HENAN CLARK INDUSTRIAL CO.,LTD

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CLARK
Holding Group

BUSINESS BROCHURE

More than an expert in carbon industry.

COMPANY PROFILE

Henan Clark Industrial Co., Ltd. is an integrated industrial and trade company specializing in import and export trade. It is located in Zhengzhou, the economic and cultural center of the Central Plains. Its main areas of involvement include the research and development, production and sales of carbon products such as petroleum coke, calcined coke, graphite electrodes, anode carbon blocks, electrode paste, cold ramming paste and steel bar paste.

Regarding graphite electrodes, we produce UHP, HP and RP graphite electrodes with a diameter of 100-600mm, which are widely used in steelmaking and ore-heat furnace smelting. The production plant is located in Jiaozuo city in Henan province, with an annual production capacity of 80,000 tons. The product quality and performance have reached the advanced level of similar international products;

Regarding anode carbon blocks, our holding company has three production bases in Shandong Province. The company currently has 296 calcining furnaces with an annual output of 250,000 tons of calcined coke, 6 forming machines with an annual output of 450,000 tons of green anodes and 4 baking furnaces with an annual output of 320,000 tons of pre-baked anodes. Part of the calcined coke is used as the raw material for prebaked anodes, and the rest is supplied to related carbon enterprises; the first-class rate of prebaked anodes has always remained above 90%. At present, domestic enterprises supplied include Shandong WEIQIAO, Yunnan SUNHO, CHALCO Zunyi Aluminum, Guizhou HUEREN, TOKEN Aluminum, Sunstone Group etc; foreign companies supplied include Azerbaijan Aluminum, Indonesia HUACHIN Aluminum, RUSAL, IRALCO, Al-Mahdi Aluminum Plant and IAC Plant etc.

Regarding electrode paste, cold ramming paste and steel bar paste, we have two production plants located in SHANXI Yuncheng, and Ulanqab in Inner Mongolia. Both plants have advanced environmental protection equipment and first-class fully automated production lines, with an annual comprehensive production capacity of 250,000 tons.

The company improves product quality, reduces product production costs, and improves the competitiveness of carbon products such as calcined coke and prebaked anodes in the domestic and foreign markets by adopting domestic advanced equipment and technology, continuously improving quality system management, and

HENAN CLARK INDUSTRIAL CO., LTD

COMPANY PROFILE

improving the competitiveness of carbon products such as calcined coke and prebaked anodes in the domestic and foreign markets, providing the best quality supporting products for steel mills, ferroalloy plants and electrolytic aluminum enterprises, and building a good reputation with quality to achieve the company's goal of sustainable development. The company combines the local reality of the factory, strengthens the local utilization of resources, and strives to develop new paths in the low-carbon economy, clean production, and circular economy called by the country.

CLARK

HONESTY LEADS WIN–WIN.

Corporate Philosophy

Trust Creates Value

Trust is the first step in establishing cooperation, and value is the result of mutual trust and cooperation.

In our corporate culture, "integrity and win-win" aims to express the premise and purpose of mutual cooperation between enterprises;

Trust, which is reflected in the communication between people, is the value resonance between enterprises, and is an absolute guarantee of products and services;

Winning is the result, which is the value embodiment of enterprises and stakeholders, and is the best reflection of adhering to quality and contract spirit;

The pursuit of value is endless, and sustainable circular value is the top priority for establishing long-term and solid cooperation.

COMPANY CULTURE

Honesty leads win–win.

WE

– PROFESSIONAL

More than 13 years of foreign trade experience.

– ATTENTIVE

Gain customer trust with high – quality and satisfying service.

– DEDICATED

Consistently study the carbon industry for more than 10 years.

HONESTY

– ETERNAL INTEGRITY

Honesty is the basis for building trust.

–QUALITY ASSURANCE

Always regard quality as the lifeblood of enterprise development.

– CUSTOMER SERVICE

Customer demand is the primary productive force.

WIN–WIN

– MUTUAL BENEFIT

Win–win is the common goal of both buyers and sellers.

– REGARDED AS ONE

The pursuit of common values, merge into one, and make progress together.

–CORPORATE PHILOSOPHY

Honesty leads win–win.

