

Product Description

Kaocrete 28LI is a general-purpose, cast/gun, low iron monolithic which contains intermediate-purity calcium aluminate cement and suitable for applications up to 1538°C (2800°F).

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). After adding the recommended amount of water, wet mix for 3 minutes. Place material within 30 minutes after mixing.

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 in a damp condition 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 complete. New monolithic installations must be heated slowly the first time.

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

Properties		Kaocrete 28LI
Region of Manufacture		Americas
Bond type		Hydraulic
Raw material base		Chamotte
Method of installation		Cast/Gun
Maximum grain size, mm		6
Maximum service temperature, °C (°F)		1538 (2800)
Net material requirement, kg/m ³ (pcf)		2034 (127)
Water addition, % by weight		
	casting by vibrating	10-12
Packaging in bags, kg (lbs)		25 (55)

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Kaocrete 28LI Monolithic

Product Data Sheet



Properties		Kaocrete 28LI
Bulk Density, kg/m³ (pcf), ASTM C134		
fired 5 hours @ 816°C (1500°F)		1954-2130 (122-133)
Modulus of Rupture, MPa (psi), ASTM C133		
dried 24 hours @ 105°C (220°F)		3.1-5.9 (450-850)
fired 5 hours @ 816°C (1500°F)		2.1-3.4 (300-500)
fired 5 hours @ maximum service temperature °C (°F)		5.5-10.3 (800-1500)
Cold Crushing Strength, MPa (psi), ASTM C133		
dried 24 hours @ 105°C (220°F)		19.3-31.0 (2800-4500)
fired 5 hours @ 816°C (1500°F)		15.9-27.6 (2300-4000)
fired 5 hours @ maximum service temperature °C (°F)		24.1-48.3 (3500-7000)
Permanent Linear Change, %, ASTM C113		
dried 24 hours @ 105°C (220°F)		0 to -0.2
fired 5 hours @ 816°C (1500°F)		-0.1 to -0.3
fired 5 hours @ maximum service temperature °C (°F)		-0.5 to -1.5
Chemical Analysis, %, Calcined Basis		
Alumina, Al ₂ O ₃		50
Silica, SiO ₂		41
Iron Oxide, Fe ₂ O ₃		1.0
Titania, TiO ₂		1.9
Lime, CaO		5.6
Alkali as, Na ₂ O + K ₂ O		0.2
Thermal Conductivity, W.m•K (BTU•in/hr•ft²•°F), ASTM C417		
260°C (500°F)		0.86 (6.0)
538°C (1000°F)		0.91 (6.3)
816°C (1500°F)		0.95 (6.6)
1093°C (2000°F)		0.97 (6.7)

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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