



# Product Data

9/04: 5938

## LO-ABRADE® GR PLUS

### Technical Data:

### Gunned

### Physical Properties: (Typical)

### English Units

### SI Units

Maximum Recommended Temperature	2600°F	1425°C
Material Required	$\frac{\text{lb}}{\text{ft}^3}$ 127.0	$\frac{\text{g}}{\text{cm}^3}$ 2.04
Bulk Density		
After 220°F (105°C)	136.0	2.18
After 1500°F (815°C)	127.0	2.04
Water Required for Premixing	See Mixing & Using Instructions	
Working Time		
Minutes		20
Permanent Linear Change, %		
After 220°F (105°C)		Nil
After 1500°F (815°C)		-0.2
After 2000°F (1095°C)		-0.2
After 2300°F (1260°C)		-0.5
Modulus of Rupture	$\frac{\text{lb}}{\text{in}^2}$	$\text{MPa}$
After 220°F (105°C)	1700	11.7
After 1500°F (815°C)	1200	8.3
After 2000°F (1095°C)	1000	6.9
Cold Crushing Strength		
After 220°F (110°C)	10000	69.0
After 1500°F (815°C)	6500	44.8
After 2000°F (1095°C)	6000	41.4
Particle Size		
Retained on 3 Mesh Screen		Less Than 1%
Abrasion Loss		
1500°F (815°C)		12.0 cc
Thermal Conductivity		
At a mean Temperature of	$\frac{\text{Btu}\cdot\text{in}}{\text{hr}\cdot\text{ft}^2\cdot^\circ\text{F}}$	$\frac{\text{W}}{\text{m}\cdot^\circ\text{C}}$
400°F (205°C)	6.4	0.92
800°F (425°C)	6.4	0.92
1200°F (650°C)	6.4	0.92
1600°F (870°C)	6.5	0.94
2000°F (1095°C)	6.6	0.95

(Continued)



# Product Data

## LO-ABRADE® GR PLUS (Continued)

Chemical Analysis: (Approximate)  
(Calcined Basis)

Silica	(SiO <sub>2</sub> )	40.3%
Alumina	(Al <sub>2</sub> O <sub>3</sub> )	49.0
Titania	(TiO <sub>2</sub> )	2.5
Iron Oxide	(Fe <sub>2</sub> O <sub>3</sub> )	1.3
Lime	(CaO)	6.0
Magnesia	(MgO)	0.2
Alkalies	(Na <sub>2</sub> O+K <sub>2</sub> O)	0.7

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.

Description: LO-ABRADE GR PLUS is a 2600°F dense abrasion resistant gunning castable. It exhibits exceptional resistance to abrasion, erosion, rubbing, high energy impact, high furnace gas velocities, and high temperatures. LO-ABRADE GR PLUS is also suitable for specialized furnace atmospheres due to its low iron oxide content.

Applications: Typical applications are linings for cyclones, duct linings which carry abrasive particles, cement and lime rotary kiln chain sections, cement plant preheaters, alumina flash calciners, combustion chambers, iron ore direct reduction plants, coal gasification plants, and power plant ash hoppers.