HENAN CLARK INDUSTRIAL CO., LTD

ABOUT US

A Manufacturer

In 1995, our earliest company was established by a group of experts in the carbon industry.
In 2007, we established our first factory to produce electrode paste.
In 2011 and in 2015, with all our joint efforts, we established our own graphite electrode factory in Jiaozuo city and an electrode paste factory in Inner Mongolia.
Till 2022, we got an anode plant in Shandong by providing supply chain financial support.
Till 2025, our yearly carbon production capacity mainly includes 100,000 tons of graphite electrode, 120,000 tons of electrode paste(cold ramming paste and steel bar paste included), 360,000 tons of anode and up to 20,000 tons of cathode blocks etc.
As a producer, we always take "integrity and win – win" as our tenet, take science and technology as the guide, adhere to the spirit of eternal integrity and pursuit of excellence, constantly adjust product structure, promote and apply new technologies, and win a wide range of users with high – quality products and services.

An Experienced Team

★Top professional experts and technicians in the earliest carbon field with rich experience.
★ Imported raw materials specially needle coke and bitumen guarantee our high–quality from the sources.
★The most advanced production equipment and production technology.
★7–24 hours technical support and information consultation

from the metallurgical industry. From raw materials to finished products, we have professional personnel and equipment, strictly abide by the spirit of craftsmanship, and carefully control the production process of each link, so our product quality is consistently praised and trusted by the customers in domestic and abroad.

CALCINED PETROLEUM COKE

Calcined petroleum coke is the product of petroleum coke (green coke) calcined at 1300 ℃ in a calcining furnace, with the characteristics of high strength and low resistance. The products are mainly used in negative electrode materials, thermal insulation materials and metallurgical industries.

FOR STEEL INDUSTRY

Specific resistance	True specific gravity	Volatile matter	Fixed carbon	Ash	Moisture	S	Size(mm)
450-600	2.03-2.08	<1%	⩾97%	⩽0.5%	⩽0.3%	⩽4%	0-2, 2-8, 8-25
450-600	2.03-2.08	<1%	⩾97%	⩽0.5%	⩽0.3%	<3%	0-2, 2-8, 8-25
450-600	2.03-2.08	<1%	⩾97%	⩽0.5%	⩽0.3%	⩽2%	0-2, 2-8, 8-25
700-800	2.0	<1.5%	⩾97%	⩽0.5%	⩽0.3%	⩽0.5%	0-1, 1-3, 1-5, 5-25

*Can be customized according to customer's request.

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FOR ALUMINUM INDUSTRY

Specification	Unit	Typical
Ash	%	0.5 Max
Moisture	%	0.2 Max
Volatile matter	%	0.1 Max
Grain stability	%	75 Min
Bulk density	gr/cm^3	0.8 Min
Real density	gr/cm^3	2.04 Min
Co^2 reactivity at 1000℃	%	3–15
Air reactivity at 525℃	%	0.05–0.3
Specific electrical resistance	μ Ω・m	540 Max
S	%	1.8 Max
V	%	0.03 Max
Ni	%	0.02 Max
Fe	%	0.05 Max
Mg	%	0.002 Max
Zn	%	0.003 Max
Si	%	0.03 Max
Na	%	0.012 Max
Ca	%	0.01 Max
Size Distribution		
Mesh +3	%	35 Min
Mesh -3+4	%	
Mesh -4+20	%	40 Max
Mesh -20+PAN	%	25 Max

*Can be customized according to customer's request.

GRAPHITE PETROLEUM COKE

SEMI-GRAPHITE PETROLEUM COKE

The calcined petroleum coke is treated with high-temperature graphitization at 2200°C-2500°C, offering cost performance and commonly used as an additive in casting and steelmaking. Sulfur content ⩽0.3%.

F.C	Volatile Matter	Ash	Moisture	S	Nitrogen	Specific resistance
⩾98.5%	⩽0.5%	⩽0.5%	⩽0.3%	⩽0.3%	⩽0.05	⩽300
Size(mm): 0-1, 0-2, 0-3, 1-3, 1-5, 2-8, 3-5, 3-8, 5-10, 5-15, 8-25						

*Can be customized according to customer's request.

ALL-GRAPHITE PETROLEUM COKE

Calcined petroleum coke, after being subjected to high-temperature graphitization at 2500℃-3000℃, is preferred material for casting and steelmaking carbon addition. Sulfur content ⩽0.05%.

F.C	Volatile matter	Ash	Moisture	S	Nitrogen	Specific resistance
⩾98.5%	⩽0.5%	⩽0.5%	⩽0.3%	⩽0.05%	⩽0.03	⩽100
Size(mm): 0-0.2, 0.2-1, 1-5, 5-8, 5-10, 8-25						

*Can be customized according to customer's request.

