The black SiC grinding materials are used in:

- Defence & Security
- Energy
- Metallurgy
- Aerospace
- Technical Ceramics
- Automotive
- Abrasives
- Industry
- Electronics

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Ukraine, 2023

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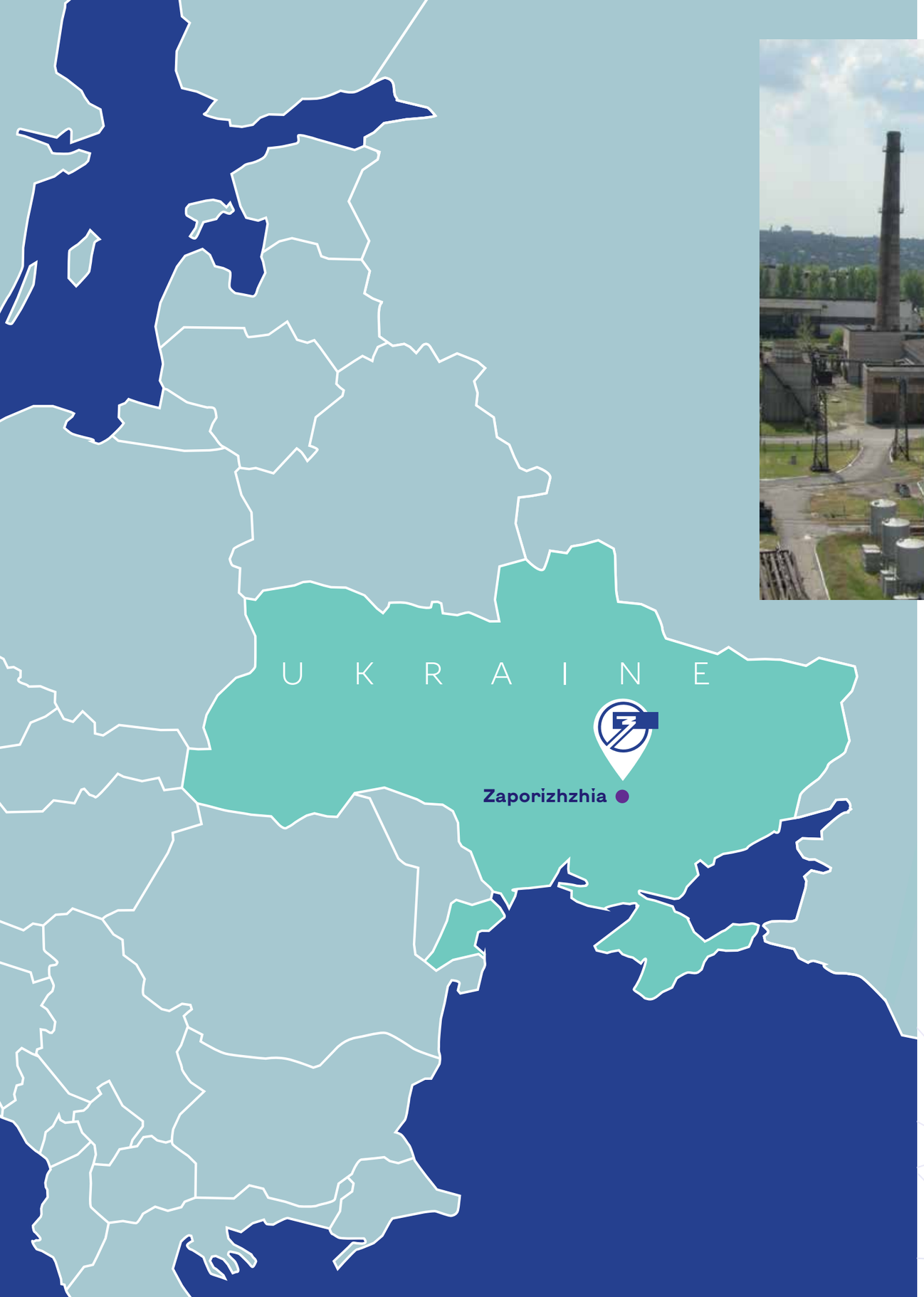

Zaporizhzhia Abrasive Plant PJSC is a leading Ukrainian manufacturer of abrasive materials and grinding wheels in Eastern Europe.

