

Product Description

Kaocrete 30 is a 1650°C (3000°F), 60% alumina monolithic designed for high strength casting applications.

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 30	
Region of Manufacture	Americas	
Bond type	Hydraulic	
Raw material base	Chamotte	
Method of installation	Cast	
Maximum grain size, mm	7	
Maximum service temperature, °C (°F)	1649 (3000)	
Net material requirement, kg/m ³ (pcf)	2211 (138)	
Water addition, % by weight		
	casting by vibrating	8-9.5
Packaging in bags, kg (lbs)		25 (55)

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Kaocrete[®] 30 Monolithic

Product Data Sheet



Properties		Kaocrete 30
Bulk Density, kg/m³ (pcf), ASTM C134		
	fired 5 hours @ 816°C (1500°F)	2147-2349 (134-146)
Modulus of Rupture, MPa (psi), ASTM C133		
	dried 24 hours @ 105°C (220°F)	3.4-6.9 (500-1000)
	fired 5 hours @ 816°C (1500°F)	2.2-3.8 (325-550)
	fired 5 hours @ maximum service temperature °C (°F)	6.9-12.4 (1000-1800)
Cold Crushing Strength, MPa (psi), ASTM C133		
	dried 24 hours @ 105°C (220°F)	20.7-48.3 (3000-7000)
	fired 5 hours @ 816°C (1500°F)	17.9-34.5 (2600-5000)
	fired 5 hours @ maximum service temperature °C (°F)	27.6-55.2 (4000-8000)
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)	-0.2 to -1.0
Chemical Analysis, %, Calcined Basis		
	Alumina, Al ₂ O ₃	60
	Silica, SiO ₂	34
	Iron Oxide, Fe ₂ O ₃	0.8
	Titania, TiO ₂	1.7
	Lime, CaO	3.2
	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)	1.40 (9.7)
	538°C (1000°F)	1.38 (9.6)
	816°C (1500°F)	1.38 (9.6)
	1093°C (2000°F)	1.40 (9.7)

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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