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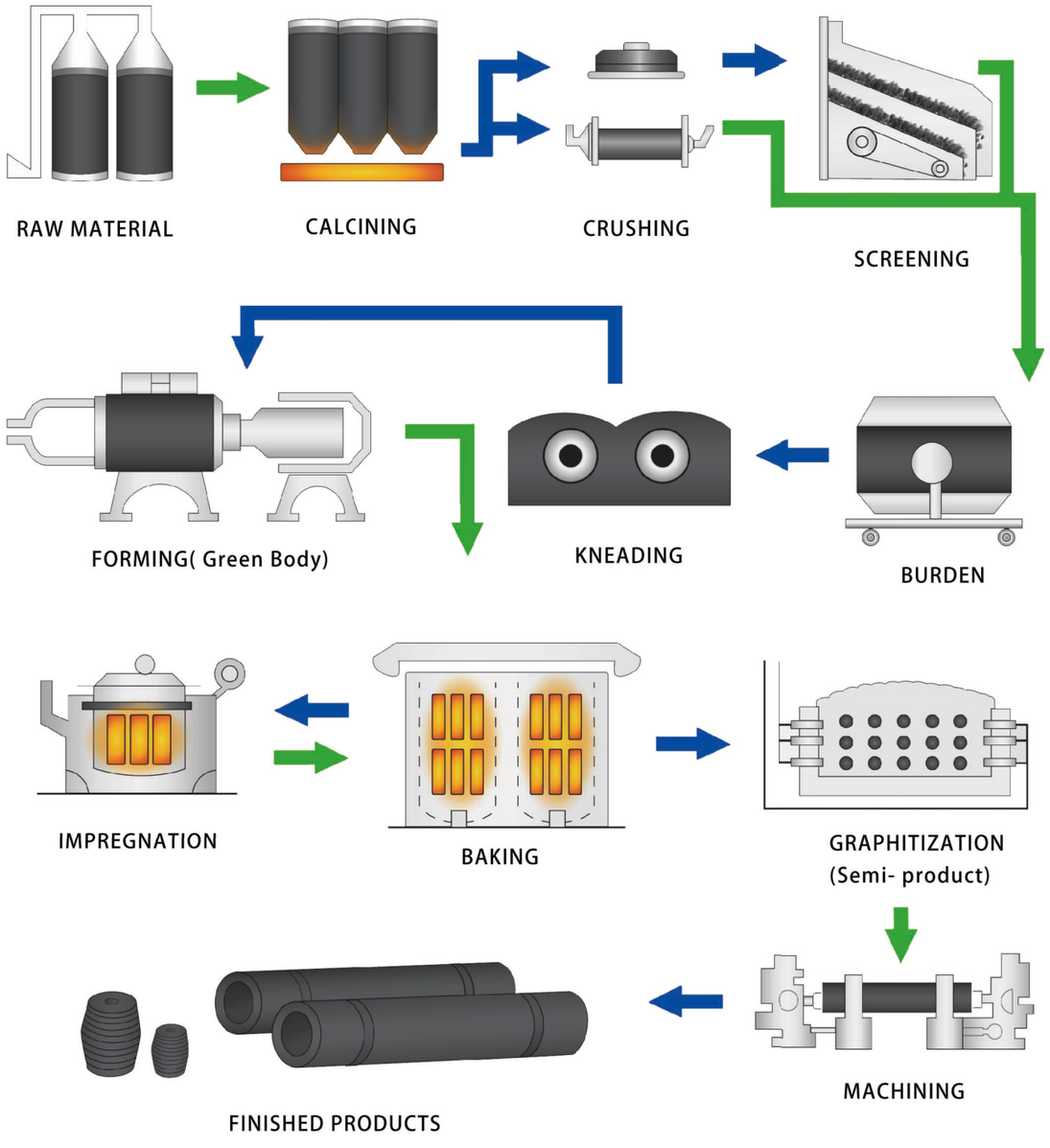
GRAPHITE ELECTRODE

PRODUCT DESCRIPTION

Graphite electrodes are mainly used in ladle furnaces, electric arc furnaces steelmaking, yellow phosphorus furnaces, industrial silicon furnaces or copper melting. They are currently the only products with high electrical conductivity and ability to sustain the extremely high heat generated in this harsh environment. High-quality needle coke in HP & UHP graphite electrodes ensures perfect electrode application. Graphite electrodes are also used to refine steel in ladle furnaces and other smelting processes.

