

SIGRAFINE® ISO graphite for electronic applications

Material: Graphite
Forming: Isostatically pressed
Application: Electronic applications

Material data of SIGRAFINE® isostatic graphites

Typical properties	Units	Typical values by grade*						
		CZ3/R6300	R6340	R6500	CZ5.2/R6520	CZ5/R6510	R6650	R6710
Average grain size	µm	20	15	10	10	10	7	3
Bulk density	g/cm ³	1.73	1.72	1.77	1.81	1.83	1.84	1.88
Open porosity	Vol. %	14	15	14	12	10	10	10
Coefficient of permeability (ambient temperature)	cm ² /s	0.1	0.25	0.25		0.06	0.02	0.01
Rockwell hardness _{5/100}				70	80	85	95	105
Rockwell hardness _{10/100}		75	80					
Resistivity	µΩm	16	12	14	13	12	14	13
Flexural strength	MPa	40	45	50	55	60	65	85
Compressive strength	MPa	85	90	110	120	130	150	170
Dynamic modulus of elasticity	MPa	10.0 x 10 ³	11.0 x 10 ³	10.5 x 10 ³	11 x 10 ³	11.5 x 10 ³	12.5 x 10 ³	13.5 x 10 ³
Thermal expansion [20 – 200 °C]	K ⁻¹	2.7 x 10 ⁻⁶	3.2 x 10 ⁻⁶	4.2 x 10 ⁻⁶	4.2 x 10 ⁻⁶	4.2 x 10 ⁻⁶	4.1 x 10 ⁻⁶	4.7 x 10 ⁻⁶
Thermal conductivity [20 °C]	Wm ⁻¹ K ⁻¹	70	105	95	100	110	100	110

* Typical average values of different rectangular and round block sizes. The actual individual block values might vary depending on dimension and format.

Typical level of purity after purification

Code	Ash value	Element concentration (typical values in ppm)													
		Al	B	Ca	Co	Cr	Cu	Fe	Mg	Mn	Ni	P	Si	Ti	V
P30	<30 ppm	0.05	0.1	0.2	<0.02	<0.02	<0.02	0.5	0.1	<0.01	1	<0.1	<2	0.2	0.5
P5	<5 ppm	<0.01	<0.02	0.01	<0.01	<0.01	<0.01	0.02	0.01	<0.01	<0.01	<0.02	<1	0.01	0.01



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TDS EA.00

11 2018/0 E Printed in Germany
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