



# Brick

## Product Data

### GR-FG®

Classification: GR-FG® is a high fired burned and rebounded fused magnesia chrome brick of the sixty percent magnesia class. The high proportion of direct and secondary spinel bonds in the matrix produces a tight textured and high hot strength product with extremely low porosity. The balanced chemistry and enhanced hot strength enables GR-FG® to provide maximum resistance to corrosive and erosive conditions. GR-FG® is suitable for use in the steel degasser and AOD processes and the lead and zinc processing industries.

<u>Physical Data: (Typical)</u>	<u>English Units</u>	<u>SI Units</u>
Bulk Density	$\frac{\text{lb}}{\text{ft}^3}$ 204	$\frac{\text{kg}}{\text{m}^3}$ 3,218
Apparent Porosity		14.1%
Modulus of Rupture At 70°F (21°C)	$\frac{\text{lb}}{\text{in}^2}$ 1680	MPa 11.6
Hot Modulus of Rupture At 2800°F (1538°C)	520	3.6
Thermal Expansion (Linear) @ 2550°F (1400°C) Permanent Linear Change Contraction or Expansion at 3100°F (1704°C)		1.6%  +0.2%
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 (204°C)	38	5.5
1200°F (650°C)	27	3.9
2000°F (1093°C)	26	3.7

#### Chemical Analysis: (Approximate)

(Calcined Basis)

Magnesia	(MgO)	60.2%
Chromia	(Cr <sub>2</sub> O <sub>3</sub> )	18.6%
Alumina	(Al <sub>2</sub> O <sub>3</sub> )	6.9%
Silica	(SiO <sub>2</sub> )	1.9%
Iron Oxide	(Fe <sub>2</sub> O <sub>3</sub> )	11.5%
Lime	(CaO)	0.9%

The properties shown on this data sheet represent typical average results generated using standard ASTM test methods (unless otherwise noted) conducted under controlled condition (using standard rectangular shapes), and should not be considered to be guaranteed specifications. Properties are subject to normal manufacturing statistical standard deviation ranges, and Resco Products, Inc. reserves the right to modify the properties and specifications at any time without prior notice.

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