Graphite electrodes are made of high-quality low-ash materials (petroleum coke, needle coke and coal pitch, etc.), which are calcined, batched, kneaded, shaped, roasted and pressure-impregnated, graphitized, and then precisely machined by professional CNC machining. The electrode has low resistivity, good conductivity, low ash, compact structure, good oxidation resistance and high mechanical strength, and is the best conductive material for electric arc furnaces and melting furnaces.

OVERVIEW OF PRODUCTION PROCESS



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TYPICAL PROPERTIES OF ELECTRODE

	Unit	AC Furnace			DC Furnace
		350~450mm 14" ~ 18"		500~700mm 20" ~ 28	550~800mm 22" ~ 32"
Features		RP	UHP	UHP	UHP
Bulk density	g/cm^3	1.58 ~ 1.70	1.65 ~ 1.76	1.66 ~ 1.74	1.68 ~ 1.75
Specific resistance	μΩm	6.0 ~ 8.5	4.5 ~ 6.5	4.5 ~ 6.5	4.2 ~ 5.5
Young's modulus		8~12	11~16	9~14	9~13
	GPa	8~12	11~16	9~14	9~13
	kgf/mm^2	800~1,200	1,100~1,650	950~1,400	900~1,300
Bending strength	N/cm^2	1,000 ~ 1,400	1,200 ~ 1,800	1,000 ~ 1,500	1,000 ~ 1,500
	MPa	10~14	12~18	10~15	10~15
	kgf/cm^2	100~140	120~180	100~150	100~150
Thermal expansion coefficient (R.T. to 400˚C)	×10–6/ C	0.8 ~ 1.5	0.8 ~ 1.5	0.5 ~ 1.0	0.5 ~ 0.9
	×10–6/ F	0.4 ~ 0.8	0.4 ~ 0.8	0.3 ~ 0.6	0.3 ~ 0.5
True density	g/cm^3	2.20 ~ 2.23	2.20 ~ 2.23	2.20 ~ 2.23	2.20 ~ 2.23
Total porosity	%	23~29	20~26	21~26	20~25
Ash content	%	Less than 0.2	Less than 0.2	Less than 0.2	Less than 0.2

SUGGESTED CURRENT CAPACITY AND CURRENT DENSITY

ϕ	RP		HP		UHP	
mm	current load (A)	current density (A/cm ^{2})	current load (A)	current density (A/cm ^{2})	current load (A)	current density (A/cm ^{2})
200	5000-6900	15-21	5500-9000	18-25		
250	7000-10000	14-20	8000-13000	18-25		
300	10000-13000	14-18	13000-17400	17-24	18000-24000	20-30
350	13500-18000	14-18	17400-24000	17-24	22000-30000	20-30
400	18000-23500	14-18	2000-32000	16-24	28000-35000	19-27
450	22000-27000	13-17	32000-40000	15-24	33000-45000	19-27
500	25000-32000	13-16	40000-48000	15-24	40000-55000	18-27
550	28000-36000	13-16	34000-55000	15-23	45000-65000	18-27
600	35000-41000	13-16	38000-61000	15-23	50000-75000	18-27
650	36000-45000	13-16	40000-68000	15-23	55000-85000	18-27
700	39000-48000	13-16	45000-75000	15-23	60000-100000	18-27

STANDARD SIZES OF ELECTRODE

Name		Pole diameter		Pole length	
Diameter x length		Max	Min	Max	Min
inch	mm	mm	mm	mm	mm
14 × 60	350 × 1500	357	352	1550	1400
14 × 72	350 × 1800			1875	1700
14 × 96	350 × 2400			2475	2275
16 × 60	400 × 1500	409	403	1550	1400
16 × 72	400 × 1800			1875	1700
16 × 96	400 × 2400			2475	2275
18 × 72	450 × 1800	460	454	1875	1700
18 × 96	450 × 2400			2475	2275
18× 110	450 × 2700			2850	2550
20 × 72	500 × 1800	511	505	1875	1700
20 × 84	500 × 2100			2175	1975
20 × 96	500 × 2400			2475	2275
20 × 110	500 × 2700			2850	2550
22 × 84	550 × 2100	562	556	2175	1975
22 × 96	550 × 2400			2475	2275
24 × 84	600 × 2100	613	607	2175	1975
24 × 96	600 × 2400			2475	2275
24 × 110	600 × 2700			2850	2550
26 × 110	650 × 2700	663	657	2850	2550
28 × 110	700 × 2700	714	708	2850	2550
30 × 110	750 × 2700	765	759	2850	2550
32 × 110	800 × 2700	816	810	2850	2550

