

GRAPHITE ELECTRODES

TECHNICAL SPECIFICATION OF GRAPHITE ELECTRODES

Item		Unit	MM RP Dia	MM RPI Dia	MM HP Dia	MM SHP Dia	MM UHP Dia
			100-500mm	200-500mm	200-500mm	300-500mm	400-500mm
Resistivity➤	Electrode Nipple	$\mu\Omega\text{m}$	8.0	6.5	6.2	6.0	5.8
			7.0	6.0	5.5	5.5	5.5
Bending Strength✦	Electrode Nipple	Mpa	9.8	10.0	10.5	11.0	11.5
			13.0	13.5	14.0	15.0	16.0
Elastic Modules➤	Electrode Nipple	Gpa	9.3	12.0	12.0	14.0	14.0
			14.0	14.0	16.0	18.0	18.0
Bulk Density✦	Electrode Nipple	g/cm^3	1.55	1.64	1.65	1.66	1.66
			1.70	1.72	1.75	1.75	1.75
CTE➤	Electrode Nipple	$10^{-6}/^{\circ}\text{C}$ 100-600°C	2.9	2.7	2.4	2.2	1.5
			2.8	2.5	2.0	1.6	1.4
ASH➤		%	0.4	0.3	0.3	0.3	0.3

SUGGESTED CURRENT-CARRYING CAPACITIES OF ELECTRODES

Nominal Diameter		Suggested Current-carrying Capacities				
		RP	RPI	HP	SHP	UHP
mm	inch					
75	3	1000-1400	1300-2000			
100	4	1500-3000	1800-3000			
130	5	2200-3400	2800-4200			
150	6	3500-4900	4000-5000			
200	8	5000-6900	4800-9000	5000-10000		
225	9	6000-10000	9000-11000	10000-12000		
250	10	7000-10000	9000-12000	10000-13000		
300	12	10000-13000	11000-16000	13000-17400	15000-20000	
350	14	13000-18000	15000-22000	17400-24000	20000-26000	22000-28000
400	16	18000-23500	20000-28000	24000-32000	26000-33000	28000-35000
450	18	22000-27000	24000-34000	32000-40000	33000-42000	35000-45000
500	20	25000-32000	28000-42000	40000-48000	42000-52000	45000-55000

REMARKS: THE ELECTRODES APPLIED IN EAF, THE CURRENT SHOULD BE BETTER REDUCED BY 20%.

DIMENSIONS OF THREADS AND SOCKETS OF TARER NIPPLES

Dia of Electrode		Sizes of Nipple (mm)					Sizes of Socket (mm)					Threa d Pitch	
mm	in	D		L		A ₂	I	A ₁		H		mm	
200	8	122.24	0 -0.5	177.8	0 -1	80.00	0 -0.5	<7	115.92	+7 0	94.90	+7 0	6.35
250	10	152.40		190.5		108.00			146.08		101.3		
300	12	177.80		215.9		129.20			171.48		114.0		
350	14	203.20		254.0		148.20			196.88		133.0		
400	16	222.25		304.8		158.80			215.93		158.4		
400	16	222.25		355.6		150.00			215.93		183.8		
450	18	241.30		304.8		179.90			234.98		158.4		
450	18	241.30		355.6		168.42			234.98		183.8		
500	20	269.88		355.6		198.00			263.56		183.8		
500	20	269.88		457.2		181.08			263.56		234.6		
250	10	157.57	0 -0.5	220.0	0 -1	103.80	0 -0.5	<1 0	147.14	+0. 5 0	116.0	+7 0	8.47
300	12	177.16		270.9		116.90			168.73		141.5		
350	14	215.90		304.8		150.00			207.47		158.4		
400	16	215.90		304.8		150.00			207.47		158.4		
400	16	241.30		338.7		169.80			232.87		175.3		
450	18	241.30		338.7		169.80			232.87		175.3		
450	18	273.05		355.6		198.70			264.62		183.8		
500	20	273.05		355.6		198.70			264.62		183.8		
500	20	298.45		372.6		221.30			290.02		192.2		