

Product Description

Kao-Tab 95 EF is a 95%-alumina, low silica monolithic designed for casting. It maintains high strength throughout the temperature range of 1817°C (3400°F). Key features are high strength, high-use limit, good slag resistance, and high purity. Kao-Tab 95 EF is the easy flow version with excellent flow characteristics and working time.

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 3-5 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	Kao-Tab 95EF
Region of Manufacture	Americas
Bond type	Hydraulic
Raw material base	Tabular Alumina
Method of installation	Cast
Maximum grain size, mm	3
Maximum service temperature, °C (°F)	1871 (3400)
Net material requirement, kg/m ³ (pcf)	2579 (161)
Water addition, % by weight	
	casting by vibrating
	8-10
Packaging in bags, kg (lbs)	25 (55)

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Kao-Tab™ 95EF Monolithic

Product Data Sheet



Properties	Kao-Tab 95EF
Bulk Density, kg/m³ (pcf), ASTM C134	
fired 5 hours @ 816°C (1500°F)	2483-2659 (155-166)
Modulus of Rupture, MPa (psi), ASTM C133	
dried 24 hours @ 105°C (220°F)	8.3-12.4 (1200-1800)
fired 5 hours @ 816°C (1500°F)	6.6-11.7 (950-1700)
fired 5 hours @ maximum service temperature °C (°F)	8.3-12.4 (1200-1800)
Cold Crushing Strength, MPa (psi), ASTM C133	
dried 24 hours @ 105°C (220°F)	41.4-65.5 (6000-9500)
fired 5 hours @ 816°C (1500°F)	44.8-86.2 (6500-12500)
fired 5 hours @ maximum service temperature °C (°F)	41.4-75.9 (6000-11000)
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 to -1.5
Abrasion loss, cm³, ASTM C704	
fired 5 hours @ 816°C (1500°F)	7-14
Chemical Analysis, %, Calcined Basis	
Alumina, Al ₂ O ₃	94
Silica, SiO ₂	0.1
Iron Oxide, Fe ₂ O ₃	0.1
Titania, TiO ₂	Trace
Lime, CaO	4.6
Magnesia, MgO	0.2
Alkali as, Na ₂ O + K ₂ O	0.4
Thermal Conductivity, W.m•K (BTU•in/hr•ft²•°F) , ASTM C417	
260°C (500°F)	1.93 (13.4)
538°C (1000°F)	1.57 (10.9)
816°C (1500°F)	1.41 (9.8)
1093°C (2000°F)	1.43 (9.9)
1370°C (2500°F)	1.36 (9.4)

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 6 months from date of manufacture when properly stored.

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