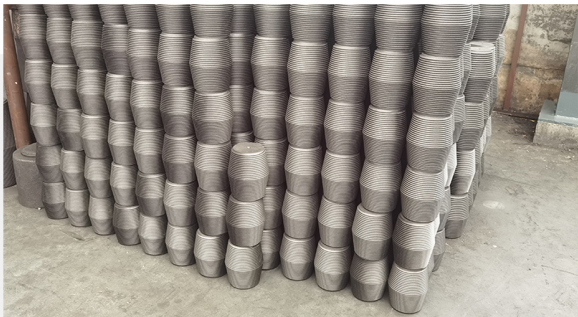


GRAPHITE ELECTRODE



Description

Graphite electrodes are made of mixed petroleum coke and needle coke as raw materials, coal tar pitch as binder, and are made by extrusion, baking, impregnation, graphitization, and mechanical processing. They are used as conductive materials in EAF (electric arc furnace) and LF (ladle furnace). There are three series: normal power (RP), high power (HP) and ultra-high power (UHP).

Technical Specification of Graphite Electrode Technical Specification of Graphite Electrode

Specifications mm		Bulk Density g/m ³		Specific Resistance μΩm		Flexural Strength Mpa		C • T • E(100-600°C) 10 ⁻⁶ /°C		Elastic Modulus Gpa	
		Electrode	Nipple	Electrode	Nipple	Electrode	Nipple	Electrode	Nipple	Electrode	Nipple
RP	Φ200-Φ450	1.54~1.62	1.73~1.78	7.0~8.8	4.2~5.5	7.5~9.5	17~22	2.0~2.5	1.7~2.0	6.5~9.0	10~16
	Φ500-Φ800			7.5~9.9		6.5~8.5					
HP	Φ200-Φ450	1.65~1.73	1.77~1.82	5.0~6.2	3.4~4.5	10.5~15.5	21~26	1.6~1.9	1.3~1.6	9.0~12.0	12~18
	Φ500-Φ800			5.3~6.9		9.0~15.0					
UHP	Φ200-Φ450	1.66~1.75	1.80~1.86	4.2~5.8	3.0~4.0	10.5~15.5	23~32	1.0~1.4	0.9~1.2	9.0~13.0	15~21
	Φ500-Φ800					9.0~15.0					

Recommended Current Carrying Capacity of Graphite Electrode

Nominal Diameter	RP		HP		UHP	
mm	A	A/m ³	A	A/m ³	A	A/m ³
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	15000~22000	20~30
350	13500~18000	14~18	17400~24000	17~24	20000~30000	20~30
400	18000~23500	14~18	21000~31000	16~24	25000~40000	19~30
450	22000~27000	13~17	25000~40000	15~24	32000~45000	19~27
500	25000~32000	13~16	30000~48000	15~24	38000~55000	18~27

Recommended Current Carrying Capacity of Graphite Electrode

Nominal Diameter	RP		HP		UHP	
mm	A	A/m ³	A	A/m ³	A	A/m ³
550	28000~34000	12~14	34000~53000	14~22	45000~65000	18~27
600	30000~36000	11~13	38000~58000	13~21	52000~75000	18~27
650	32000~39000	10~12	41000~65000	12~20	60000~91000	18~27
700	34000~42000	9~11	45000~72000	12~19	70000~120000	18~30
750	41000~51000	9~11	55000~87000	12~19	82000~124000	18~27
800	47000~57000	9~11	62000~99000	12~19	94000~141000	18~27

Diameter and Length of Graphite Electrode

Nominal Diameter(mm)		Actual Diameter(mm)			Actual Length(mm)		
mm	inch	Max	Min	Min Crust Diameter	Standard	Tolerane	Short
200	8	205	200	197	1800	±100	-275
250	10	256	251	248	1800	±100	
300	12	307	302	299	1800	±100	
350	14	358	352	349	1800/2100/2400	±100	
400	16	409	403	400	1800/2100/2400	±100	
450	18	460	454	451	1800/2100/2400	±100	
500	20	511	505	502	1800/2100/2400	±100	-300
550	22	562	556	553	2100/2400/2700	+200	
600	24	613	607	604	2100/2400/2700	+200~-150	
650	26	663	659	656	2400/2700/3000	+200~-150	
700	28	714	710	707	2400/2700/3000	+200~-150	
750	30	765	761	758	2400/2700/3000	+200~-150	
800	32	816	812	809	2400/2700/3000	+200~-150	

Graphite electrode nipples and nipple hole dimensions and allowable deviations

Nominal Diamete	Designation Of Joint	Dimensions Of nipple				Dimensions Of Socket		Thread per inch
mm	IEC	D Tolerance (-0.5~0)	L Tolerance (-0.5~0)	d2 Tolerance (-5~0)	I	d1 Tolerance (0~0.5)	H Tolerance (0~7)	mm
250	155T3N	155.57	220.00	103.80	<10	147.14	116.00	8.47
300	177T3N	177.16	270.90	116.90		168.73	141.50	
350	215T3N	215.90	304.80	150.00		207.47	158.40	
400	215T3N	215.90	304.80	150.00		207.47	158.40	
400	241T3N	241.30	338.70	169.80		232.87	175.30	
450	241T3N	241.30	338.70	169.80		232.87	175.30	
450	273T3N	273.05	355.60	198.70		264.62	183.80	

