

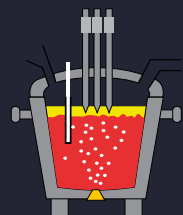
www.sinometalunion.com

Technical Experience at the service of Industries

High quality supplies at competitive prices and punctual shipping



SINOMETAL
MACHINERY CORP



SUPPLIES FOR STEEL AND FOUNDRY INDUSTRIES



SINOMETAL MACHINERY CORP

is a company based in China with more than 25 years of experience in Metallurgy field.

Our team of technicians put its know-how in metallurgy at the service of industries providing steel supplies of the best certified quality in the steel and foundry industry.

SINOMETAL also offers professional technical support and high level of logistics service to customers worldwide.





**SINOMETAL MACHINERY
CORP offers quick solutions
and technical advice for the
steel and metallurgy industry.
The main continuously supplied
products are:**

**Graphite electrodes,
Magnesite Carbon refractory bricks
for EAF and LF furnaces,
Rings and Frames EBT - Taphole
Systems EAF
Dry Vibration Mix - Dry Mass for
Tundish,
Oxygen Injector Lances.**





SINOMETAL'S GRAPHITE ELECTRODES

Graphite electrodes are our main product, with a total output of 100,000 TPA, resulting in high quality graphite electrodes with diameters ranging from 200mm to 700mm in the grades that are most commonly required (NP, HP, SHP, UHP Grade) for the foundry and metallurgical industry.

SINOMETAL grade UHP (ultra-high power) graphite electrodes are manufactured with high quality needle coke and petroleum coke as raw materials and coal tar pitch as adherent, achieving low resistivity, minimum coefficient of thermal expansion and suitable electrical conductivity, produce low ash content, high resistance to oxidation, strong resistance to bending, a compact structure and high mechanical stability that contribute to a reduced rate of consumption kilograms of electrode consumed against tons of steel produced for the process of steel production in the Electrical Arc.



PRODUCTS SPECIFICATION

Nominal Diameter	Basic	Allowance Range		Nominal Lenght	Allowance Range	
		Min.	Max.		Min.	Max.
250	254	251	256	1500	1400	1600
				1800	1700	1900
300	305	302	307	1500	1400	1600
				1800	1700	1900
350	355	352	357	1500	1400	1600
				1800	1700	1900
400	406	403	408	1800	1700	1900
				2100	2000	2200
450	457	454	460	1800	1700	1900
				2100	2000	2200
				2400	2300	2500
500	508	505	511	1800	1700	1900
				2100	2000	2200
				2400	2300	2500
550	559	556	562	1800	1700	1900
				2100	2000	2200
				2400	2300	2500
600	610	607	613	2100	2000	2200
				2400	2300	2500
				2700	2600	2800
700	711	708	714	2400	2300	2500
				2700	2600	2800

PHYSICAL & CHEMICAL PROPERTIES OF ELECTRODE AND NIPPLE

Item			RP		HP		UHP	
Item		Unit	≤Ø400	≥Ø450	≤Ø400	≥Ø450	≤Ø400	≥Ø450
Electric Resisitivity	Electrode	$\mu\Omega \cdot m$	≤8.5	≤9.0	≤6.0	≤6.5	≤5.5	≤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 Desity	Electrode	g/cm^3	≥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	



MACHINING DIMENSION OF ELECTRODE AND NIPPLE

Electrode Diameter	IEC Code	Nipple			Socket		Pitch
mm		Large Dia. D1 (mm)	Length L1 (mm)	Medium Dia. D2 (mm)	Small Dia. D3 (mm)	Depth L2 (mm)	mm
250	155T3N	155.58	220.10	151.36	147.15	116.00	8.47
300	177T3N	177.16	270.90	172.95	168.73	141.50	
350	215T3N	215.90	304.80	211.69	207.47	158.40	
400	215T3N	215.90	304.80	211.69	207.47	158.40	
400	241T3L	241.30	338.70	237.09	232.87	175.30	
450	241T3N	241.30	338.70	237.09	232.87	175.30	
450	273T3L	273.05	355.60	268.84	264.62	183.80	
500	273T3N	273.05	355.60	268.84	264.62	183.80	
500	298T3L	298.45	372.60	294.24	290.02	192.20	
550	298T3N	298.45	372.60	294.24	290.02	192.20	

Electrode Diameter	IEC Code	Nipple			Socket		Pitch
mm		Large Dia. D1 (mm)	Length L1 (mm)	Medium Dia. D2 (mm)	Small Dia. D3 (mm)	Depth L2 (mm)	mm
250	152T4N	152.40	190.50	149.24	146.08	101.30	6.53
300	177T4N	177.80	215.90	174.64	171.48	114.00	
350	203T4N	203.20	245.00	200.04	196.88	133.00	
400	222T4N	222.25	304.80	219.09	215.93	158.40	
400	222T4L	222.25	355.60	219.09	215.93	183.80	
450	241T4N	241.30	304.80	238.14	234.98	158.40	
450	241T4L	241.30	355.60	238.14	234.98	183.80	
500	269T4N	269.88	355.60	266.72	263.56	183.80	
500	269T4L	269.88	457.20	266.72	263.56	234.60	
550	298T4N	298.45	355.60	295.29	292.13	183.80	
550	298T4L	298.45	457.20	295.29	292.13	234.60	
600	317T4N	317.50	355.60	314.34	311.18	183.80	
600	317T4L	317.50	457.20	314.34	311.18	234.60	
700	374T4N	374.65	457.20	371.49	368.33	234.60	
700	374T4L	374.65	558.80	371.49	368.33	285.40	



