

TECHNICAL DATA SHEET

Ready-to-Press (RTP)

Silicon Nitride Powder / α -Si₃N₄

Typical Chemistry (After Debinding)

α -Si ₃ N ₄	≥ 86 %
Oxygen (O)	≤ 6.0 % (typical 4.05%)
Carbon (C)	≤ 0.2 (typical 0.077%)
Iron (Fe)	≤ 0.03 %
Calcium (Ca)	≤ 0.03 %

Typical Powder Characteristics

Flexural Strength	< 800 MPa
Green Density ¹⁾	1.65 - 1.79 g/cm ³
Sinter Density ^{1)/1750°C}	3.25 g/cm ³
Shrinkage	~ 24 %
Weight Loss After Sintering	2.4 wt. %
Sinter Temperature	1750°C
Debinding in Air	1k/min 550°C 2h

Typical Surface Area & Sizing

Si ₃ N ₄ Powder		Spray Dried Granules	
d99	< 1.6 µm	d90	~ 60 µm
SSA	~ 11 m ² /g	d50	~ 120 µm

Description:

GNP Graystar's RTP Silicon Nitride Powder is a spray dried granulated silicon nitride powder containing processing and sintering additives (Al₂O₃ and Y₂O₃).

Applications:

GNP Graystar's Silicon Nitride Powder is used in high performance technical ceramics for applications with very high wear and thermal stress conditions.

info@GNPGraystar.com

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Northern Office
37 John Glenn Dr.
Amherst, NY 14228
716.759.6600

www.GNPGraystar.com

Southern Office
9 Simmonsville Rd.
Bluffton, SC 29910
843.815.5600