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Technical Parameters

We can customize 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/cm ³	≥1.54		≥1.65		≥1.68	
	Nipple		≥1.70		≥1.74		≥1.76	
Coefficient of Thermal Expansion (100℃-600℃)	Electrode	10 ⁻⁴ ℃	≤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	Diameter Allowance Range (mm)			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/cm ²
NP	8	200	5000-8000	15-21
	9	225	6000-9000	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





Technical Support for Graphite Electrode Application and On-site Services



Production Equipments



Calcination



Forming



Baking



Impregnation



Re-baking



Graphitization



Machining



Packaging

