

### Product Description

Kaolite 2200 Gun is designed for temperatures up to 1204°C (2200°F) and has excellent volume stability and good strength. This general purpose, lightweight monolithic has low density, excellent resistance to thermal shock, and low thermal conductivity.

### Instructions for using

**Gunning:** Use suitable gunite equipment. Material should be pre-dampened uniformly with approximately 8-12% by weight of clean water in a mechanical mixer before placing into gun. This will reduce rebound and dust. Add required water at nozzle with needle valve controls 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.

Freshly placed lightweight monolithics are sometimes prone to a deteriorating condition called alkali hydrolysis when they are kept in a non-dried state for a sustained period of time. Under these conditions, the monolithics should be force dried soon after placement to help retard the possible deterioration.

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

Properties	Kaolite 2200 Gun
Region of Manufacture	Americas
Bond type	Hydraulic
Raw material base	Insulating Aggregate
Method of installation	Gun
Maximum grain size, mm	6
Maximum service temperature, °C (°F)	1204 (2200)
Net material requirement, kg/m <sup>3</sup> (pcf)	993 (62)
Packaging in bags, kg (lbs)	18 (40)

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.

# Kaolite<sup>®</sup> 2200 Gun Monolithic

## Product Data Sheet



Properties	Kaolite 2200 Gun
<b>Bulk Density, kg/m<sup>3</sup> (pcf), ASTM C134</b>	
dried 24 hours @ 105°C (220°F)	1009-1186 (63-74)
fired 5 hours @ 816°C (1500°F)	897-1073 (56-67)
<b>Modulus of Rupture, MPa (psi), ASTM C133</b>	
dried 24 hours @ 105°C (220°F)	0.62-1.03 (90-150)
fired 5 hours @ 816°C (1500°F)	0.76-1.55 (110-225)
fired 5 hours @ maximum service temperature °C (°F)	0.90-1.72 (130-250)
<b>Cold Crushing Strength, MPa (psi), ASTM C133</b>	
dried 24 hours @ 105°C (220°F)	2.07-4.83 (300-700)
fired 5 hours @ 816°C (1500°F)	2.41-5.52 (350-800)
fired 5 hours @ maximum service temperature °C (°F)	3.10-6.21 (450-900)
<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)	-0.2 to -0.65
fired 5 hours @ maximum service temperature °C (°F)	-0.3 to -0.8
<b>Chemical Analysis, %, Calcined Basis</b>	
Alumina, Al <sub>2</sub> O <sub>3</sub>	36
Silica, SiO <sub>2</sub>	42
Ferric Oxide, Fe <sub>2</sub> O <sub>3</sub>	1.6
Titanium Oxide, TiO <sub>2</sub>	1.4
Calcium Oxide, CaO	17 (10)
Magnesium Oxide, MgO	0.2
Alkali as, K <sub>2</sub> O+Na <sub>2</sub> O	1.4
<b>Thermal Conductivity, W.m•K (BTU•in/hr•ft<sup>2</sup>•°F) , ASTM C417</b>	
260°C (500°F)	0.21 (1.48)
538°C (1000°F)	0.23 (1.63)
816°C (1500°F)	0.26 (1.79)
1093°C (2000°F)	0.28 (1.96)
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 12 months from date of manufacture when properly stored.

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.