

# KAST-O-LITE® 30 LI PLUS



## Product Data

12/14: 5874

### Description: 3000°F Low-Iron Insulating Castable

- Features:
- High-alumina, high-temperature, lightweight castable.
  - Exhibits moderate density, excellent strengths, low iron, and low thermal conductivity.
- Uses:
- Aluminum furnace stacks and aluminum holding furnace doors.
  - Reheat furnace discharge doors and backup linings.
  - Carbon black backup linings.
  - Air heaters.

### Chemical Analysis: Approximate (Calcined Basis)

Silica (SiO <sub>2</sub> )	35.3%
Alumina (Al <sub>2</sub> O <sub>3</sub> )	56.6%
Iron Oxide (Fe <sub>2</sub> O <sub>3</sub> )	0.9%
Titania (TiO <sub>2</sub> )	1.3%
Lime (CaO)	5.0%
Magnesia (MgO)	0.3%
Alkalies (Na <sub>2</sub> O+K <sub>2</sub> O)	0.6%

### Physical Data (Typical)

Maximum Service Temperature	3000°F (1650°C)
Material Required	90 lb/ft <sup>3</sup> (1.44 g/cm <sup>3</sup> )
Bulk Density	lb/ft <sup>3</sup> (g/cm <sup>3</sup> )
After 220°F (105°C)	90 to 100 (1.44 to 1.60)
After 1500°F (815°C)	85 to 95 (1.36 to 1.52)
Modulus of Rupture	lb/in. <sup>2</sup> (MPa)
After 220°F (105°C)	600 (4.1)
After 1500°F (815°C)	300 (2.1)
After 2000°F (1095°C)	300 (2.1)
After 2500°F (1370°C)	900 (6.2)
After 2910°F (1599°C)	800 (5.5)
Cold Crushing Strength	lb/in. <sup>2</sup> (MPa)
After 220°F (105°C)	1,800 to 3,600 (12.4 to 24.8)
After 1500°F (815°C)	1,300 to 2,600 (9.0 to 17.9)
After 2000°F (1095°C)	1,300 (9.0)
After 2500°F (1370°C)	2,000 (13.8)
After 2910°F (1599°C)	1,800 (12.4)
Permanent Linear Change	
After 220°F (105°C)	None
After 1500°F (815°C)	0% to -0.3%
After 2000°F (1095°C)	-0.2%
After 2500°F (1370°C)	+2.0%
After 2910°F (1599°C)	+1.0%

## Product Data

Thermal Conductivity	Btu · in/hr · ft <sup>2</sup> · °F (W/m · °C)
At 400°F (205°C)	5.6 (0.81)
At 800°F (425°C)	4.2 (0.61)
At 1200°F (650°C)	4.1 (0.59)
At 1600°F (870°C)	4.5 (0.65)
At 2000°F (1095°C)	4.9 (0.71)

Particle Size	
Maximum Grain Size 10 Mesh (Tyler)	Less than 5%

Note: The test data shown are based on average results on production samples and are subject to normal variation on individual tests. The test data cannot be taken as minimum or maximum values for specification purposes. ASTM test procedures used when applicable.

Mixing and Using Information (Water calculated at 8.337 lb/gallon)	55 lb bag	1000 lb bag	1500 lb bag
Water Required—Hand Casting/Pouring (Weight 18.0%)			
Pounds	9.9	180.0	270.0
Gallons	1.2	21.6	32.4
Liters	4.5	81.6	122.4

For detailed mixing and using instructions, contact your HWI representative or visit [www.thinkHWI.com](http://www.thinkHWI.com).

### Heatup/Dryout Schedule

See HWI Dryout Schedule 4—PLUS Rated Lightweight Castables and Gunning Castables.

### Installation Guidelines

See HWI Installation Guidelines IC-1—Insulating Castables—Standard.

Shelf Life (Under Proper Storage Conditions)	365 days
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