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DIMENSION OF TAPERED NIPPLES

Diameter			Nipple				Socket		Pitch
			D	d2	L	l	d1	H	
			Tolerance:			≤	Tolerance:		
	mm	in	(–0.30~ 0)	(–0.30~ 0)	(–1~ 0)		(0 ~ 0.3)	(0 ~ 7)	
3TPI	225	9"	139.70	91.22	203.20		141.22	107.60	8.47
	250	10"	155.57	104.20	220.00		157.09	116.00	
	300	12"	177.16	117.39	270.90		148.68	141.50	
	350	14"	215.90	150.48	304.80		217.42	158.40	
	400	16"	215.90	150.48	304.80		217.42	158.40	
	400	16"	241.30	170.23	338.70		242.82	175.30	
	450	18"	241.30	170.23	338.70		242.82	175.30	
	450	18"	273.05	199.17	355.60	7	274.57	183.80	
	500	20"	273.05	199.17	355.60		274.57	183.80	
	500	20"	298.45	221.73	372.60		299.97	192.20	
	550	22"	298.45	221.73	372.60		299.97	192.20	
	600	24"	336.55	245.73	457.30		338.07	234.60	
3TPIL	350	14"	215.90	144.85	338.70		217.42	175.30	
	400	16"	241.30	167.43	355.60		242.82	183.80	
	450	18"	273.05	182.23	457.30		274.57	234.60	
4TPI	200	8"	122.24	81.48	177.80		115.92	94.90	6.35
	225	9"	139.70	98.94	177.80		133.38	94.90	
	250	10"	152.40	109.52	190.50		146.08	101.30	
	300	12"	177.80	130.69	215.90		171.48	114.00	
	350	14"	203.20	149.74	254.00		196.68	133.00	
	400	16"	222.25	160.32	304.80		215.93	158.40	
	450	18"	241.30	179.37	304.80		234.98	158.40	
	500	20"	269.88	199.49	355.60		263.56	183.80	
	550	22"	298.45	228.06	355.60		292.13	183.80	
	600	24"	317.50	247.11	355.60		311.18	183.80	
	650	26"	355.60	268.27	457.20	7	349.28	234.60	
	700	28"	374.65	287.32	457.20		368.33	234.60	
4TPIL	300	12"	177.80	124.34	254.00		171.48	133.00	
	350	14"	203.20	141.27	304.80		196.88	158.40	
	400	16"	222.25	>161.86	355.60		215.93	183.80	
	450	18"	241.30	>170.91	355.60		234.98	183.80	
	500	20"	269.88	182.55	457.20		263.56	234.60	
	550	22"	298.45	211.12	457.20		292.13	234.60	
	600	24"	317.50	230.17	457.20		311.18	234.60	
	650	26"	355.64	251.38	558.80		349.28	285.40	
	700	28"	374.65	270.39	558.80		368.33	285.40	

ELECTRODE PASTE

Electrode paste is a conductive material used in ferroalloy furnaces, calcium carbide furnaces and other ore–heating furnaces. This product has the ability to withstand high temperatures and has a small thermal expansion coefficient. It has a relatively small resistivity, which can reduce the loss of electric energy. It has a small porosity, which can slow down the oxidation of the electrode in the heated state. It has a high mechanical strength, so that the electrode will not break due to the influence of mechanical and electrical loads.

TECHNICAL PAIAMETERS

Model	Ash max	Vol max	Compress strength max (Mpa)	Specific resistance max (μΩm)	Apparent density min (g/cm³)	Bulk density after baking min (g/cm³)	Plasticity
CK-CEP-01	3.0%	9-15%	19	63	1.6	1.4	10-30%
CK -CEP-02	3.5%	9-15%	20	64	1.6	1.4	10-30%
CK -CEP-03	4.0%	9-15%	21	65	1.6	1.4	10-30%
CK CEP-04	4.5%	9-15%	22	70	1.58	1.38	20-40%
CK -CEP-05	5.0%	9-15%	22	73	1.58	1.38	20-40%
CK -CEP-06	6.0%	9-15%	23	75	1.58	1.38	20-40%
CK -CEP-07	6.5%	9-15%	23	78	1.58	1.38	20-40%
CK -CEP-08	7.0%	9-15%	23	80	1.58	1.38	20-40%
Type&Size	Briquette 60*80*100mm Egg 50*80mm Cylinder Dia500mm*500mm Dia500mm*1000mm Dia600mm*1000mm						

