

## Product Description

Kaolite 2300LI AHR is a low iron, lightweight 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 3-6 minutes to achieve a good ball-in-hand consistency. Place material within 20 minutes after mixing.

**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 installation 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 2300LI AHR	
Region of Manufacture	Americas	
Bond type	Hydraulic	
Raw material base	Insulating Aggregate	
Method of installation	Cast	
Maximum grain size, mm	6	
Maximum service temperature, °C (°F)	1260 (2300)	
Net material requirement, kg/m <sup>3</sup> (pcf)	1009 (63)	
Water addition, % by weight		
	casting by vibrating	40-47
Packaging in bags, kg (lbs)	18 (40)	

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# Kaolite<sup>®</sup> 2300 LI AHR

## Monolithic

### Product Data Sheet



Properties		Kaolite 2300LI AHR
<b>Bulk Density, kg/m<sup>3</sup> (pcf), ASTM C134</b>		
	dried 24 hours @ 105°C (220°F)	993-1169 (62-73)
	fired 5 hours @ 816°C (1500°F)	881-1121 (55-70)
<b>Modulus of Rupture, MPa (psi), ASTM C133</b>		
	dried 24 hours @ 105°C (220°F)	1.38-2.76 (200-400)
	fired 5 hours @ 816°C (1500°F)	0.90-1.52 (130-220)
	fired 5 hours @ maximum service temperature °C (°F)	1.38-2.41 (200-350)
<b>Cold Crushing Strength, MPa (psi), ASTM C133</b>		
	dried 24 hours @ 105°C (220°F)	6.90-10.34 (1000-1500)
	fired 5 hours @ 816°C (1500°F)	2.41-6.90 (350-1000)
	fired 5 hours @ maximum service temperature °C (°F)	4.83-10.34 (700-1500)
<b>Permanent Linear Change, %, ASTM C113</b>		
	dried 24 hours @ 105°C (220°F)	0 to -0.2
	fired 5 hours @ 816°C (1500°F)	-0.1 to -0.6
	fired 5 hours @ maximum service temperature °C (°F)	-1.0 to -2.0
<b>Chemical Analysis, %, Calcined Basis</b>		
	Alumina, Al <sub>2</sub> O <sub>3</sub>	40
	Silica, SiO <sub>2</sub>	44
	Ferric Oxide, Fe <sub>2</sub> O <sub>3</sub>	0.4
	Titanium Oxide, TiO <sub>2</sub>	0.8
	Calcium Oxide, CaO	12 (4)
	Magnesium Oxide, MgO	0.2
	Alkali as, K <sub>2</sub> O+Na <sub>2</sub> O	1.2
<b>Thermal Conductivity, W.m•K (BTU•in/hr•ft<sup>2</sup>•°F) , ASTM C417</b>		
	260°C (500°F)	0.28 (1.96)
	538°C (1000°F)	0.29 (2.01)
	816°C (1500°F)	0.31 (2.15)
	1093°C (2000°F)	0.32 (2.23)
Chemical Analysis % for CaO in parentheses indicates the % of reactive CaO present if less than the total. The balance is CaO from the anorthite aggregate.		

#### 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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