

# INSWOOL® -HP BLANKET



## Product Data

4/12

### Description: 2300°F Alumina-Silica Ceramic Fiber Blanket

INSWOOL-HP BLANKET was developed to meet the demand for a high temperature, flexible blanket insulation with a low iron content of less than 1%. INSWOOL-HP BLANKET has excellent strength, both hot and cold. It remains in place on the furnace anchors even at high temperatures and can resist damage even when subjected to normal mistreatment in shipment and handling. If INSWOOL-HP BLANKET becomes wet from water, steam, or oil, its thermal and physical properties are restored upon drying. Its sound absorption ability is greater than dense or insulating refractories and it stores some 95% less heat than dense firebrick and about 75% less than insulating brick.

### Chemical Analysis: Approximate (Calcined Basis)

Silica (SiO <sub>2</sub> )	54.0%
Alumina (Al <sub>2</sub> O <sub>3</sub> )	45.0%
Iron Oxide (Fe <sub>2</sub> O <sub>3</sub> )	< 1.0%
Lime (CaO)	0.1%
Magnesia (MgO)	0.1%
Titania (TiO <sub>2</sub> )	0.1%
Alkalies (Na <sub>2</sub> O + K <sub>2</sub> O)	0.2%

### Physical Data (Typical)

Maximum Service Temperature	2300°F (1260°C)		
Continuous Use Limit	2150°F (1177°C)		
Color	White		
Fiber Length (Average)	3 in. (7.6 cm.)		
Fiber Diameter	3 microns		
Tensile Strength	<u>8 lb/ft<sup>3</sup> (0.13 g/cm<sup>3</sup>)</u>		<u>10 lb/ft<sup>3</sup> (0.16 g/cm<sup>3</sup>)</u>
	lb/in <sup>2</sup> (MPa)		lb/in <sup>2</sup> (MPa)
Machine Direction	13 (0.09)		15 (0.11)
Cross Direction	10 (0.07)		12 (0.08)
Percent Shrinkage			
Heated for 24 hours at 2000°F (1093°C)	2.0%		
Heated for 24 hours at 2150°F (1176°C)	2.3%		

Thermal Conductivity	<u>4 lb/ft<sup>3</sup> (.06 g/cm<sup>3</sup>)</u>	<u>6 lb/ft<sup>3</sup> (.10 g/cm<sup>3</sup>)</u>	<u>8 lb/ft<sup>3</sup> (.13 g/cm<sup>3</sup>)</u>	<u>10 lb/ft<sup>3</sup> (.16 g/cm<sup>3</sup>)</u>
	Btu · in/hr · ft <sup>2</sup> · °F (W/m · °C)	Btu · in/hr · ft <sup>2</sup> · °F (W/m · °C)	Btu · in/hr · ft <sup>2</sup> · °F (W/m · °C)	Btu · in/hr · ft <sup>2</sup> · °F (W/m · °C)
At 600°F (316°C)	0.6 (.08)	0.5 (.07)	0.4 (.06)	0.52 (.07)
At 1000°F (538°C)	1.16 (.17)	.95 (.14)	0.8 (.11)	0.69 (.10)
At 1400°F (760°C)	1.8 (.26)	1.55 (.22)	1.2 (.17)	1.08 (.15)
At 1600°F (871°C)	2.2 (.31)	1.85 (.26)	1.4 (.20)	1.37 (.19)

Note: The test data shown are based on average results on production samples and are subject to normal variation on individual tests. The test data cannot be taken as minimum or maximum values for specification purposes. ASTM test procedures used when applicable.