

# CERAMITE CERAFORTE NW-1000

## SILICON CARBIDE-BASED CASTABLE REFRACTORY

Ceramite® Ceraforte® NW-1000 is a high temperature wear material designed for heat and wear protection. Used in areas of heavy wear in the power generation industry, it has high abrasion resistance, chemical resistance and strength. Based on silicon carbide, Ceramite Ceraforte NW-1000 is cast into a finished shape and is fired prior to delivery. The aggregates in this formulation have a maximum grain size of 4 millimetres (0.16 inches).

### COMPOSITION

Material	Approximate Weight
SiC	74%
Al <sub>2</sub> O <sub>3</sub>	13%
SiO <sub>2</sub>	9%
CaO	2%
Fe <sub>2</sub> O <sub>3</sub>	<0.1%

### BENEFITS

- Good strength
- Good wear resistance
- Good chemical resistance
- Anti-slagging properties
- Thermal shock resistant



### APPLICATIONS

- Burner nozzles and tips
- Burner nozzle inserts
- Burner sleeves

### AVAILABILITY

Pre-fired cast parts

### STORAGE

Pre-fired, cast Ceramite parts for hot applications must not be exposed to water or moisture. If exposed, a full sequence of preheating must be performed.

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Property	Temperature	Value
Density– kg/m <sup>3</sup> (lb/ft <sup>3</sup> )	20°C (68°F)	2800 (175)
	850°C (1562°F)	2600 (162)
Cold Modulus of Rupture– MPa (psi)	20°C (68°F)	10 (1450)
	850°C (1562°F)	23 (3335)
	1000°C (1832°F)	25 (3625)
	1200°C (2192°F)	32 (4640)
	1500°C (2732°F)	34 (4930)
Cold Compressive Strength– MPa (psi)	20°C (68°F)	95 (13,780)
	850°C (1562°F)	170 (24,660)
	1000°C (1832°F)	115 (16,680)
	1200°C (2192°F)	140 (20,300)
	1500°C (2732°F)	117 (16,970)
Hot Modulus of Rupture– MPa (psi)	1000°C (1832°F)	>28 (4060)
Abrasion*– cm <sup>3</sup> (in <sup>3</sup> )	500°C (932°F)	0.2 (0.01)
Thermal Conductivity– W/m-K (BTU-in/ft <sup>2</sup> -hr-°F)	300°C (572°F)	14 (97)
	600°C (1112°F)	12 (83)
Linear Thermal Expansion, 20–850°C (68–1562°F)		0.4%
Permanent Linear Change, 20–850°C (68–1562°F)		–0.3%
Maximum Service Temperature		1500°C (2732°F)
Maximum Grain Size–mm (in)		~4 (0.16)
* The abrasion test was performed per the DIN 52108 standard and pre-fired at the indicated temperature.		

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