

## Applications:

- Tribological situations, mechanical seals, actuators and valves for pumps handling a wide range of aggressive and abrasive media:
  - tribological situations (slide bearings) for submersible centrifugal and rotary-vortex pumps
  - actuators for chemistry pumps
  - tribological situations with increased service life, inaccessible for service, used in nuclear power industry
- Parts for stop valves and armatures for oil and gas-extraction industry
- Parts for disk mills and other comminution equipment
- Nozzles for sand-blasting and hydro-abrasive cutting operations
- Nozzles for spray drying operations used for pharmaceutical products
- Thread guides, pulleys and other machine parts for textile industry
- Rings, nozzles and guides for wire / cable production



Qualified personnel, strict quality control on each process stage and individual approach to each customer are your guarantee of the quality solution for your problems.

Our company has the comprehensive machinery complex that allows to manufacture ceramic and metallic parts as well as hybrid assemblies that comprise components of both these materials.

Wear-resistant products made of silicon carbide ceramics feature extremely high performance parameters:

- erosion resistance
- chemical stability
- thermal stability
- reliability and increased service life

that are based upon the unique combination of properties of this ceramics: high durability and strength as well as high elastic modulus, high thermal conductivity, low thermal expansion and excellent tribological properties

### Main physical and mechanical parameters of SiC materials

Parameters	SiSiC	SSiC
Density, g / cm <sup>3</sup> , better than	3,03	3,15
Free Si fraction in the contact surface, %, less than	20	-
Microhardness, GPa, within	23 – 33 (for SiC carcass)	28 - 33
Flexural strength, MPa, within	280 - 450	350 - 450
Young modulus, GPa, within	340 - 400	390 – 420
Fracture toughness, MPa*m <sup>1/2</sup> , within	3,5 – 4,5	3 – 4
Compression strength, MPa, better than	2500	2500
Thermal conductivity factor, W / m*K, within	120 – 160	80 – 130
Thermal expansion coefficient, 10 <sup>-6</sup> K <sup>-1</sup> , within	2,4 – 3,6	2,8 - 4

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