

### Product Description

Kaocrete 32-CM is a 1760°C (3200°F), casting grade, refractory monolithic with 70% alumina content.

### 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 32CM
Region of Manufacture	Americas
Bond type	Hydraulic
Raw material base	Chamotte / Bauxite
Method of installation	Cast
Maximum grain size, mm	7
Maximum service temperature, °C (°F)	1760 (3200)
Net material requirement, kg/m <sup>3</sup> (pcf)	2387 (149)
Water addition, % by weight	
	casting by vibrating
Packaging in bags, kg (lbs)	8-9.5 25 (55)

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# Kaocrete<sup>®</sup> 32CM Monolithic

## Product Data Sheet



Properties	Kaocrete 32CM	
<b>Bulk Density, kg/m<sup>3</sup> (pcf), ASTM C134</b>		
	fired 5 hours @ 816°C (1500°F)	2307-2483 (144-155)
<b>Modulus of Rupture, MPa (psi), ASTM C133</b>		
	dried 24 hours @ 105°C (220°F)	3.1-6.2 (450-900)
	fired 5 hours @ 816°C (1500°F)	2.4-4.1 (350-600)
	fired 5 hours @ maximum service temperature °C (°F)	8.3-13.8 (1200-2000)
<b>Cold Crushing Strength, MPa (psi), ASTM C133</b>		
	dried 24 hours @ 105°C (220°F)	20.7-41.4 (3000-6000)
	fired 5 hours @ 816°C (1500°F)	17.2-37.9 (2500-5500)
	fired 5 hours @ maximum service temperature °C (°F)	34.5-62.1 (5000-9000)
<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)	-0.1 to -0.3
	fired 5 hours @ maximum service temperature °C (°F)	-0.2 to -0.7
<b>Chemical Analysis, %, Calcined Basis</b>		
	Alumina, Al <sub>2</sub> O <sub>3</sub>	67
	Silica, SiO <sub>2</sub>	28
	Iron Oxide, Fe <sub>2</sub> O <sub>3</sub>	0.9
	Titania, TiO <sub>2</sub>	1.8
	Lime, CaO	2.4
	Magnesia, MgO	-
	Alkali as, Na <sub>2</sub> O + K <sub>2</sub> O	0.2
<b>Thermal Conductivity, W.m•K (BTU•in/hr•ft<sup>2</sup>•°F), ASTM C417</b>		
	260°C (500°F)	1.67 (11.6)
	538°C (1000°F)	1.60 (11.1)
	816°C (1500°F)	1.57 (10.9)
	1093°C (2000°F)	1.50 (10.4)

### 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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