Egg shape › Briquette › Briquette › Cylinder




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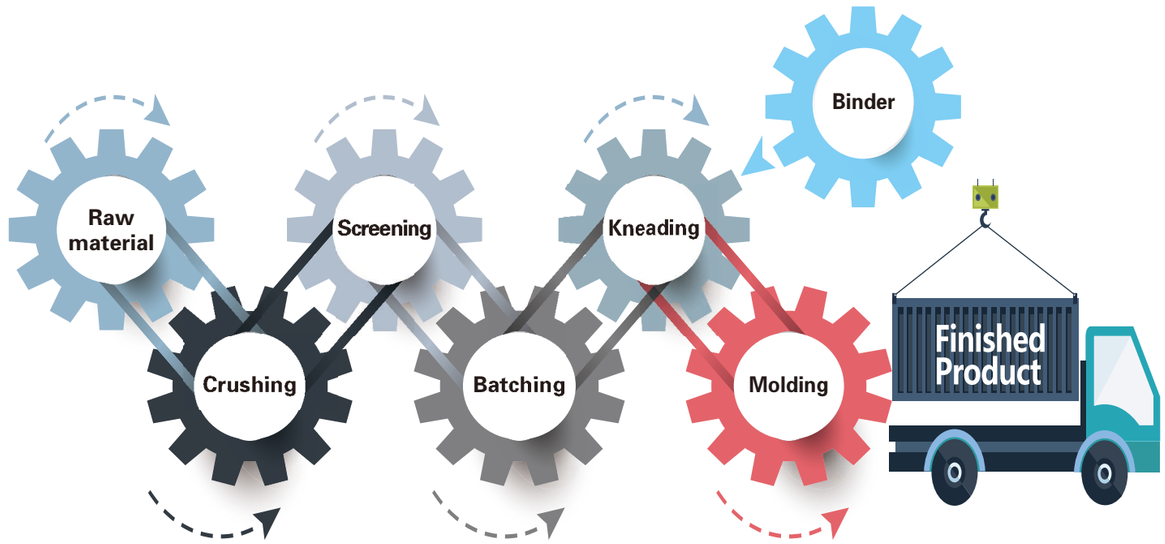
PRODUCTION PROCESS



APPLICATION

1. Submerged arc fumace
2. Ferro silicon alloy smelting
3. Silicon manganese alloy smelting
4. Yellow phosphorus smelting
5. Si–Ca–Ba alloy smelting

ANODE CARBON BLOCK

Anode carbon block refers to the carbon block produced with petroleum coke and asphalt coke as aggregate and coal pitch as binder, which is used as anode material for pre–baked aluminum reduction cells.

Specification of anode carbon block (mm) (length x width x height)	Allowable deviation (mm)			
	Length	Width	Height	Bending
1500 X 660 X 550	± 10	± 5	± 10	not more than 0.1% of the length

*Can be customized according to customer's request.

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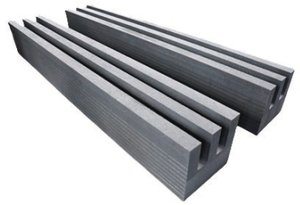
TECHNICAL PARAMETERS

Specification	Typical	Unit	Method
Real density	2.05 Min	g/cm ^{3}	ISO 8004
Apparent density	1.54–1.6	g/cm ^{3}	ISO 12985
Air permeability	0.5–2	npm	ISO 15906
Compressive strength	40–55	N/mm ^{2}	ISO 12989
Youngs moudle	3.5–5.5	Gpa	ISO 12989
Flexural strength	8–14	N/mm ^{2}	ISO 12986
Spe.elec.resistance	50–60	μΩ m	ISO 11713
Cof.lin.thermal	3.5–5	μ m/(k.m)	ISO 14420
Thermal conductivity	3–4.5	W/(k.m)	ISO 129087
Ash	0.5 Max	%	ISO 8005
Air reactivity residue	70–85	%	
Dust	2–10	%	ISO 12989–1
Lost	8–30	%	
Co^2 reactivity residue	84–95	%	
Dust	1–10	%	ISO 12988–1
Lost	4–10	%	
Elements			
S	0.5–3.5	%	
V	30–320	PPM	
Fe	100–500	PPM	
F	150–600	PPM	ASTM D6376
Ca	50–200	PPM	
Al	150–600	PPM	
Ni	40–200	PPM	
Si	50–300	PPM	

*Can be customized according to customer's request.

