Alsey Refractories Company

PRODUCT DATA

SMITHFIELD UNBRANDED FIREBRICK

ALSEY Smithfield Unbranded Medium Duty Firebrick

Description:
Medium duty dry press firebrick

Sizes:
Various

TYPICAL TEST DATA -- PHYSICAL PROPERTIES

ASTM C-24
P.C.E. .......................................................... 29
Temperature Equivalent (melting), °F .................. 3018
Service Temperature (max. recommended), °F ....... 2700

ASTM C-20
Apparent Porosity, % ........................................ 21.3
Apparent Specific Gravity, g/cc .......................... 2.66
Bulk Density, lb/ft³ ............................................. 130.2
Water Absorption, % ........................................ 9.8

ASTM C-16  Schedule 3 % deformation
Load Test at 2640°F .......................................... -6.8

ASTM C-27
Classification .................................................. Medium Duty

ASTM C-113  Schedule B % linear
Reheat Change at 2550°F ................................. -2.8

ASTM C-38, 2910°F preheat
Panel Spalling Loss, % wt. ............................... 9.5

Thermal Conductivity (K-Factor)

<table>
<thead>
<tr>
<th>At a mean temperature of</th>
<th>Btu/in ft²hr°F</th>
<th>W/m°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>400°F (205°C)</td>
<td>8.2</td>
<td>1.18</td>
</tr>
<tr>
<td>800°F (425°C)</td>
<td>8.5</td>
<td>1.23</td>
</tr>
<tr>
<td>1200°F (650°C)</td>
<td>9.0</td>
<td>1.30</td>
</tr>
<tr>
<td>1600°F (870°C)</td>
<td>9.2</td>
<td>1.33</td>
</tr>
<tr>
<td>2000°F (1095°C)</td>
<td>9.5</td>
<td>1.37</td>
</tr>
<tr>
<td>2400°F (1315°C)</td>
<td>9.8</td>
<td>1.41</td>
</tr>
</tbody>
</table>

TYPICAL CHEMICAL ANALYSIS, Wt. % (calcined basis)

Silica (SiO₂) .................................................. 62.93
Aluminum Oxide (Al₂O₃) .................................. 30.78
Iron Oxide (Fe₂O₃) ....................................... 2.14
Titanium Dioxide (TiO₂) .................................. 1.68
Potassium Oxide (K₂O) ................................... 1.48
Magnesium Oxide (MgO) .................................. 0.45
Calcium Oxide (CaO) ..................................... 0.22
Other Oxides .................................................. 0.32
Total .......................................................... 100.00

Loss on Ignition, 1000°C ................................. 0.13

We certify that SMITHFIELD (Unbranded) Dry Press Firebrick manufactured at our Alsey, Illinois plant conforms to ASTM Specification C-27 - Class 4.1.4 and 4.1.5 for Medium Duty and Low Duty respectively and C-1261-98 (which includes C-24 and C-67), as well as, C-16, C-20, C-24, C-38, C-113, C-133.

MSDS available upon request.

The above properties represent average results of typical data produced from standard ASTM test methods on a 9” straight. Specifications should not be considered guaranteed. Alsey Refractories Company makes every effort to ensure consistency in our products; however, properties may vary due to standard statistical manufacturing deviations. Alsey Refractories Company reserves the right to modify this data at any time without prior notice.

Revised: Aug 13, 2012

Manufacturer of Quality Refractories Since 1906