

# PRODUCT DATA

## JET D.P. FIREBRICK

### ALSEY Jet D.P. High Duty Firebrick

**Description:**

High duty dry press firebrick

**Sizes:**

Various

### TYPICAL TEST DATA -- PHYSICAL PROPERTIES

**ASTM C-24**

P.C.E. .... 32-32½  
 Temperature Equivalent (melting), °F..... 3123-3135  
 Service Temperature (max. recommended), °F ..... 2850

**ASTM C-133**

Modulus of Rupture (MOR), psi..... 924

**ASTM C-20**

Apparent Porosity, % ..... 19.1  
 Apparent Specific Gravity, g/cc..... 2.11  
 Bulk Density, lb/ft<sup>3</sup> ..... 133.2  
 Water Absorption, %..... 8.8

**ASTM C-16 Schedule 3, % deformation**

Load Test at 2640°F..... -6.2

**ASTM C-113 Schedule B % linear**

Reheat Change at 2550°F ..... -0.1

**ASTM C-38, 2910°F preheat**

Panel Spalling Loss, % wt. .... 3.3

**Thermal Conductivity (K-Factor)**

At a mean temperature of		Btu/in ft <sup>2</sup> hr°F	W/m°C
400°F	(205°C)	8.2	1.18
800°F	(425°C)	8.5	1.23
1200°F	(650°C)	9.0	1.30
1600°F	(870°C)	9.2	1.33
2000°F	(1095°C)	9.5	1.37
2400°F	(1315°C)	9.8	1.41

We certify that the JET D.P. Dry Press Firebrick manufactured at our Alsey, Illinois plant conforms to ASTM Specification C-27 - Class 4.1.2 for High-Duty and C-16, C-20, C-24, C-38, C-113, and C-133.

### TYPICAL CHEMICAL ANALYSIS, Wt. % (calcined basis)

Silica (SiO <sub>2</sub> ).....	56.02
Aluminum Oxide (Al <sub>2</sub> O <sub>3</sub> ).....	37.50
Iron Oxide (Fe <sub>2</sub> O <sub>3</sub> ).....	2.09
Titanium Dioxide (TiO <sub>2</sub> ).....	1.99
Potassium Oxide (K <sub>2</sub> O).....	1.47
Magnesium Oxide (MgO).....	0.36
Calcium Oxide (CaO).....	0.30
Sodium Oxide (Na <sub>2</sub> O).....	0.074
Zirconium Dioxide (ZrO <sub>2</sub> ).....	0.068
Chromium(III) Oxide (Cr <sub>2</sub> O <sub>3</sub> ).....	0.039
Phosphorous Pentoxide (P <sub>2</sub> O <sub>5</sub> ).....	0.036
Manganese Oxide (MnO).....	0.007
NiO.....	0.012
Total.....	99.97

Loss on Ignition, 1000°C..... 0.13

### Brick Specifications

P.C.E. ....	31½ Minimum
Modulus of Rupture, psi.....	700 Minimum
Apparent Porosity, %.....	21.8 Maximum
Bulk Density, lbs/ft <sup>3</sup> .....	129 Minimum
Bulk Density, g/cc.....	2.08 Minimum
Length.....	-3/16" to +1/16"
Width.....	-3/32" to + 1/32"
Thickness.....	-3/32" to + 1/32" (2½" or 3" nominal)*
Warpage.....	<1/16" Should not be visible
Bowing.....	Two bowed bricks placed face to face
.....	should have less than ⅛" space.
Squareness.....	Should not be visibly distorted.

All straights and series shipped on any one order to be matched for length and width within ⅛" total range and for thickness within ¼" total range on a four brick stack.

\*All straights and series larger than 9x4½x3" will have dimensional tolerances of ±2%.

An MSDS is available upon request

**Contact:**

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