CATHODE CARBON BLOCK

Cathode carbon block refers to the carbon block made of high–quality anthracite, coke, graphite and other raw materials. Used as a cathode for aluminum reduction cells. It is laid on the bottom of the electrolytic cell also known as the bottom carbon block. Cathode carbon block is an important part of aluminum reduction cells, which is beneficial to energy saving and the increase of cell life.



TECHNICAL PARAMETERS

No.	Description	Specification
1	Side cathode block Corner block cathode End carbon block	Grade: TKL1 ; Bulk density: ⩾1.54 gr/cm^3 ; True density: ⩾1.86 gr/cm^3 ; Ash: < 9% ; Resistivity: < 55 Ωm^2/m ; Tear index: < 1.5 ; Volume density: 1.54 g/cm^3; True density: 1.86 g/cm^3 ; Compression strength: 32 N/mm^3.
2	Cathode carbon block	Grade: Gs-5; Apparent density: 1.57 gr/cm^3; True density: 1.98 gr/cm^3; Compressive strength: ⩾24Mpa; Flexural strength: ⩾10Mpa; Resistivity ⩽29 Mohm.m; Ash content: ⩽4%; Youngs modulus: ⩽11 Gpa; Sodium expansion Rate: ⩽0.7%; Graphite content: 40-50%.

*Can be customized according to customer's request.

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COAL TAR PITCH

During the processing of coal tar, the residue after distillation to remove the liquid fraction is called coal tar. Coal tar is the main component of coal tar, accounting for about 50% to 60% of the total.
Under normal room temperature, coal tar is a black brittle block with a shiny odor and is easy to burn when melted.
Coal tar pitch can be used in the production of carbon products. The degree of graphitization of carbon in coal tar is relatively high. It can be produced as electrode material, and can also be used as a wetting agent and binder. There are many types of products in this regard and a wide range of products involved. This is the main use of coal tar.

Specification	Typical	Unit	Value
Moisture	0.2	%	Max
Distillation(0–270℃)	0.1–0.6	%	Max
Distillation(0–360℃)	3–5	0%	Max
Softening Point	110–120	℃	Max
Viscosity (140℃)	3000–12000	CP	Max
Viscosity (160℃)	600–2000	CP	Max
Viscosity(180℃)	200–500	CP	Max
Density in water	1.3–1.4	gr/cm^3	Max
Coking value	54–60	%	Max
QI	7–14	%	Max
TI	30–35	%	Max
Beta Resin	20–30	%	Max
C/H	1.6–1.8		Max
Ash	0.5	%	Max
S	0.5	%	Max
Na	0.07	%	Max
Ca	0.02	%	Max
K	0.01	%	Max
Fe	0.02	%	Max
Si	0.02	%	Max
W	0.002	%	Max
Mg	0.002	%	Max
Ti	0.005	%	Max
Zn	0.005	%	Max
Li	0.002	%	Max

*Can be customized according to customer's request.

COLD RAMMING PASTE

Ramming paste is used to seal the cathode part of aluminium reduction cells, and so avoid metal leakage during operation.

Ramming paste is a granular material that is used to ensure a good seal within the cathodes of the electrolytic cells used for reduction of aluminium oxide to metallic aluminium using the Hall–Héroult process.

Ramming paste must be packed tightly, both around the peripheral seam of the cathode part of the pot and in the small joints between the cathode blocks themselves, and this is achieved with the aid of rolling or vibration equipment.

TECHNICAL PARAMETERS

Specification		Typical	Unit	Value
Volatile		12	(%)	Max
The largest article diameter of aggregate		8	(mm)	Max
Ash content		12	(%)	Max
Volume density after molding		1.55	(g/cm^3)	Min
Moisture content		1	(%)	Max
Fixed carbon		76	(%)	Min
Operation temperature of construction		25-40	℃	
After baking	Volume density	1.42		Min
	Compressive strength	20	(MPa)	Min
	The after volume shrinking	1.5	(%)	Max
	Apparent porosity	22	(%)	Max
	Thermal conductivity		(W/m.k)	
	Specific resistance	70	(Ω mm ^{2}/m)	Max

*Can be customized according to customer's request.

