

CIMM Donghai Advanced Carbon Co., Ltd
Member of CIMM Group

H.O. Add.: Floor 17 Chengda Building, No.71 Renmin Road,
Zhongshan District, Dalian-116001, China.
Plant Add.: Chaoyang Road, Jiexiu-032000, Shanxi, China
Tel: +86 411 82511023/25/26/27
Fax: +86 411 8251022/21
E-mail: cola@cimmuk.com, markma@cimmuk.com

Carbon Material & Products



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Committed To Be
A Forever Trustworthy
Business Partner

MESSAGE FROM CHAIRMAN



CIMM is endeavoring to become a first-class conglomerate globally based on integration of technology, engineering, manufacturing, trade and logistics through the collective power of peace, love and friendship.

CIMM follows the principle of equality, love, mutual-benefit and cooperation, embraces the mind of universal caritas, brilliant wisdom and hard work, spreads the seeds of friendship and irrigates the flower of peace during the course of providing its service to customers home and abroad.

CIMM is willing to join hands, go and grow together with its friends around the world.

CIMM is willing to share the progress and prosperity with its business partners around the world.



Quality



Performance



Reputation

QPR is the fundamental guideline, principle and way for CIMM family to live, work, grow and create a new life and new future.

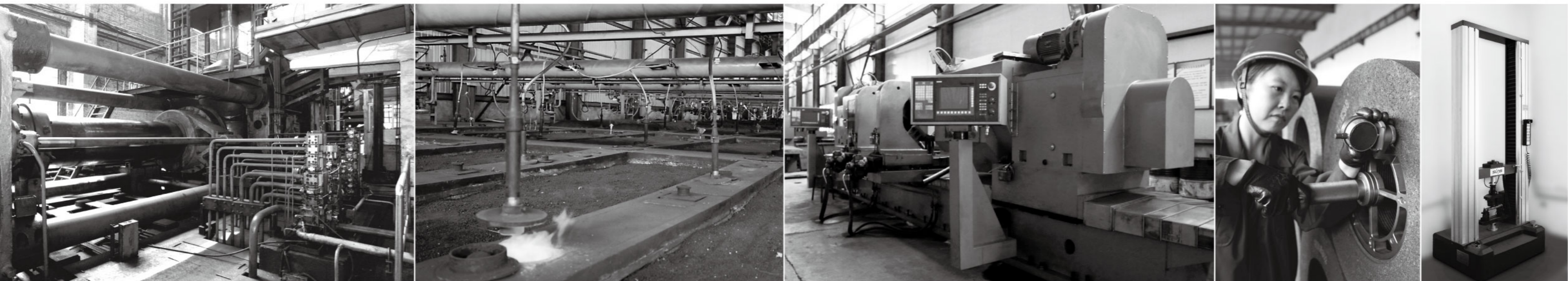
ABOUT US



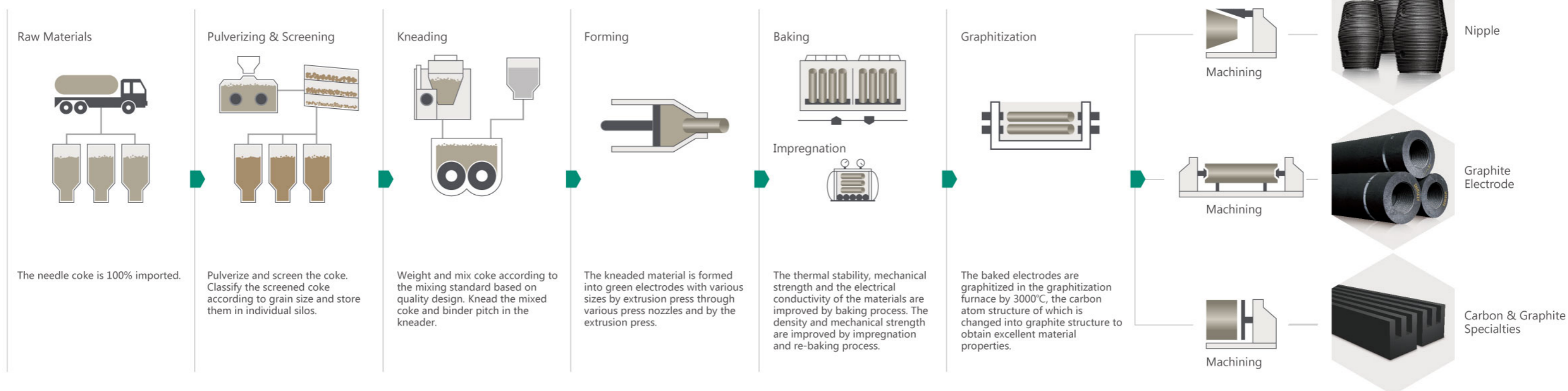
CIMM Donghai is a top professional manufacturer of carbon product in China. Our main products are Ø200-Ø700mm NP, HP, UHP Graphite Electrodes and Graphite Cathode Carbon Blocks. In the last decade our products were exported to more than 40 foreign countries and areas and got high reputation from our customers all over the world.

