent candidate for high temperature gaskets and seals. During heat up and expansion, there will be some additional out-gassing of the intumescent additives.

Like all the other high-quality Kaowool paper products, this specialty paper is noted for its excellent flexibility, outstanding handling characteristics, and high-insulating value.

Features

- Low thermal conductivity and heat storage
- Easily die cut for high temperature gasketing and seals
- Thickness expansion up to 400%

Applications

- All-purpose high temperature gasketing and sealing
- Expansion joint insulation
- Fireplace catalytic converter gasketing
- Fire protection
- Industrial furnace seals
- Aluminum filter bowl gasketing

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.

Standard Size and Availability

Products	Thickness, in (mm)	Width, in (mm)	Sq Ft/Roll (M)	Mill Rolls, Linear Ft/Roll (M)
Kaowool 333-E	1/16 (2)	24 (610)	500 (46)	750 (229)
	1/16 (2)	48 (1220)	500 (460)	750 (229)
	1/8 (3)	24 (610)	250 (23)	375 (114)
	1/8 (3)	48 (1220)	250 (23)	375 (114)
	¼ (6)	24 (610)	125 (12)	185 (56)
	¼ (6)	48 (1220)	125 (12)	185 (56)

Kaowool® 333-E Paper

Paper Product Name	<u>Kaowool 333-E</u>	
Fiber Class	RCF	
Fiber Grade	Expandable	
Physical Properties		
Color	gray	
Continuous Use Temperature, °F	2100	
Continuous Use Temperature, °C	1149	
Classification Temperature, °F	2300	
Classification Temperature, °C	1260	
Melting Temperature, °F	3200	
Melting Temperature, °C	1760	
Density, pcf	15-18	
Denisty, kg/m ³	240-288	
Tensile strength, psi	<40	
Tensile strength, Mpa	<0.28	
Fired Tensile strength, psi	5-10	
Fired Tensile strength, Mpa	0.03-0.07	
Expansion Characteristics, % increase		
Thickness, in (mm)	1/8 (3.17)	1/16 (1.6)
400°F (204°C)	86	132
1004°F (540°C)	419	385
1454°F (790°C)	414	503
1798°F (981°C)	358	530
Chemical Analysis, % weight basis after firing		
Alumina, Al ₂ O ₃	42	
Silica, SiO ₂	48	
Carbon, C	5-10	
Organic binder	6-10	
Other	10	

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 Morgan Advanced Materials office to obtain current information.