Graphite electrode nipples and nipple hole dimensions and allowable deviations

Nominal Diamete		Designation Of Joint		Dimensions Of nipple				Dimensions Of Socket		Thread per inch
mm		IEC		D Tolerance (-0.5~0)	L Tolerance (-0.5~0)	d2 Tolerance (-5~0)	I	d1 Tolerance (0~0.5)	H Tolerance (0~7)	mm
500		273T3N		273.05	355.60	198.70	<10	264.62	183.80	8.47
500		298T3N		298.45	372.60	221.30		290.02	192.20	
550		298T3N		298.45	372.60	221.30		290.02	192.20	
200		122T4N		122.24	177.80	80.00	<7	115.92	94.90	6.35
250		152T4N		152.40	190.50	108.00		146.08	101.30	
300		177T4N		177.80	215.90	129.20		171.48	114.00	
350		203T4N		203.20	254.00	148.20		196.88	133.00	
400		222T4N		222.25	304.80	158.80		215.93	158.40	
400		222T4L		222.25	355.60	150.00		215.93	183.80	
450		241T4N		241.30	304.80	177.90		234.98	158.40	
450		241T4L		241.30	355.60	169.42		234.98	183.80	
500		269T4N		269.88	355.60	198.00		263.56	183.80	
500		269T4L		269.88	457.20	181.08		263.56	234.60	
550		298T4N		298.45	355.60	226.58		292.13	183.80	
550		298T4L		298.45	457.20	209.65		292.13	234.60	
600		317T4N		317.50	355.60	245.63		311.18	183.80	
600		317T4L		317.50	457.20	228.70		311.18	234.60	
650		355T4N		355.60	457.20	266.79		349.28	234.60	
650		355T4L		355.60	558.80	249.86		349.28	285.40	
700		374T4N		374.65	457.20	285.84		368.33	234.60	
700		374T4L		374.65	558.80	268.91		368.33	285.40	
750		406T4N		406.40	584.20	296.42		400.08	298.10	
750		406T4L		406.40	609.60	292.19		400.08	310.80	
800		432T4N		431.80	635.00	313.36		425.48	323.50	
800		432T4L		431.80	685.80	304.89		425.48	348.90	

Dimensions and Weight of Packing

Nominal Diameter ×Length		Pcs/Pkg	Electrodes		Electrodes with pins	
mm	Inch	pcs	Overail Dimensions	Approx.Weight	Overail Dimensions	Approx.Weight
			mm	kg	mm	kg
200×1800	8×72		2000×1065×500	908	2090×1065×500	930
250×1800	10×72	7	2000×1065×600	1110	2110×1065×600	1150
300×1800	12×72	3	2000×960×420	685	2135×960×420	710
300×1800	12×72	6	2000×960×720	1370	2135×960×720	1420
350×1800	14×72	3	2000×1100×470	880	2150×1100×470	915

Dimensions and Weight of Packing

Nominal Diameter ×Length		Pcs/Pkg	Electrodes		Electrodes with pins	
mm	Inch	pcs	Overall Dimensions	Approx.Weight	Overall Dimensions	Approx.Weight
			mm	kg	mm	kg
350×2100	14×84	3	2300×1100×470	1035	2450×1100×470	1070
350×2400	14×96	3	2600×1100×470	1185	2750×1100×470	1220
400×1800	16×72	2	2000×855×520	795	2175×855×520	830
400×1800	16×72	3	2000×1265×520	1180	2175×1265×520	1230
400×2100	16×84	2	2300×855×520	890	2475×855×520	920
400×2100	16×84	3	2300×1265×520	1300	2475×1265×520	1345
400×2400	16×96	2	2600×855×520	1035	2775×855×520	1065
400×2400	16×98	3	2600×1265×520	1550	2775×1265×520	1595
450×1800	18×72	2	2000×960×570	990	2175×960×570	1035
450×2100	18×84	2	2300×960×570	1100	2475×960×570	1140
450×2400	18×95	2	2600×960×570	1335	2780×960×570	1380
500×1800	20×72	2	2000×1065×630	1205	2230×1065×630	1260
500×2100	20×84	2	2300×1065×630	1375	2530×1065×630	1440
500×2400	20×96	2	2600×1065×630	1625	2830×1065×630	1680
500×2700	20×108	2	2900×1065×630	1815	2830×1065×630	1870
550×2100	22×84	2	2320×1165×680	1690	2550×1165×680	1775
550×2400	22×96	2	2620×1165×680	1940	2850×1165×680	2025
550×2700	22×108	2	2920×1165×680	2180	3150×1165×680	2265
600×2100	24×84	2	2320×1265×750	2000	2550×1265×750	2098
600×2400	24×96	2	2620×1265×750	2300	2850×1265×750	2398
600×2700	24×108	2	2920×1265×750	2700	3150×1265×750	2798
650×2400	26×96	2	2620×1365×800	2800	2900×1365×800	3000
650×2700	26×108	2	2920×1365×800	3100	3200×1365×800	3280
700×2400	28×96	2	2620×1470×855	3200	2900×1470×855	3290
700×2700	28×108	2	2920×1470×855	3600	3200×1470×855	3690
750×2700	30×108	2	2920×1565×900	4000	3225×1565×900	4210
800×2700	32×108	1	2920×860×960	2400	3265×860×960	2540