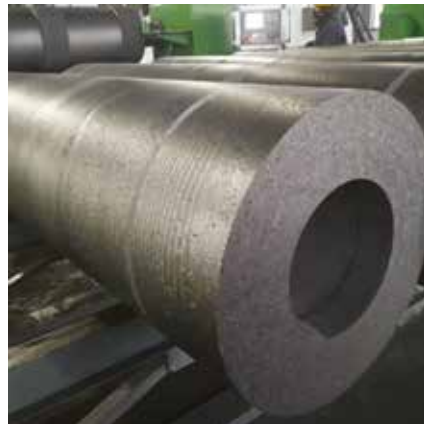
RECOMMENDED CURRENT LOAD

Grade	Nominal Dia.	Current Load		Current Density
	in	mm	A	A/cm ²
RP	10	250	7000-10000	14-18
	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	10	250	8000-13000	17-24
	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	15-24
	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



RECOMMENDED TIGHTENING TORQUE

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





Refractory products for EAF melting furnace

EAF magnesia-carbon bricks, EBT rings, refractory products for refining furnace, copper molds / ingot molds, oxygen injection lances.

Sinometal's Mg-C brick has characteristics of high refractoriness, good thermal shock resistance, erosion resistance, and has good performance in I&S industry, including BOF, EAF, LF.

CF MgO-C brick series has the advantages of good performance, long service life and low cost. With the knowledge we have about this supply, we guarantee to be able to provide total solutions to the end user.



Refractory Magnesia Carbon Bricks For Eaf Melting Furnace Specification

CHARACTERISTICS	UNITS	PARAMETERS	PARAMETERS	PARAMETERS	PARAMETERS	PARAMETERS
MgO	%	92-95%	80%	78%	76%	74%
C	%	≥15%	'10-12	'12-14	'14-16	'16-18
Apparent porosity	≤3	≤3	3.00	3.0	3.0	3.0
Bulk Density(g/cm3)	≥2.95	≥2.95	3.00	2.98	2.98	2.98
C.C.S(MPa)	≥35	≥35	40	40	40	40
Application		Used for the side wall		Used for the slag line and hot spot		



Refractory Magnesia Carbon Ebt Tap Hole For Eaf Melting Furnace Specification

MgO % Min.	75% MIN
CaO % Max.	1.5% Max.
Al ₂ O ₃ % Max	7.5% MAX
Fe ₂ O ₃ % Max.	1.0% MAX
SiO ₂ % Max.	3.0% MAX
C % Min.	12% MIN
Bulk Density g/cm ³ Min.	2.95 MIN (Sleeve brick and seat brick)
Bulk Density g/cm ³ Min.	3.00 MIN (Pipe brick)
Apparent Porosity	5.0% MAX (Sleeve brick and seat brick)
Apparent Porosity	3.0% MAX(Pipe brick)
Cold Crushing Strength	30 MPA MIN (Pipe brick, Sleeve brick and seat brick)





Dry Vibration Mix Dry Mass for Tundish

Sinometal Tundish is a high-tech alkaline refractory material that is formless and easy to install. It is the replacement of the distributor lining. It is made of high-quality magnesite with the addition of a binding agent and is made using a strict production process. Once installed, the smooth surface helps prevent manifold liner inclusions from entering the molten steel.

Due to its form of application without water, the preheating time is considerably reduced.



Tundish Dry Mix Specification

PROPERTIES		TECHNICAL SPECIFICATIONS
Chemical Properties. %	MgO	90,00% min.
	CaO	2.0% max.
	Fe2O3	2,70% max
	Al2O3	1.30% max
	SiO2	3.50% max
	C	2.00% max
Physical Properties	Grain size	0 – 5 MM
	Densidad a Granel / Apparent Specific Mass	2.20 g/cm3 min.
	Maximum Use Temperature	1700°C
	Packing	1 mt big bags



Oxygen Injector Lances Specifications

Outside Dia.	6-33mm
Wall Thickness	0.5-3.0mm
Leghth	Customized
Material	Q195 / Q235
Connection	by coupling or flare to the round
Type	Welded / seamless





CERTIFICATE OF QUALITY MANAGEMENT SYSTEM CERTIFICATION

Certificate No.: 19822QL5884R0S

Unified Social Credit Code / Organization Code: 91210204MA0YERG420

We hereby certify that the organization:

Sinometal Machinery Corp.

Is in conformity with Quality Management System Standard:

GB/T19001-2016 idt ISO9001:2015

The certificate is valid to the following product(s)/service:

Export sales of mineral products (graphite electrodes, refractory materials)

Registration Address: Yang Shufang Village, Xuling Town, Zhuanghe City, Dalian City, Liaoning Province (Room 409, Office Building, Dalian Xinxing Industry Economic Zone)

Business Address: Yang Shufang Village, Xuling Town, Zhuanghe City, Dalian City, Liaoning Province (Room 409, Office Building, Dalian Xinxing Industry Economic Zone)

Project Audit Address: No.9, Floor 35, No.29, Anle Street, Zhongshan District, Dalian, Liaoning, China

Date of Initial Issuance: Dec 01, 2022

Date of This Issuance: Dec 01, 2022

Date of Expiration: Nov 30, 2025



中国认可
国际互认
管理体系
MANAGEMENT SYSTEM
CNAS C178-M



Issued By: *Mingyun Zhou*



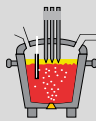
The certificate is valid within the period of validity of various state administrative licensing and qualification licensing.
To maintain the validity of the certificate, the certified organization must accept and pass the regular surveillance audit.
To check the validity of certificate, please visit our website at www.xjyrc.com or login to CNCA website at www.cnca.gov.cn or scan QR code.

Beijing Xinjiyuan Certification Co., Ltd.

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Chaoyang District, Beijing City, China (Post Code: 100102)





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