We constantly invest in our production technologies and in international advanced key equipments including 24-pot calcinator, 3500MT vacuumized oil hydraulic extrusion forming machine, 18-chamber ring baking furnace, high-pressure impregnation system, full CNC machining line and the first-class carbon inspection equipments. The quality is up to international advanced level. We have our own professional technical & after-sales service teams and provide our clients with timely and excellent service. We commit ourselves to assisting the clients to reduce production cost and increase productivity.

PRODUCTION FACILITIES



PRODUCTION PROCESS



TECHNICAL PARAMETERS

We can design tailor products as per the customer’s actual operational parameters.

Item		Unit	NP		HP		UHP	
			≤Ø400	≤Ø450	≤Ø400	≥Ø450	≤Ø400	≥Ø450
Electric Resistivity	Electrode	μΩ•m	≤8.5	≤9.0	≤6.0	≤6.5	≤5.0	≤5.5
	Nipple		≤5.5	≤5.5	≤4.5	≤4.5	≤4.0	≤4.0
Transverse Strength	Electrode	Mpa	≥8.0	≥7.0	≥10.5	≥10.5	≥15.0	≥15.0
	Nipple		≥16.0	≥16.0	≥20.0	≥20.0	≥24.0	≥24.0
Young's Modulus	Electrode	Gpa	≤9.3		≤12.0		≤14.0	
	Nipple		≤14.0		≤16.0		≤18.0	
Bulk Density	Electrode	g/cm³	≥1.54		≥1.65		≥1.68	
	Nipple		≥1.70		≥1.74		≥1.76	
Coefficient of Thermal Expansion (100°C-600°C)	Electrode	10 ⁻⁶ °C	≤2.5		≤2.0		≤1.5	
	Nipple		≤2.0		≤1.6		≤1.2	
Ash		%	≤0.2		≤0.2		≤0.2	

ELECTRODE DIMENSIONS

We can produce the non-standards dimension GE as per the customer’s requirement

Nominal Diameter		Diameter Allowance Range (mm)		Nominal Length	
in	mm	min.	max.	in	mm
8	200	200	205	60/72	1500/1800
9	225	225	230	60/72	1500/1800
10	250	251	256	60/72	1500/1800
12	300	302	307	60/72	1500/1800
14	350	352	357	72/80	1800/2100
16	400	403	408	72/80	1800/2100
18	450	454	460	72/82/94	1800/2100/2400
20	500	505	511	72/82/94	1800/2100/2400
22	550	556	562	72/82/94	1800/2100/2400
24	600	607	613	82/94/106	2100/2400/2700
28	700	708	714	94/106	2400/2700