HENAN CLARK INDUSTRIAL CO., LTD

STEEL BAR PASTE

Steel bar paste is a paste specially developed for cathode carbon blocks in aluminum electrolytic cells. It is used to fill the large gaps around the cathode, the gaps between carbons, and to connect the cathode steel rod and the cathode carbon block.

TECHNICAL PARAMETERS

Specification		Typical	Unit	Value
Volatile		8–12	(%)	
The largest article diameter of aggregate		2	(mm)	Max
Ash content		10	(%)	Max
Volume density after molding		1.6	(g/cm^3)	Min
Moisture content		1	(%)	Max
Fixed carbon		77	(%)	Min
Operation temperature of construction		40–50	℃	
After baking	Volume density	1.42		Min
	Compressive strength	20	(MPa)	Min
	The after volume shrinking	1.5	(%)	
	Apparent porosity	22	(%)	Max
	Thermal conductivity		(W/m.k)	
	Specific resistance	65	(Ω mm ^{2}/m)	Max

*Can be customized according to customer's request.

SEMI-COKE

Semi-Coke is made from high quality Jurassic selected lump coal which produced in Shenfu, Yulin and Dongsheng coal fields. The color is light black and the product specifications are between 0-60mm.

Semi-Coke has high specific resistance, high fixed carbon, high chemical activity, multiple specific surface area and ultra-low sulfur, ultra-low ash, ultra-low phosphorus and other characteristics. It is a good material to make ferroalloy,calcium carbide, synthetic ammonia, blast furnace injection and civil carbon.

PRODUCT TECHNICAL INDEX

Project-specification	Symbol	Unit	Technical Indicators-typical	Test method
Volatile matter	V_{daf}	%	5.00-7.00	GB/T212
Fixed carbon	F_{cd}	%	≥85	GB/T212
Moisture	M_t	%	16.00-18.00	GB/T211
Sulfur	$S_{t,d}$	%	≤0.30	GB/T214
Phosphorus	P_d	%	≤0.008	GB/T216
Alumina	$W(AL_2O_3)$	%	≤2.00	GB/T1574
Total potassium sodium	K+Na	%	<0.12	GB/T035
The resistivity	P	10*2 m	>10000	YB/T035
Thermal stability	TS_{+6}	%	>80	GB/T1573
Ash	A_d	%	≤8.00	GB/T212
Melting temperature of coal ash	ST	℃	>1250	GB/T219
Drop strength	SS	%	>55	GB/T15459
Hardgrove grindability	HGL		>55	GB/T2565
Size		mm	75-35,35-18,18-6,<6	
Calorific value	$Q_{net,ar}$	MJ/kg	22.00-26.00	GB/T2565

*Can be customized according to customer's request.

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METALLURGICAL COKE

Metallurgical coke is made mainly from coking coal through high temperature dry distillation in achamber coke oven. It has a structure with cracks and pores. It is mainly used in blast furnace iron making, blast furnace smelting of nonferrous metals and foundry. It's physical and chemical indices such as moisture content, ash content, volatile mattercontent, sulfur content and mechanical strength are crucial for measuring its quality. And it has a significant impact on smelting efficiency and product quality.

PRODUCT TECHNICAL INDEX

Project-specification	Symbol	Unit	Technical Indicators-typical
Ash	A_d	%	≤12.00
Sulfur	$S_{t,d}$	%	≤0.60
Crushing strength	M_{25}	%	≥92.0
	M_{40}	%	≥80.0
Abrasion resistance strength	M_{10}	%	M25: ≤7.0
			M40: ≤7.5
Reactivity index	CRI	%	≤30
Strength after reaction	CSR	%	≥55.0
Volatile matter	V_{daf}	%	≤1.8
Moisture content	M_t	%	≤2.0 ≤7.0
Coke fines content		%	≤5.0
Particle size		mm	> 40, > 25,25~40

*Can be customized according to customer's request.

PACKAGING AND TRANSPORTATION

TECHNICAL SERVICE

HENAN CLARK INDUSTRIAL CO., LTD

EXHIBITION SHOW

BUSINESS PARTNER

National Iranian Steel Co. (NISCO)

مجتمع صنعتی اسفراین
Esfarayen Industrial complex

IRAN ALLOY STEEL CO.

آلومینیوم ایران

مجتمع فولاد صنعت بناب
Bonab Steel Industry Complex

ESCO
Esfahan Steel Company

مجتمع فولاد مبارکه
Mobarakeh Steel Co.

KSC.CO

Almahdi Aluminium Co.

azəralüminium

RUSAL

Start from CLARK , To the worldwide