Kaolite® 2000LI Gun AHR Monolithic

Product Data Sheet

Product Description

Kaolite 2000LI AHR Cast and Gun is a low iron, lightweight cast/gun monolithic with a special formulation to prevent alkali hydrolysis.

Instructions for using

Casting: Highest strength is obtained with monolithic refractory by using the least amount of clean mixing water that will allow thorough working of material into place by vibration. A mechanical mixer is required for proper placement (paddle type mortar mixers are best suited). Mix for 3 minutes to achieve a good ball-in-hand consistency. Place material within 20 minutes after mixing.

Gunning: Use suitable gunite equipment. The gun grade material should be pre-dampened uniformly with approximately 9-12% by weight of clean water in a mechanical mixer before placing into gun. This will reduce rebound and dust. Add required water at nozzle for effective placement. Suggested air pressure at the nozzle is 1.4 to 2.1 bar (20 to 30 psi).

Precautions: Watertight forms must be used when placing material. All porous surfaces that will come in contact with the material must be waterproofed with a suitable coating or membrane. For maximum strength, cure 24 hours under damp conditions before initial heat-up. Keep freshly placed monolithic warm during cold weather, ideally between 16°C and 27°C (60°F and 80°F) until wet curing is completed. New monolithic installations must be heated slowly the first time.

For detailed installation instructions and commissioning schedules, please contact your Morgan Advanced Materials- Thermal Ceramics representative.

Properties	Kaolite 2000LI Gun AHR	
Region of Manufacture	Americas	Americas
Bond type	Hydraulic	
Raw material base	Perlite	
Method of installation	Cast	Gun
Maximum grain size, mm	3	
Maximum service temperature, °C (°F)	1093 (2000)	1093 (2000)
Net material requirement, kg/m^3 (pcf)	609 (38)	673 (42)
Packaging in bags, kg (lbs)	9 (20)	9 (20)

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Properties	Kaolite 2000LI Gun AHR
Bulk Density, kg/m^3 (pcf), ASTM C134	
dried 24 hours @ 105°C (220°F)	561-721 (35-45)
fired 5 hours @ 816°C (1500°F)	529-689 (33-43)
Modulus of Rupture, MPa (psi), ASTM C133	
dried 24 hours @ 105°C (220°F)	0.41-0.69 (60-100)
fired 5 hours @ 816°C (1500°F)	0.28-0.48 (40-70)
fired 5 hours @ maximum service temperature °C (°F)	0.52-0.76 (75-110)
Cold Crushing Strength, MPa (psi), ASTM C133	
dried 24 hours @ 105°C (220°F)	1.31-1.45 (190-210)
fired 5 hours @ 816°C (1500°F)	1.21-2.07 (175-300)
fired 5 hours @ maximum service temperature °C (°F)	1.24-2.14 (180-210)
Permanent Linear Change, %, ASTM C113	
dried 24 hours @ 105°C (220°F)	0 to -0.3
fired 5 hours @ 816°C (1500°F)	-0.6 to -1.3
fired 5 hours @ maximum service temperature °C (°F)	-1.5 to -3.5
Chemical Analysis, %, Calcined Basis	
Alumina, Al_2O_3	37
Silica, SiO_2	50
Ferric Oxide, Fe_2O_3	1
Titanium Oxide, TiO_2	0.6
Calcium Oxide, CaO	7
Magnesium Oxide, MgO	0.3
Alkali as, K_2O+Na_2O	4.1
Thermal Conductivity, W.m•K (BTU•in/hr•ft^2•°F) , ASTM C417	
260°C (500°F)	0.14 (0.95)
538°C (1000°F)	0.17 (1.20)
816°C (1500°F)	0.22 (1.50)

Storage and Shelf Life

- Monolithics should be stored in a dry, well-ventilated area and held off the ground on pallets ideally with the original packaging intact. Keep out of rain and damp conditions.
- Normal shelf life is 9 months from date of manufacture when properly stored.

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Thermal Ceramics is a business of Morgan Advanced Materials