



Brick

Product Data

GR[®]-224R

GR[®]-224R is a high density, low porosity high fired magnesia chrome brick of the 60% magnesia class. The combination of high purity raw materials and high firing temperature produces a direct bonded product with excellent hot strength. The high chrome content provides excellent thermal shock and slag resistance and makes GR[®]-224R suitable for both steel and non-ferrous applications.

REHEAT (Permanent Linear Change) - ASTM C113

Contraction or Expansion at 3100°F (1705°C) ... 0.3% exp.

APPARENT POROSITY - ASTM C20 14.4%

.....	<u>lb/ft³</u>	<u>g/cm³</u>
BULK DENSITY - ASTM C20	204	3.26

.....	<u>lb/in²</u>	<u>MPa</u>
MODULUS OF RUPTURE - ASTM C133	470	3.2

HOT MODULUS OF RUPTURE - ASTM C583

Heated at 2700°F (1480°C) 300 2.0

THERMAL EXPANSION at 2550°F (1400°C) 1.6%

THERMAL CONDUCTIVITY

At a Mean Temperature of	<u>Btu-in/hr-ft²·°F</u>	<u>W/m·°C</u>
400°F (204°C).....	38	5.5
1200°F (650°C).....	26	3.7
2000°F (1093°C).....	25	3.6

CHEMICAL ANALYSIS (loss free) mass%

Magnesia - MgO	61.0%
Chromic Oxide - Cr ₂ O ₃	21.5%
Alumina - Al ₂ O ₃	7.3%
Iron Oxide - Fe ₂ O ₃	7.8%
Silica - SiO ₂	1.0%
Lime - CaO	1.4%

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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