



# New Level of Silicon Nitride Powder for Ceramics





### **Production Process of Silzot®**

Direct reaction between silicon and nitrogen at high temperatures without any use of catalysts and only dry production steps:

#### Silzot<sup>®</sup> Powder Grades





- High Quality Grade Powder
- Since more than 30 years
- Silzot<sup>®</sup> HQ finer grade, also available with d98 <3µm</li>

Characteristics	Typical Values
N-content	> 38.7%
O-content	< 0.6%
α-content	> 86%
Al	< 0.07%
Fe	< 0.03%
Са	< 0.03%
Particle Size	
d98	< 10µm
d90	< 5µm
d50	< 1.9µm

 $3 \text{Si} + 2 \text{N}_2 \rightarrow \text{Si}_3 \text{N}_4$ 

#### Silzot<sup>®</sup> Processed Grades

Silzot<sup>®</sup> HQ <3µm + Sintering Additives + Organic Additives

#### Silzot<sup>®</sup> Enables E-Mobility





- Spray dried Silzot<sup>®</sup> HQ < 3 µm powder with sintering additives and organic binder
- Ready to Press granules with excellent flowability and pressability





- Compounded and pelletized Silzot<sup>®</sup> HQ <3µm powder with sintering additives and organic binder
- Ready-to-Use Feedstock for injection moulding

High performance silicon nitride ceramics based on Silzot<sup>®</sup> are essential to meet the increasing demands on materials for e-mobility and renewable electrification: e.g. substrates for power electronics, ball bearings, structural parts, etc.

#### **FINISHED PARTS**



# Silzot<sup>®</sup> – Usage in the Production of SiN-based Materials

## **Your Benefits**

- High quality raw materials and unique production technology used
- Only sustainable, ecological friendly and dry production steps; No wet purification steps needed (no acids)
- Very precise and controlled reaction conditions allow a constant high quality with a very tight specification
- Low oxygen content and low metal impurity levels for improved thermal conductivity in ceramics
- European supply chain and made in Germany

PLATINUM Top 1% ecovadis ustainability Rating AUG 2024



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