NIPPLE DIMENSIONS

Number of Threads Per Inch=3

Electrode Diameter		IEC Code	Nipple			Socket	
in	mm		Large Dia. D1(mm)	Length L1 (mm)	Medium Dia. D2(mm)	Small Dia. D3(mm)	Depth L2(mm)
10	250	155T3N	155.58	220.10	151.36	147.15	116.00
12	300	177T3N	177.16	270.90	172.95	168.73	141.50
14	350	215T3N	215.90	304.80	211.69	207.47	158.40
16	400	215T3N	215.90	304.80	211.69	207.47	158.40
16	400	241T3L	241.30	338.70	237.09	232.87	175.30
18	450	241T3N	241.30	338.70	237.09	232.87	175.30
18	450	273T3L	273.05	355.60	268.84	264.62	183.80
20	500	273T3N	273.05	355.60	268.84	264.62	183.80
20	500	298T3L	298.45	372.60	294.24	290.02	192.20
22	550	298T3N	298.45	372.60	294.24	290.02	192.20

Number of Threads Per Inch=4

Electrode Diameter		IEC Code	Nipple			Socket	
in	mm		Large Dia. D1(mm)	Length L1 (mm)	Medium Dia. D2(mm)	Small Dia. D3(mm)	Depth L2(mm)
8	200	122T4N	122.24	177.80	119.08	115.92	94.90
10	250	152T4N	152.40	190.50	149.24	146.08	101.30
12	300	177T4N	177.80	215.90	174.64	171.48	114.00
14	350	203T4N	203.20	254.00	200.04	196.88	133.00
16	400	222T4N	222.25	304.80	219.09	215.93	158.40
16	400	222T4L	222.25	355.60	219.09	215.93	183.80
18	450	241T4N	241.30	304.80	238.14	234.98	158.40
18	450	241T4L	241.30	355.60	238.14	234.98	183.80
20	500	269T4N	269.88	355.60	266.72	263.56	183.80
20	500	269T4L	269.88	457.20	266.72	263.56	234.60
22	550	298T4N	298.45	355.60	295.29	292.13	183.80
22	550	298T4L	298.45	457.20	295.29	292.13	234.60
24	600	317T4N	317.50	355.60	314.34	311.18	183.80
24	600	317T4L	317.50	457.20	314.34	311.18	234.60
28	700	374T4N	374.65	457.20	371.49	368.33	234.60
28	700	374T4L	374.65	558.80	371.49	368.33	285.40

RECOMMENDED CURRENT LOAD

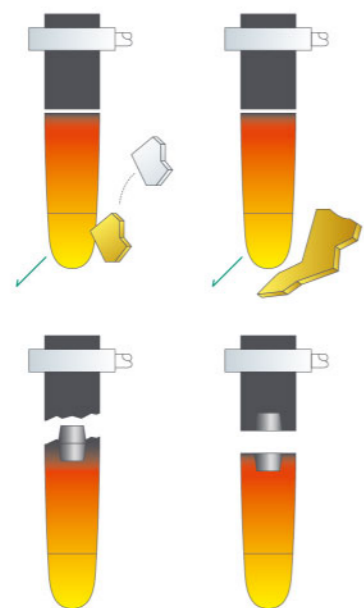
Grade	Nominal Diameter		Current Load	Current Density
	in	mm	A	A/cm2
NP	8	200	5000-6900	15-21
	9	225	6900-9000	15-21
	10	250	7000-10000	14-20
	12	300	10000-13000	14-18
	14	350	13500-18000	14-18
	16	400	18000-23500	14-18
	18	450	22000-27000	13-17
	20	500	25000-32000	13-16
	22	550	31500-39000	13-16
	24	600	35000-41000	13-15
HP	8	200	5500-9000	18-25
	9	225	6500-10000	18-25
	10	250	8000-13000	18-25
	12	300	13000-17400	17-24
	14	350	17400-24000	17-24
	16	400	21000-31000	16-24
	18	450	25000-40000	15-24
	20	500	30000-48000	15-24
	22	550	39000-59000	15-23
	24	600	44000-67000	13-21
UHP	12	300	15000-22000	20-30
	14	350	20000-30000	20-30
	16	400	25000-40000	19-30
	18	450	32000-45000	19-27
	20	500	38000-55000	18-27
	22	550	42000-64000	17-26
	24	600	50000-76000	17-25
	28	700	67000-100000	17-25

