

Product Description

Kaolite 1800 Gun is a very lightweight, low thermal conductivity, vermiculite based monolithic designed for backup insulation applications up to 982°C (1800°F). Kaolite 1800 Gun contains a calcium-aluminate cement which gives them higher temperature capability compared to Kaolite 1600.

Instructions for using

Gunning: Use suitable gunite equipment. To reduce rebound and dust pre-dampen material uniformly with approximately 12-24% by weight clean water in mechanical mixer before placing into gun. Add required water at nozzle for effective placement. Suggested air pressure at the nozzle is between 1.25 and 1.8 bar (18 and 25 psi).

Precautions: Watertight forms must be used when placing material. All porous surfaces that will come into contact with the material must be waterproofed with a suitable coating or membrane. 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). 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 1800 Gun
Region of Manufacture	Americas
Bond type	Hydraulic
Raw material base	Vermiculite
Method of installation	Gun
Maximum grain size, mm	3
Maximum service temperature, °C (°F)	982 (1800)
Net material requirement, kg/m ³ (pcf)	529 (33)
Packaging in bags, kg (lbs)	11 (25)

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[®] 1800 Gun Monolithic

Product Data Sheet



Properties		Kaolite 1800 Gun
Bulk Density, kg/m³ (pcf), ASTM C134		
	dried 24 hours @ 105°C (220°F)	449-609 (28-38)
	fired 5 hours @ 816°C (1500°F)	400-561 (25-35)
Modulus of Rupture, MPa (psi), ASTM C133		
	dried 24 hours @ 105°C (220°F)	0.34-0.62 (50-90)
	fired 5 hours @ 816°C (1500°F)	0.38-0.69 (55-100)
	fired 5 hours @ maximum service temperature °C (°F)	0.38-0.69 (55-100)
Cold Crushing Strength, MPa (psi), ASTM C133		
	dried 24 hours @ 105°C (220°F)	0.62-1.21 (90-175)
	fired 5 hours @ 816°C (1500°F)	0.66-1.24 (95-180)
	fired 5 hours @ maximum service temperature °C (°F)	0.55-1.21 (80-175)
Permanent Linear Change, %, ASTM C113		
	dried 24 hours @ 105°C (220°F)	0 to -0.3
	fired 5 hours @ 816°C (1500°F)	-0.8 to -1.8
	fired 5 hours @ maximum service temperature °C (°F)	-1.5 to -2.5
Chemical Analysis, %, Calcined Basis		
	Alumina, Al ₂ O ₃	27
	Silica, SiO ₂	39
	Ferric Oxide, Fe ₂ O ₃	7.0
	Titanium Oxide, TiO ₂	1.6
	Calcium Oxide, CaO	15.5
	Magnesium Oxide, MgO	6.3
	Alkali as, K ₂ O+Na ₂ O	3.5
Thermal Conductivity, W.m•K (BTU•in/hr•ft²•°F) , ASTM C417		
	260°C (500°F)	0.11 (0.75)
	538°C (1000°F)	0.14 (0.95)
	816°C (1500°F)	0.16 (1.15)

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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