

# SKAMOL Moler insulating brick HIPOR 450

for back-up insulation - up to 900°C (1652°F)



Grade	HIPOR 450	
<b>Maximum service temperature</b>		
	°C	950
	°F	1742
<b>Bulk density, dry</b>		
	kg/m <sup>3</sup>	450
	lbs/cu.ft.	28
<b>Cold crushing strength (EN 1094-5:1995)</b>		
@ room temperature	MPa	1.5
	lbs/sq.in.	218
<b>Modulus of rupture (EN 993-6:1995)</b>		
	MPa	0.7
	lbs/sq.in.	102
<b>Total porosity (EN 1094-4: 1995)</b>		
	%	79
<b>Permeability to gas (BS EN 993-4: 1995)</b>		
	nPm	0.6
<b>Creep in compression (EN 993-9: 1997)</b>		
50h at 850°C (1562°F), load 0.1 MPa (14.5 lbs/sq.in.)	%	3
<b>Specific heat</b>		
	kJ/(kg×K)	0.98
	BTU/(lb×°F)	0.23
<b>Coefficient of reversible thermal expansion (BS 1902: section 5.3: 1990)</b>		
@ 20°C-750°C (68°F-1382°F)	K <sup>-1</sup>	3.0×10 <sup>-6</sup>
	°F <sup>-1</sup>	1.6×10 <sup>-6</sup>
<b>Resistance to thermal shock (EN 993-11: 1998)</b>		
	cycles	> 30
<b>Linear reheat shrinkage (EN 1094-6: 1999)</b>		
12h at 900°C (1652°F)	%	1.0
<b>Pyrometric cone equivalent (ASTM C24-89 ORTON cones)</b>		
	°C	1465
	°F	2669
<b>Thermal conductivity (ASTM C-182 supplemented by ASTM C-201)</b>		
mean temp. @ 200°C	W/(m×K)	0.10
@ 400°C		0.13
@ 600°C		0.15
@ 800°C		0.17
@ 392°F	BTU/(sq.ft×h×°F/in)	0.69
@ 752°F		0.90
@ 1112°F		1.04
@ 1472°F		1.18
<b>Chemical analysis, typical</b>		
Silica	SiO <sub>2</sub>	86
Titanium oxide	TiO <sub>2</sub>	0.3
Ferric oxide	Fe <sub>2</sub> O <sub>3</sub>	2.8
Alumina	Al <sub>2</sub> O <sub>3</sub>	6.1
Magnesium oxide	MgO	0.8
Calcium oxide	CaO	0.3
Sodium oxide	Na <sub>2</sub> O	0.2
Potassium oxide	K <sub>2</sub> O	1.3
Sulphur trioxide	SO <sub>3</sub>	-
Loss on ignition 1025°C (1877°F)	LOI	0.7
<b>Colour</b>		
		orange
<b>HS Tariff number</b>		
(Harmonized Commodity Description and Coding System)		6901.00.00

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Data are average results of tests conducted under standard procedures and are subject to variation. Data contained in this data sheet are supplied in good faith as a technical service and are subject to change without notice. Misprint and errors excepted.

February 2010