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**REFRACTORY PRODUCT
 DATA SHEET**

Data date: 8/17/2006

Product # **16524** **PLICAST AL-TUFF 3100 SPECIAL KK**

Product Description:
 An aluminum resistant, mullite based, high strength, low cement refractory castable.

Reccommended Aluminum Applications
 Aluminum melting & holding furnaces: lower sidewalls, divison walls, hearths, ramps, and sills. Transfer ladles. OTR ladle bottoms. Troughs & launders.

Max. Service Limit:: 3100 F / 1705 C	Density: To Place	In Service
Aluminum Contact Limit: 1700 F / 925 C	155 pcf	155 pcf
Packaging: 50 lb / 22.7 kg Bag	2482 kg/m ³	2482 kg/m ³
Required Water: 1.5 qt. / 1.4 l per bag	Min. Time Before Firing: 24 Hrs.	

Chemistry - % (calcined)

Al ₂ O ₃ 60.4	CaO 2.5	SiC
SiO ₂ 34.3	MgO 0.1	ZrO ₂
Fe ₂ O ₃ 0.9	Alk. 0.2	Other
TiO ₂ 1.6	P ₂ O ₅	

Abrasion Loss
 (ASTM C704)
 1500 F / 815 C
 7 cc

Thermal Conductivity

	btu*in/hr*ft ² *F	w / m*C
500 F / 260 C	10.7	1.5
1000 F / 540 C	11.3	1.6
1500 F / 815 C	12	1.7
2000 F / 1095 C	12.6	1.8

Temperature	Linear Change - % ASTM C113	Cold MOR		Hot MOR		CCS	
		psi	MPa	psi	MPa	psi	MPa
		ASTM C133		ASTM C583		ASTM C133	
230 F / 110 C	0	1900	13.1			10000	69
1000 F / 540 C	-0.1	1500	10.3	2400	16.6		0
1500 F / 815 C	-0.2	3200	22.1	3800	26.2	13000	90
			0		0		0
			0		0		0
			0		0		0

Bake out: Schedule AT-AS ASTM classification: F Low-Cement Castable

Note: Data should not be used for specification purposes. Product data is periodically updated to reflect product / raw material / process changes. Please consult with your Plibrico representative to insure you have the most current data.

All data are averaged results of laboratory ASTM tests on laboratory cast specimens. Reasonable variations can be expected.

Thermal conductivity will vary depending upon measurement method, installed density, and thermal treatment.

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