VESTA Si
Silicon Solutions.

SicoNide® Silicon Nitride Powder

SicoNide® is a **Silicon Nitride (Si_3N_4) powder** with a broad particle size distribution and tailored surface area that allows for easy processing and sintering of ceramic components. Vesta offers SicoNide® in two different purity levels and three different surface area values. In addition, **Vesta offers powder grades customized to our clients' specifications of purity, surface area and particle size.** Applications of SicoNide® range from ceramic bearings and cutting tools to wear products in the nuclear industry.

SICONIDE® CHARACTERISTICS - Grade P95

	P95H		P95M		P95L	
	Spec.	**Typical**	**Spec.**	**Typical**	**Spec.**	**Typical**
Si_3N_4 Content (%)	>98	98.5	>98	98.7	>98	98.8
IMPURITIES (%):						
Fe	<0.06	0.05	<0.06	0.05	<0.06	0.05
Al	<0.08	0.04	<0.08	0.04	<0.08	0.04
Ca	<0.02	0.005	<0.02	0.005	<0.02	0.005
C	<0.5	0.3	<0.5	0.3	<0.5	0.3
O_2	<1.5	1.3	<1.3	1.0	<1.2	1.0
Free Si	<0.2	0.15	<0.2	0.15	<0.2	0.15
Halides	<0.002	ND**	<0.002	ND	<0.002	ND
α Phase (%)	>91	93 - 95	>91	93 - 95	>91	93 - 95
BET Surface Area (m^2/g)	10 to 12	11	8 to 10	8.5	6 to 8	7
Particle Size** (approx. D_{50})	0.9	–	1.1	–	1.3	–

SICONIDE® CHARACTERISTICS - Grade S95

	S95H		S95M		S95L	
	Spec.	**Typical**	**Spec.**	**Typical**	**Spec.**	**Typical**
Si_3N_4 Content (%)	>98	98.1	>98	98.3	>98	98.5
IMPURITIES (%):						
Fe	<0.3	0.25	<0.3	0.25	<0.3	0.25
Al	<0.12	0.07	<0.12	0.07	<0.12	0.07
Ca	<0.05	0.03	<0.05	0.03	<0.05	0.03
C	<0.5	0.3	<0.5	0.3	<0.5	0.3
O_2	<1.5	1.3	<1.3	1.0	<1.2	1.0
Free Si	<0.2	0.12	<0.2	0.12	<0.2	0.12
Halides	<0.002	ND**	<0.002	ND	<0.002	ND
α Phase (%)	>92	94 - 97	>92	94 - 97	>92	94 - 97
BET Surface Area (m^2/g)	10 to 12	11	8 to 10	8.5	6 to 8	7
Particle Size** (approx. D_{50})	0.9	–	1.1	–	1.3	–

*ND = not detectable (below 0.001)
**Particle size measurement is an approximate value. It is expected to vary depending on the measurement technique, dispersant and carrier liquid used for measurement. This value should not be used as an absolute measure.

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