

TECHNICAL SPECIFICATIONS

	DX101	DX201	DX202	DX203	DX204
Density (g/cm3)	3.04	3.14	3.02	3.02	2.84
Average Grain Size (µm)	10-15	<15			
Rockwell Hardness (HRA)	92.00	94.00	81.50	91.60	
Vickers Hardness (HV)	2166	2432	2399		
Modulus of Elasticity (Gpa)	383	457	323	388	336
Bending Strength (3 Point, Mpa)	363	443	275	255	232
Weibull Modulus	10 - 11	10 - 11	16		
Compressive Strength (Mpa)	2353	2400	886	878	
Fracture Toughness (K <sub>IC</sub> (MPa·m <sup>0.5</sup> ))	3.57	3.88	3.69		
Friction Coefficient Dry	0.34	0.33	0.28		
Friction Coefficient Wet	0.32	0.29	0.24		
Thermal Coefficient (@25°C, W/(m·K))	135	152	125	142	135
Thermal Expansion Coefficient (1x10 <sup>-6</sup> /°C)	4.30	4.35	3.90	3.90	
% SiC	≥90	≥98	≥90	≥98	≥90
% Si	<10				

All properties given are within variance of typical user experience, and slight deviation may be expected.

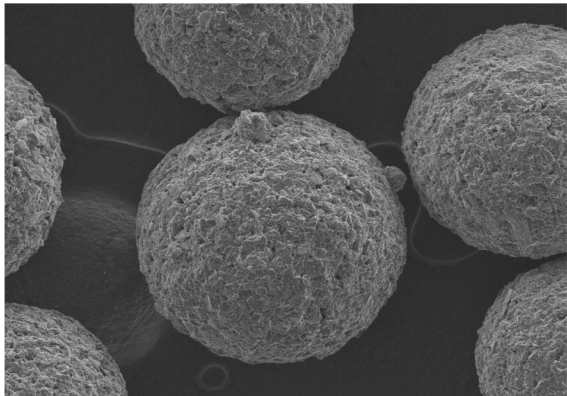


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# SILICON CARBIDE TECHNOLOGY



### Leading Powder Process

Dongxin uses spray granulation technology to ensure the raw material powder has good liquidity and evenness.

This ensures the final product has even density and hardness which will eliminate structural weakness in the final material.

### Leading Sintering Process

At Dongxin we have high capacity for production, with large-scale dedicated sintering and reaction bonded silicon carbide furnaces.

### High Quality Raw Materials

All our raw materials are checked by electron microscopy for particle size, evenness, oxygen content and any impurities by our dedicated research and development team.



### Leading Testing Process

Each department has their own independent testing ISO certified procedure. Products are then tested at the final stage for all aspects, including size tolerance, porosity, density, hardness etc. All non-conforming products are recorded and traced.

Our dedicated Research and Development Laboratory works together with our quality control department to ensure our materials according to industry standards.

Dongxin regularly tests externally with third-party authorities such as the Shanghai Ceramics Institute to ensure our products are of the highest quality.

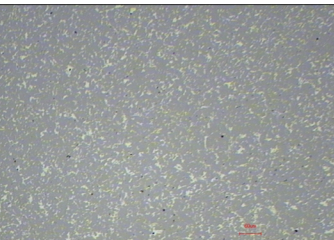


## DONGXIN SILICON CARBIDE MATERIALS

Silicon carbide engineered ceramics have many excellent functions. Silicon Carbide products have the advantages of high temperature resistance, high hardness, wear and corrosion resistance.

Dongxin can offer 5 grades of Silicon Carbide for use in a variety of applications, being widely used in sealing, machinery, metallurgical, petroleum, chemical, automotive, defence and aerospace applications throughout the world.

## MATERIALS



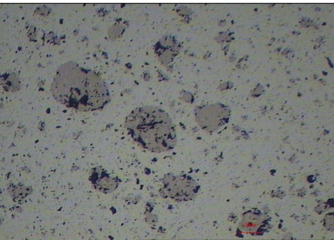
### DX101

Reaction Bonded Silicon Carbide (RSIC) has high wear, temperature and corrosion resistance, making it ideal for use in applications such as mechanical seal ring or nozzle.



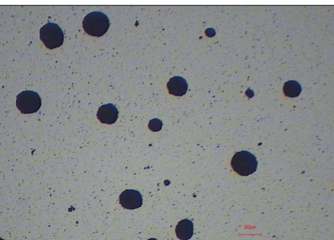
### DX201

Sintered Silicon Carbide (SSIC) possesses higher wear, corrosion and temperature resistance over RSIC, making it ideal to use for sealing ring and with a higher hardness and strength it can be used in further applications such as armour plating.



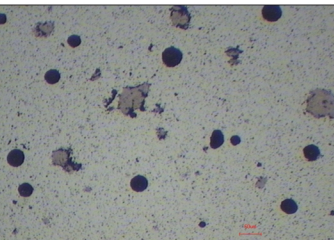
### DX202

Graphite particles distributed throughout the material give higher friction resistance which allows the material to have enhanced wear resistance. This gives allows the material dry friction properties in applications of limited or unstable lubrication, while still possessing the corrosion and temperature resistance properties of DX201.



### DX203

Micropores on the surface of the material act as fluid storage chambers, allowing the material to reduce the surface friction and heat. When the lubricating media is not sufficient, the liquid stored in the micropore will help to promote lubrication, allowing dry running capability in applications where the lubricating media is limited or not stable.



### DX204

Containing both fine graphite particles and spherical pores, the DX204 material has enhanced performance by bringing together all of the properties of DX201, DX202 and DX203.