PACKAGE, PRODUCTION AND
SAFE TRANSPORTATION

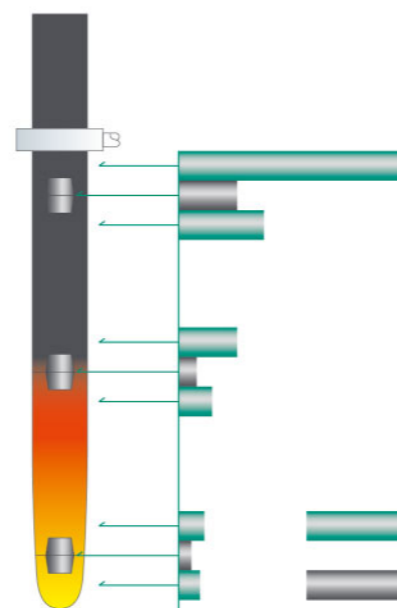
HANDLING INSTRUCTION FOR GE USAGE

◆ Breakage Causes

- ⬡ External Force
 - A. Bulk scraps collapse in melting period
 - B. Non-conductive objects locate under electrode end.
 - C. Impact from massive steel flow.
- ⬡ Corresponding speed of clamping device during lifting is non-coordinated.
- ⬡ Electrode hole at furnace roof is eccentric.
- ⬡ Gap between nipple and electrode is caused by improper connection.
- ⬡ Poor nipple strength.
- ⬡ Inferior machining accuracy of electrode and nipple leads to the nipple breakage.



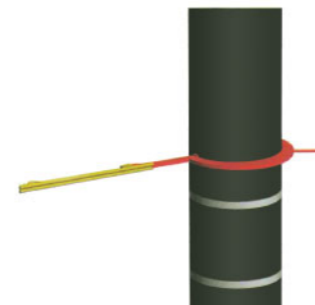
External Force > Electrode Strength
→ Electrode Breakage



Stress Status of Electrode
Stress degree of electrode is decreased from top to bottom end. The stress at the joint section between electrode and nipple under clamping device is the largest one.

◆ Recommended Connecting Torque

Electrode Diameter (mm)	300	350	400	450	500	550	600	700
Torque (N.m)	900	1300	1550	1850	2400	2750	3800	5200



◆ Precautions for GE Usage

- ⬡ Adjust the electrode phase sequence, which should be in counter-clockwise direction in AC EAF.
- ⬡ Put the scraps evenly in the furnace and put the larger ones at the bottom position.
- ⬡ Don't mix the non-conducting materials into the scraps or gather non-conducting material like lime just under the electrodes to affect the electrical conductivity and cause the electrode breakage.
- ⬡ Make sure the electrode columns are aligned with the furnace roof hole and keep the electrode columns parallel; always keep the wall of furnace roof hole clean to avoid the accumulation of residual slag.
- ⬡ Maintain the furnace tilting system in good condition to keep the furnace tilting stable.
- ⬡ Don't put the clammer at the electrodes connecting position or socket position.
- ⬡ Use superior quality nipples with high transverse strength and machining precision.
- ⬡ Don't mix the electrodes and nipples produced by different manufacturers because the chemical and physical properties of electrodes and nipples produced by different manufacturers are various due to the different raw material and production process.
- ⬡ Keep the electrodes end surface neat without oxidation and impurities to affect the electrodes connecting.
- ⬡ Prevent the electrode socket and nipple thread from mechanical damage before and during the connection.
- ⬡ Keep the electrode socket and nipple clean without slag and any impurities through blowing the surface by compressed air before connection.
- ⬡ Keep the furnace well sealed to reduce the electrode oxidation consumption; minimize the exposure time of the hot electrodes out of the furnace
- ⬡ The spray cooling device can effectively reduce the electrodes surface oxidation consumption in LF.

◆ Recommended Operational Tools



Lifting Plug



Torque Wrench



Torque Loop

CERTIFICATION

CIMM Donghai has been awarded relevant certifications by China Quality Certification Center.

MISSION

CIMM Donghai is always contributed to the technology research and development of the new type energy-saving and cost-reducing graphite electrode and graphite cathode carbon block, to enable our brand rank in the world-class level of the carbon industry.

