

Product Description

Kaolite 2000LI AHR, Kaolite 2300LI AHR and Kaolite 2500LI AHR Gun are low iron, lightweight monolithics with a special formulation to help resist 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 vibrating. A mechanical mixer is required for proper placement (paddle-type mortar mixers are best suited). Mix for 6 minutes to achieve a good ball-in-hand consistency. Place material within 30 minutes after mixing.

Gunning: Use suitable gunite equipment. The gun grade material should be pre-dampened uniformly with approximately:

- Kaolite 2000LI Gun AHR 9-12%
- Kaolite 2300LI Gun AHR 7-9%
- Kaolite 2500LI Gun AHR 6-8%

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 bar to 2.5 bar (20 to 35 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 10°C to 27°C (50°F and 80°F) until wet curing is completed. New monolithic installation must be heated slowly the first time.

Properties	<u>Kaolite 2000LI Gun AHR</u>	<u>Kaolite 2300LI Gun AHR</u>	<u>Kaolite 2500LI Gun AHR</u>	
Region of Manufacture	Americas			
Method of application	Cast	Gun	Gun	Gun
Maximum service temperature, °C (°F)	1093 (2000)	1093 (2000)	1260 (2300)	1370 (2500)
Estimated weight of dry material/ m ³ of construction, kg (lb)	609 (38)	673 (42)	1041 (65)	1217 (76)
Packaging in bags, kg (lb)	9 (20)	9 (20)	18 (40)	22 (50)

Whilst the values and application information in this datasheet are typical, they are given for guidance only. The values and the information given are subject to normal manufacturing variation and may be subject to change without notice. Morgan Advanced Materials – Thermal Ceramics makes no guarantees and gives no warranties about the suitability of a product and you should seek advice to confirm the product’s suitability for use with Morgan Advanced Materials - Thermal Ceramics.

Publication Date: 5 October 2021
Code: CA.60
1 of 2

www.morganthermalceramics.com
Email: marketing.tc@morganplc.com
Thermal Ceramics is a business of Morgan Advanced Materials

Kaolite® AHR Monolithics

Product Data Sheet



<u>Properties</u>	<u>Kaolite 2000-LI Gun AHR</u>	<u>Kaolite 2300-LI Gun AHR</u>	<u>Kaolite 2500-LI Gun AHR</u>
Density, kg/m³ (pcf), ASTM C134			
dried 24 hours, 105°C (220°F)	561-721 (35-45)	993-1169 (62-73)	1154-1330 (72-83)
firing, 815°C (1500°F)	529-689 (33-43)	881-11121 (55-70)	1041-1218 (65-76)
Cold crushing strength, MPa (psi), ASTM C133			
dried 24 hours, 105°C (220°F)	1.31-1.45 (190-210)	6.89-10.34 (1000-	4.14-5.52 (600-800)
fired 5 hours, 815°C (1500°F)	1.21-2.07 (175-300)	3.45-6.90 (500-1000)	4.83-8.27 (700-1200)
fired 5 hours, 1090°C (2000°F)	1.24-2.14 (180-210)	-	-
fired 5 hours, 1260°C (2300°F)	-	4.83-10.34 (700-1500)	-
fired 5 hours, 1370°C (2500°F)	-	-	5.17-8.97 (750-1300)
Permanent linear change, %, ASTM C 113			
after 5 hours firing @ 815°C (1500°F)	-0.6 to -1.3	-0.1 to -0.6	-0.1 to -0.6
fired 5 hours, 1090°C (2000°F)	-1.5 to -3.5	-	-
fired 5 hours, 1260°C (2300°F)	-	-1.0 to -1.9	-
fired 5 hours, 1370°C (2500°F)	-	-	-0.5 to -1.5
Thermal Conductivity, W/m·K (BTU·in/hr·ft²), per ASTM C201			
260°C (500°F)	0.14 (0.95)	0.28 (1.96)	0.27 (1.90)
538°C (1000°F)	0.17 (1.20)	0.29 (2.01)	0.30 (2.05)
815°C (1500°F)	0.22 (1.50)	0.31 (2.15)	0.32 (2.22)
1093°C (2000°F)	-	0.32 (2.23)	0.35 (2.43)
Chemical composition, %			
Alumina, Al ₂ O ₃	37	40	47
Silica, SiO ₂	50	44	40
Ferric Oxide, Fe ₂ O ₃	1	0.4	0.8
Titanium Oxide, TiO ₂	0.6	0.8	1.2
Calcium Oxide, CaO	7	12(4)	11
Magnesium Oxide, MgO	0.3	0.2	0.2
Alkalies as Na ₂ O and K ₂ O	4.1	1.2	1

Storage and Shelf Life

- Should be stored in dry conditions, unopened packaging on pallets. Do not store on ground. Keep out of rain and damp conditions.
- Shelf life is of twelve months with original packaging, double shrink film and dehydrating agent provided if the monolithic is stored under these recommended conditions.

Whilst the values and application information in this datasheet are typical, they are given for guidance only. The values and the information given are subject to normal manufacturing variation and may be subject to change without notice. Morgan Advanced Materials – Thermal Ceramics makes no guarantees and gives no warranties about the suitability of a product and you should seek advice to confirm the product's suitability for use with Morgan Advanced Materials - Thermal Ceramics.