The company was founded in 1939 and has since then been a trusted supplier of high-quality abrasive products to customers all over the world.

Our production facilities are located in Zaporizhzhia. The company's product line includes a wide range of abrasive materials, such as silicon carbide, brown fused aluminium oxide, boron nitride, and boron carbide, as well as grinding wheels of various types and sizes.

Zaporizhzhia Abrasive Plant PJSC has a solid commitment to quality and customer satisfaction. The company's products are manufactured using the latest technology and undergo rigorous quality control procedures to ensure they meet the highest standards. Our plant confirms the achieved standards by ISO 9001 certificate of conformity.

The company's customer base includes various industries, such as automotive, aerospace, construction, metalworking, defense and security.

Zaporizhzhia Abrasive Plant PJSC is known for its flexibility and ability to customize its products to meet each & every customer's needs.

Crystal of Silicon Carbide

Crystals in nature grow 150 years.
We crystalize it in 8 hours only.

silicon carbide

Zaporizhzhia Abrasive Plant is the leading manufacturer of silicon carbide (SiC). Based on long time experience and industrial expertise, we are delighted to provide a wide range of high-quality products and excellent services.

SiC is a versatile and high-performance material that has been used in a wide range of industries for many years. With its exceptional properties such as high strength, hardness, and thermal conductivity, SiC is popular choice for applications that require superior performance.

One of the most common uses of SiC is in the manufacturing of abrasives and cutting tools. Its exceptional hardness and wear resistance make it an ideal material for grinding, cutting, and polishing. Additionally, SiC is widely used in the production of semiconductors and electronic devices due to its excellent thermal conductivity and high-temperature stability.

Zaporizhzhia Abrasive Plant offers black silicon carbide and metallurgical grade silicon carbide.

The black SiC grinding materials are used in:

- in the process of iron and nonferrous metals, carbon, glass and ceramics, stone, concrete, wood substance, plastics, leather, and other materials of natural and artificial origin treatment.
- in the refractory and ceramic industries as a component for moldings and anti-penetration washes, in crucibles for the casting of nonferrous and precious metals production, and for wash troughs.

The black silicon carbide with SiC 88% min, 94% min mass proportions in the form of 0-10mm grain size fraction for use as a modifier (deoxidizer) in the process of synthetic iron melting in cupola furnaces, electric arc, or induction furnaces.

Zaporizhzhia Abrasive Plant produces and sells black silicon carbide grinding materials of marks 54C, 53C with indexes F and P. We offer silicon carbide refractory as black SiC macro and micro fractions with a grain size from 0 to 2 mm and metallurgical grade silicon carbide in a fraction of size 0-10 mm.

Grinding materials chemical constitution

Mark	Grit	Mass share, %			Test grit
		SiC, not less	Fe, not more	C, not more	
54C	F14-F24	97.5	0.2	0.4	F24
	P16-P24				P24
	F30-F54	98.0		0.3	F54
	P30-P50				P50
	F60-F80	97.5		0.4	F80
	P60-P80				P80
	F90-F150	97.0	0.3	0.5	F120
	P100-P150				P100
	F180	96.0	0.6	0.4	F180
	P180				P180
	F230-F280	98.0	0.3		F280
	F320-F600	97.0			F600
	F800-F1000	96.0	0.4	0.5	F1000
	F1200	95.0			F1200
	P240-P360	97.5			P320
	P400-P1500	96.5			P1200
	P2000, P2500	95.0	0.5	0.6	P2500
53C	F14-F24	97,0	0,3	0,5	F24
	P16-P24				P24
	F30-F54			0,4	F54
	P30-P50				P50
	F60-F80			0,5	F80
	P60, P80				P80
	F90-F150	96,0	0,4		FI20
	P100-P150				P100
	F180	96,0	0,7		F180
	P180				P180
	F220	93,0	1,5	0,6	F220

Mass share of magnetic material

Black Silicon Carbide

Mark	Grit	Mass share, % not more
54C	F14-F80	0,13
54C	P16-P80	0,13
54C	F90-F180	0,2
54C	P100-P180	0,2
53C	F14-F180	0,3
53C	P16-P180	0,3
53C	F220	0,3

