

Product Description

Kaolite 2300LI Gun is a 1260°C (2300°F) low iron, lightweight monolithic which incorporates a high-purity binder for applications where hydrogen or reducing atmospheres are present.

Instructions for using

Gunning: Use suitable gunite equipment. The gun grade materials should be pre-dampened uniformly with approximately 7-9% 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 2.5 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 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 2300LI 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)	1260 (2300)
Net material requirement, kg/m ³ (pcf)	993 (62)
Packaging in bags, kg (lbs)	18 (40)

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Kaolite[®] 2300LI Gun Monolithic

Product Data Sheet



Properties		Kaolite 2300LI Gun
Bulk Density, kg/m³ (pcf), ASTM C134		
	dried 24 hours @ 105°C (220°F)	1010-1186 (63-74)
	fired 5 hours @ 816°C (1500°F)	897-1073 (56-67)
Modulus of Rupture, MPa (psi), ASTM C133		
	dried 24 hours @ 105°C (220°F)	0.83-1.38 (120-200)
	fired 5 hours @ 816°C (1500°F)	0.76-1.55 (110-225)
	fired 5 hours @ maximum service temperature °C (°F)	1.03-2.07 (150-300)
Cold Crushing Strength, MPa (psi), ASTM C133		
	dried 24 hours @ 105°C (220°F)	2.41-4.14 (350-600)
	fired 5 hours @ 816°C (1500°F)	2.41-6.21 (350-900)
	fired 5 hours @ maximum service temperature °C (°F)	2.76-6.90 (400-1000)
Permanent Linear Change, %, ASTM C113		
	dried 24 hours @ 105°C (220°F)	0 to -0.2
	fired 5 hours @ 816°C (1500°F)	-0.2 to -0.6
	fired 5 hours @ maximum service temperature °C (°F)	-1.0 to -2.0
Chemical Analysis, %, Calcined Basis		
	Alumina, Al ₂ O ₃	37
	Silica, SiO ₂	42
	Ferric Oxide, Fe ₂ O ₃	0.9
	Titanium Oxide, TiO ₂	1.4
	Calcium Oxide, CaO	17 (9)
	Magnesium Oxide, MgO	0.2
	Alkali as, K ₂ O+Na ₂ O	1.2
Thermal Conductivity, W.m•K (BTU•in/hr•ft²•°F), ASTM C417		
	260°C (500°F)	0.21 (1.48)
	538°C (1000°F)	0.23 (1.62)
	816°C (1500°F)	0.26 (1.77)
	1093°C (2000°F)	0.28 (1.90)
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.

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