

Material type: SSiC

**FRIALIT SiC 198D**

| Properties                         |                  | Unit                 | Specific value      |
|------------------------------------|------------------|----------------------|---------------------|
| Density                            |                  | g / cm <sup>3</sup>  | 3.1                 |
| Open Porosity                      |                  | vol.-%               | ≤ 3                 |
| Bending Strength $\sigma_B$ RT     | DIN EN 843-1     | MPa                  | 450                 |
| Weibulls Modulus RT                |                  | -                    | ≥ 12                |
| Compressive Strength               |                  | MPa                  | > 3000              |
| Young's Modulus                    | static           | GPa                  | 400                 |
| Poisson's Ratio                    |                  | -                    | 0.16                |
| Hardness                           | Vickers          | GPa                  | 26                  |
| Maximum Service Temperature in Air | inert atmosphere | °C                   | 1900                |
|                                    | air              | °C                   | 1650                |
| Linear Coefficient of Expansion    | 20 - 1000 °C     | 10 <sup>-6</sup> / K | 4.5                 |
| Specific Heat                      | 20 °C            | J / (kg * K)         | 1000                |
| Thermal Conductivity               | 20 °C            | W / (m * K)          | 125                 |
| Resistivity                        | 20 °C            | $\Omega$ * cm        | 1 * 10 <sup>7</sup> |
| Chemical Composition               | SiC              | vol.-%               | > 98                |
|                                    | B <sub>4</sub> C | vol.-%               | < 1                 |
|                                    | C                | vol.-%               | < 1                 |
| Typical Colour                     |                  | -                    | black               |

The data indicated on this table are in line with the introductory German Industrial Standard DIN 40680 and relate to test specimens from which they were obtained. They are not unconditionally applicable to other forms of the same material. The data must be regarded as indicative only. All data refer to a temperature of 20 °C, unless otherwise specified.