

Product Description

Developed with industry leading Kao-Tuff technology, Kao-Tuff 125C RFT is a erosion-resistant monolithic with excellent physical and insulating properties installed by standard vibratory casting techniques. Abrasion losses of less than 10cc's and a thermal conductivity of 6.1 at 816°C (1500°F) make it effective for numerous applications in FCCU and other industrial uses where improved erosion resistance and physical properties are required.

Engineered with Rapid Fire Technology (RFT) for an accelerated dryout schedule capable of 100F/hr with no holds.

Instructions for Using

Casting: Highest strength is obtained with a monolithic refractory by using the least amount of clean mixing water which will allow thorough working of material into place by vibrating or rodding. A mechanical mixer is required for proper placement (paddle-type mortar mixer best suited). After adding the recommended amount of water to achieve a ball-in-hand consistency, wet mix for 6 minutes. Place material within 10-20 minutes after mixing.

Precautions: Use watertight forms; when placing against porous surfaces, waterproof the surface. For maximum strength, 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). In hot conditions, keep mix temperatures below 80°F or working time will be greatly reduced. 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-Tuff 125C RFT	
Region of Manufacture	Americas	
Bond type	Hydraulic	
Raw material base	Fireclay	
Method of installation	Vibratory Cast	
Maximum grain size, mm	4	
Maximum service temperature, °C (°F)	1316 (2400)	
Net material requirement, kg/m ³ (pcf)	2082 (130)	
Water addition, % by weight		
	casting by vibrating	11-12.5
Packaging in bags, kg (lbs)	25 (55)	

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Kao-Tuff™ 125C RFT

Product Data Sheet



Properties	Kao-Tuff 125C RFT	
Bulk Density, kg/m3 (pcf), ASTM C134		
	dried 24 hours @ 105°C (220°F)	133-146
	fired 5 hours @ 816°C (1500°F)	123-135
Modulus of Rupture, MPa (psi), ASTM C133		
	dried 24 hours @ 105°C (220°F)	(1500-2500)
	fired 5 hours @ 816°C (1500°F)	(1300-1800)
	fired 5 hours @ maximum service temperature °C (°F)	(1400-2300)
Cold Crushing Strength, MPa (psi), ASTM C133		
	dried 24 hours @ 105°C (220°F)	(11000-15000)
	fired 5 hours @ 816°C (1500°F)	(10000-15500)
	fired 5 hours @ maximum service temperature °C (°F)	(10000-14000)
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)	-0.8 to -1.5
Abrasion loss, cm3, ASTM C704		
	fired 5 hours @ 816°C (1500°F)	7-10
Chemical Analysis, %, Calcined Basis		
	Alumina, Al ₂ O ₃	55
	Silica, SiO ₂	31
	Iron Oxide, Fe ₂ O ₃	0.6
	Titania, TiO ₂	1.0
	Lime, CaO	12
	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)	0.83 (5.8)
	538°C (1000°F)	0.85 (5.9)
	816°C (1500°F)	0.88 (6.1)
	1093°C (2000°F)	0.91 (6.3)
	1370°C (2500°F)	-

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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