

Isotropic Graphite Shape Properties List

Property	Units	IPG	IPG14	IPG15	IPG16	IPG19	IPG24
Density	g/cm ³	1.82	1.76	1.78	1.8	1.78	1.86
Grain Size (Avg.)	mm	0.025	0.012	0.008	0.012	0.004	0.005
Electrical Resistivity	μ ohm m	10	13	13	12	14	13
	μ ohm in	390	510	530	490	550	500
Compressive Strength	Mpa	79	99	106	114	135	167
	PSI	11,500	14,300	15,400	16,500	19,600	24,200
Flexural Strength	Mpa	40	45	52	52	73	76
	PSI	5,800	6,500	7,540	7,500	10,600	11,000
Tensile Strength	Mpa	26	29	34	34	48	49
	PSI	3,740	4,225	4,900	4,875	6,890	7,150
Young's Modulus	GPa	9.7	9.7	10.1	10.6	10.9	12.9
	10 ⁶ PSI	1.4	1.4	1.5	1.5	1.6	1.9
Thermal Conductivity	w/mK	116	208	157	104	157	102
	Btu-ft./hr ft ² °F	67	120	90	60	90	59
Hardness	Shore	48	55	63	65	72	80
CTE (to 100 °C)	10 ⁻⁶ /°C	3.0	4.6	5.6	5.4	5.0	5.9
	10 ⁻⁶ /°F	1.7	2.64	3.1	3.0	2.8	3.3
Porosity Ash	%	12	16	8	10	-	7
	%	0.08	0.05	0.05	0.05	-	0.025

*The properties listed below are based on nominal data and are not meant to be a guarantee.

Shapes: Graphite Trays, Lube Blocks, Rods, And Machined Parts



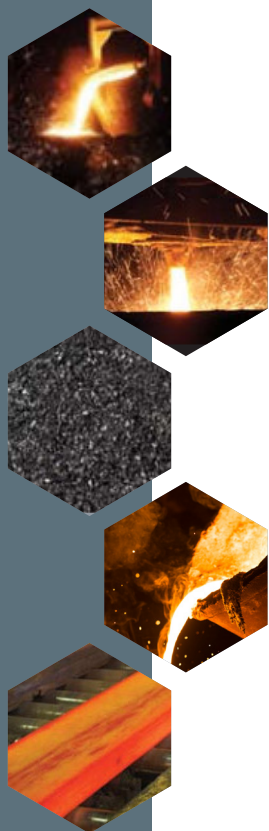
Supplying graphite and carbon products since 1895, Asbury provides industry with graphite plates, rods, pipe and machined parts. Asbury is happy to assist in choosing the correct graphite or carbon product to meet your specifications.

Types of Shapes

Grade	Descriptions
750	Economical graphite grade used for lubricating blocks, sintering trays, run-out tables, silver molds and foundry wear plates.
745	Economical Carbon Mini Rods used as spacers and mixing.
765	Graphite Mini Rod used for mixing, spacers and casting
800	Durable mid grade used for lubrication, sintering trays, nozzles and other machined shapes.
850	Our highest grade of extruded graphite used for furnace liners, effluent pipe, various types of sleeves, rollers, rings and other machined shapes when higher strength is required
IPG	Isostatic fine grain graphite where high strength is needed. This includes furnace liners, bearings, and other machined application

See next page for additional information)

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Shape Properties List

Property	Units	750	800	850	IPG
Density	g/cm ³	1.63-1.68	1.61-1.72	1.72-1.75	1.72-1.82
Grain Size (Avg.)	mm	1.5-6.3	0.8-1.8	0.08	0.015-0.025
Electrical Resistivity	μ ohm m	4.3-8	8.4-8.5	7-8	10-15
	μ ohm in	170-315	330-355	275-315	390-590
Compressive Strength	Mpa	17.6-26.9	28.2-32.1	34.9-41.4	79.3-91
	PSI	2560-3900	4100-4650	5070-6000	11500-13200
Flexural Strength	Mpa	9.8-13.1	13.4-14.9	14.5-25	40-44.8
	PSI	1420-1900	1950-2160	2100-3625	5800-6500
Tensile Strength	Mpa	8.3-13.8	10.3-15.0	10.3-15	25.5-26.9
	PSI	1200-2000	1500-2175	1500-2175	3700-3900
Young's Modulus	GPa	7.6-12	8.9-13	10.7-12.8	6.9-10.3
	10 ⁶ PSI	1.1-1.7	1.30-1.88	1.55-1.85	1.0-1.5
Thermal Conductivity	w/mK	145-157	145-154	152-200	90-116
	Btu-ft./hr ft ² °F	84-90	84-89	88-116	52-67
CTE (to 100 °C)	10 ⁻⁶ /°C	1.4-3.2	2.3-2.7	2.3-4.5	3.0-5.2
	10 ⁻⁶ /°F	0.8-1.8	1.3-1.5	1.3-2.5	1.7-2.9
Porosity Ash	%	22-26	18-28	16-23	12
	%	0.2	0.15-0.15	0.09-0.15	0.05-0.08

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Shape Properties List

Property	Units	Carbon 745	Graphite 765
Density	g/cm ³	1.68	1.70-1.76
Grain Size (Avg.)	mm	0.2	0.2
Electrical Resistivity	μ ohm m	1.8-2.3	9.6-12.7
	μ ohm in	70.9-90.6	340-500
Flexural Strength	Mpa / PSI	31 / 4500	24.1 / 3500
Ash	%	0.06	0.1

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