TECHNICAL BULLETIN

ADVANCER® Nitride-Bonded Silicon Carbide

CN-703

ADVANCER is a fine grained silicon carbide composition designed for both simple and complex shapes where high strength and low mass are desired. Typical shapes are beams, rolls, setters, plates, saggers, and special shapes. The benefits in using ADVANCER are:

- Excellent structural support in periodic and continuous kilns
- Long life due to its good resistance to oxidation
- Provides a stable flat setting surface
- Low mass for faster cycles and reduced firing costs.

Typical Chemical Analysis:	% 70 30 2.8 g/cc	
SiC		
Si ₃ N ₄ Bond		
Density:		
Apparent Porosity:	≤1%	
Modulus of Rupture:	MPa	psi
20°C (68°F)	160 to 180	23,000 to 26,000
1250°C (2280°F)	165 to 185	24,000 to 27,000
1450°C (2640°F)	165 to 190	24,000 to 28,000
Modulus of Elasticity:	235 GPa	34 x 10 ⁶ psi
Thermal Conductivity:		
1200°C (2190°F)	18 W / (m·K)	125 BTU-in. hr.ft²-°F
Coefficient of Thermal Expansion:	4.3 x 10 ⁻⁶ per °C	2.4 x 10 ⁻⁶ per °F
Maximum Service Temperature: (1)	1450°C	2642°F

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⁽¹⁾ Depending on operating conditions. Date: 02/05 Supercedes: Rev. TM 07/04