

## STARCERAM<sup>®</sup> N Grade E

|                               |   |
|-------------------------------|---|
| <b>Chemical Formula</b>       | Si <sub>3</sub> N <sub>4</sub> / TiN  |
| <b>Chemical Name</b>          | Silicon Nitride / Titanium Nitride  |
| <b>Characteristic</b>         | Gas pressure sintered Si <sub>3</sub> N <sub>4</sub> particle composite               |
| <b>Description of Product</b> | Parts made of gas pressure sintered Si <sub>3</sub> N <sub>4</sub> particle composite |
| <b>Colour</b>                 | Red brown up to gold brown  |

### Chemical Characteristics

(Mass fraction in % [cg/g]; ppm [µg/g])

Si<sub>3</sub>N<sub>4</sub> / TiN composite > 99 wt%  
(inclusive additives)

### Physical Characteristics

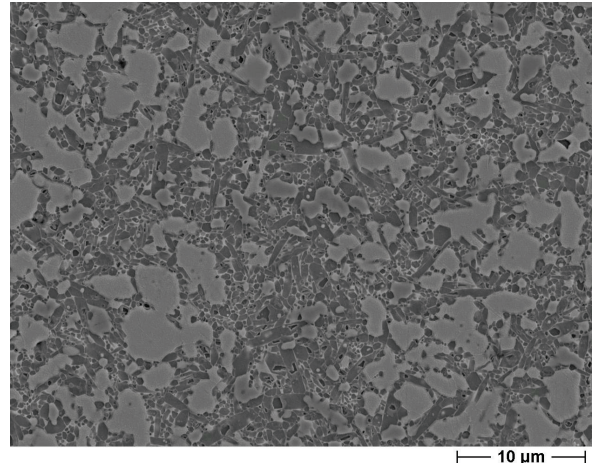
|                                    |        |                      |
|------------------------------------|--------|----------------------|
| Density <sup>1)</sup>              | 3.9    | g/cm <sup>3</sup>    |
| Open Porosity                      | 0      | %                    |
| Flexural strength $\sigma_{b4, m}$ | 700    | MPa                  |
| Weibull modulus                    | > 15   |                      |
| Young's modulus                    | 340    | Gpa                  |
| Fracture toughness <sup>2)</sup>   | 8.5    | MPa√m                |
| Thermal conductivity RT            | 45     | W/mK                 |
| Thermal expansion<br>(RT-1000°C)   | 6.0    | x10 <sup>-6</sup> /K |
| Hardness (HV10)                    | 14     | GPa                  |
| Max. working temperature           | 900    | °C                   |
| Resistivity                        | 0.0001 | Ωm                   |

The data indicated relates to the test specimens from which it was obtained and is not unconditionally applicable to other forms of the same material. The data must, therefore, be regarded as indicative only.

1) 1750°C, N<sub>2</sub>, 95 bar; 2) VHI-Niihara

Products of STARCERAM<sup>®</sup> N Grade E are compared to our standard SN excellent wear-resistant and electrical discharge machinable.

STARCERAM<sup>®</sup> N rtp **Grade E**  
SEM Photomicrograph  
scale see photograph



#### **Packaging**

STARCERAM<sup>®</sup> N Grade E products are individually packed, depending on size. Packaging according to transport regulations.

#### **Storage and Handling**

Handle with care! Ceramic products may break if not treated properly. Storage and handling are subject to the rules and regulations in the country of use.

#### **Hazards identification in Advertising (REGULATION (EC) No 1272/2008 Article 48)**

none.

#### **Documentation**

An inspection document in accordance with EN 10204 is supplied when requested.

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