

# KAST-O-LITE® 16 PLUS



## Product Data

6/13: 5147

### Description: 1600°F Insulating Castable

- Features:
- Outstanding low density and very low thermal conductivity.
  - Can be applied by casting or by gunning.
  - Superior to mineral wool block insulation because it can conform to a complex shell and fill intricate voids.
- Uses:
- Backup lining behind other refractories.

### Chemical Analysis: Approximate (Calcined Basis)

Silica (SiO <sub>2</sub> )	34.5%
Lime (CaO)	34.0%
Magnesia (MgO)	13.0%
Alumina (Al <sub>2</sub> O <sub>3</sub> )	10.0%
Iron Oxide (Fe <sub>2</sub> O <sub>3</sub> )	5.0%
Titania (TiO <sub>2</sub> )	0.8%
Alkalies (Na <sub>2</sub> O+K <sub>2</sub> O)	2.7%

Physical Data (Typical)	Poured	Gunned (predampened)
Maximum Service Temperature	1600°F (870°C)	1600°F (870°C)
Material Required	25 lb/ft <sup>3</sup> (0.40 g/cm <sup>3</sup> )	40 lb/ft <sup>3</sup> (0.64 g/cm <sup>3</sup> )
Bulk Density	lb/ft <sup>3</sup> (g/cm <sup>3</sup> )	lb/ft <sup>3</sup> (g/cm <sup>3</sup> )
After 220°F (105°C)	26 (0.42)	47 (0.75)
After 1500°F (815°C)	25 (0.40)	40 (0.64)
Modulus of Rupture	lb/in. <sup>2</sup> (MPa)	lb/in. <sup>2</sup> (MPa)
After 220°F (105°C)	75 (0.5)	250 (1.7)
After 1000°F (540°C)	75 (0.5)	250 (1.7)
Cold Crushing Strength	lb/in. <sup>2</sup> (MPa)	lb/in. <sup>2</sup> (MPa)
After 220°F (105°C)	120 (0.8)	400 (2.8)
After 1000°F (540°C)	120 (0.8)	400 (2.8)
Permanent Linear Change		
After 220°F (105°C)	-0.2%	-0.2%
After 1000°F (540°C)	-0.5%	-1.2%
After 1500°F (815°C)	-1.6%	-1.5%
Thermal Conductivity	Btu·in/hr·ft <sup>2</sup> ·°F (W/m·°C)	Btu·in/hr·ft <sup>2</sup> ·°F (W/m·°C)
At 400°F (205°C)	1.15 (0.17)	1.65 (0.24)
At 1000°F (535°C)	1.35 (0.19)	1.54 (0.22)
At 1500°F (815°C)	1.70 (0.24)	1.73 (0.25)
Particle Size		
Maximum Grain Size 4 Mesh (Tyler)	Less than 10%	Less than 10%

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.

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Mixing and Using Instructions (Water calculated at 8.337 lb/gallon)	25 lb bag	500 lb bag	750 lb bag
<b>Water Required—Hand Casting/Pouring (Weight 160.0%)</b>			
Pounds	40.0	800.0	1,200.0
Gallons	4.8	96.0	143.9
Liters	18.1	362.5	543.8
<b>Predampening Required— Water for Gunning (Weight 13.0%)</b>			
Pounds	3.3	65.0	97.5
Gallons	0.4	7.8	11.7
Liters	1.5	29.5	44.2

**NOTE: Typical properties and projected rebound losses may not be obtained if not predampened.**

Recommended Gunning Pressure	15 psi
<b>Mixing Time (Casting or Predampening): Two (2) minutes maximum.</b>	
Working Time	20 minutes
For detailed mixing and using instructions, contact your HWI representative or visit <a href="http://www.thinkHWI.com">www.thinkHWI.com</a> .	
<b>Heatup/Dryout Schedule</b>	
See HWI Dryout Schedule 4—PLUS Rated Lightweight Castables and Gunning Castables.	
<b>Installation Guidelines</b>	
See HWI Installation Guidelines IC-3—Insulating Castables—Castable/Gunnable.	
Shelf Life (Under Proper Storage Conditions)	365 days