Grinding materials bulk density

Grit	Bulk density, g/sm3, not less for marks 54C, 53C grinding materials	Test grit
F14	1,31	F14
P16	1,31	P16
F16, F20	1,35	F20
P20	1,35	P20
F22, F24	1,37	F24
P24	1,37	P24
F30-F60	1,40	F60
P30-P60	1,40	P60
F70, F80	1,35	F80
P80	1,35	P80
F90, F100	1,33	F100
Pl00, P120	1,33	P120
F120-F220	1,27	F150
P150-P180	1,27	P180

Black silicon carbide refractory fraction

Fraction	Granular composition, %	Chemical Composition, %		
		SiC, not less	C, not more	Fe, not more
1-3 mm 97% SiC	+2,8 mm 10% max. -1 mm 10% max.	97	-	-
0,5-2 mm 97% SiC	+2 mm 10% max. -500 µm 10% max.	97	0,5	0,5
0,2-2 mm 97% SiC	+2 mm 5% max. +1 mm 15-40% -212 µm 10% max.	97	0,5	0,5
0-1 mm 97% SiC	+1 mm 5% max. +212 µm 70% min. -106 µm 5% max.	97	0,5	0,5
0,5-1 mm 97% SiC	+ 1 mm 10% max. -500 µm 10% max.	97	0,5	0,5
0,2-1 mm 97% SiC	+1 mm 10% max. +500 µm 30-70% -212 µm 10% max.	97	0,7	0,5
0,2-0,5 mm 97% SiC	+500 µm 10% max. -212 µm 10% max.	97	-	-
30/80 97% SiC	+1 mm 5% max. +125 µm 80-95% -125 µm 5% max.	97	0,5	0,3
60/90 97% SiC	+500 µm 0% +355 µm 10% max. +212 µm 30% min. -106 µm 10% max.	97	0,5	0,3
70/90 97% SiC	+425 µm 0% +212 µm 20% min. +150 µm 30% min. -106 µm 10% max.	97	0,5	0,3
0-0,35 mm 95% SiC	+300 µm 5% max. +106 µm 15-40% -45 µm 30-50%	95	0,7	0,6
200 F 95% SiC	+90 µm 0-5% +63 µm 10-30% -45 µm 60-80%	95	1,0	0,7
0-0,2 mm 95% SiC	+212 µm 5% max. +106 µm 15-40% -63 µm 30-45%	95	0,7	0,5
100 F 95% SiC	+212 µm 0-2% +106 µm 15-40% +63 µm 25-40% -63 µm 30-50%	95	0,7	0,7
0-0,1 mm 95% SiC	+ 106 µm 0-10% +63 µm 20-40% -63 µm 50-80%	95	1	0,5
0-0,066 mm 95% SiC	+63 µm 10% max.	95	1	0,5
325 F 95% SiC	-45 µm 80-90%	95	1	1

Cutting ability

Grit designation	Cutting ability, g/min, not less	Grit designation	Cutting ability, g/min, not less
F230	0,074	P240	0,076
F240	0,068	P280	0,074
F280	0,062	P320	0,072
F320	0,055	P360	0,070
F360	0,047	P400	0,068
F400	0,040	P500	0,058
F500	0,037	P600	0,047
F600	0,020	P800	0,040
F800	0,015	PI 000	0,037
F1000	0,014	PI 200	0,022
F1200	0,007	P1500-P2500	0,015

Metallurgical grade silicon carbide

Fraction name	Side of grid cell clear dimension, mm		Silicon carbide mass fraction, has passed through the mesh, %, not less
	grit №1	grit №2	
0-10 mm	20,0	-	100
	-	10,0	95

SiC in silicon carbide mass fraction in percentage terms will be not less than:

- in 0-10 mm fraction 88% SiC – 88
- in 0-10 mm fraction 94% SiC – 94

Moisture content in silicon carbide in percentage terms will not exceed 1%.

Destroying and abrasive ability of grinding materials

Indicator	Grit	Value of indicator for marks 54C, 53C	Test grit
Destroying, % not more	F14-F30	75	F14
	P16-P30		P16
	F36-F80	47	F60
	P36-P80		P60
Abrasive ability, g not less	F90-F150	0,08	F150
	P100-P180		P180
	F180-F220	0,07	F180

The plant has the capacity for the other fractions granulometric composition production:

- 0-20 mm 88% SiC
- 0-400 mm 88% SiC