

# Snow Shoe Refractories, LLC

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# SPARTAN® 80D

## Product Data

### Scope:

An 80% high alumina brick formulated with select raw materials to produce low porosity, high strength, and excellent resistance to slag and metal. It will find applications in iron and steel ladles, electric furnace roofs, tundish linings, cement and lime kilns, furnace hearths, and a variety of other applications.

**PCE:** 37 - 38

Chemical Analysis (Wt.% - Calcined Basis)	
SiO <sub>2</sub>	13.5
Al <sub>2</sub> O <sub>3</sub>	80.7
TiO <sub>2</sub>	3.6
Fe <sub>2</sub> O <sub>3</sub>	1.3
CaO	0.2
MgO	0.2
Alkalies	0.5

Physical Properties				
	English Units		SI Units	
	Average	Standard Deviation	Average	Standard Deviation
<b>Bulk Density</b>	174.0	2.0	2,790	30
	(lbs/ft <sup>3</sup> )		(kg/m <sup>3</sup> )	
<b>Apparent Porosity (%)</b>	18.5	1.0		
<b>Modulus of Rupture</b> at 68°F (20°C)	1,950	265	13.5	1.8
	(psi)		(MPa)	
<b>Crushing Strength</b> at 68°F (20°C)	7,000 - 9,000		48 - 62	
	(psi)		(MPa)	
<b>Linear Change (%)</b> after 2910°F (1600°C) reheat		+ 0.5		
<b>Hot Load Deformation (%)</b> 25 psi load at 2750°F (1510°C)		- 1.5		

The data given above are average results of our common sized products and are subject to variation. One standard deviation is given when adequate data is available. These results should not be used for specification purposes.