

# NITRIDE BONDED SILICON CARBIDE LOW OXIDE

Chemical Formula	80%+ SiC, 18% Si <sub>3</sub> N <sub>4</sub> , 2% Oxide
Porosity	Apparent Porosity 6%
Grain Size	500 Microns average/nominal
Flexural Strength (RT)	10 Kpsi
Density	2.75 g/cc
Permeability	3%+
Crystal Phases (1000°C 17 Kpsi)	80% α SiC
Coefficient of Thermal Expansion in air (70-2240°F)	2.6 x 10 <sup>-6</sup> in/in°F
Thermal Conductivity	115 BTU/hr/sq. ft/in <sup>0</sup> F at 1000°F
Maximum use Temperature in air	2800°F

Nitride Bonded Silicon Carbide, (NBSC) is available as plates, tubes, crucibles, tile, saggars, posts, beams or other custom designed components.

NBSC has superior load bearing characteristics and is resistant to oxidation and distortion, which makes it ideal for kiln and furnace structure applications.

NBSC is also highly resistant to abrasion and chemical attack at room and elevated temperatures so that it can be used in direct contact with molten aluminum, zinc, copper, magnesium, and a variety of salts. NBSC has been successfully used for crucibles, brick, protection tubes and spouts for measurement distribution and containment of these materials in the molten state.

NBSC offers many engineering property levels that are not found in other refractory materials such as high strength at use temperature, low reactivity, excellent load bearing strength and resistance to chemical and abrasive attack.

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