



SILICON IRON IMPRESSED CURRENT ANODES

INTRODUCTION:

High Silicon Cast Iron (HSCI) is an Iron alloy containing approximately 15% Silicon as the primary alloying element. Chromium is added to improve performance. High silicon iron was first introduced in 1908 by Robert Lennox, who was the founder of this material for use mainly for handling nitric and sulfuric acids in the Chemical Engineering industry. The trade name for this material being "Tantiron", which conforms to the current BS 1591(75 with an equivalent in the United States to ASTM.A518.86.

"TANTIRON" GRADES

Two grades of "Tantiron" are used in this field - "Tantiron" "N" (Grade 1) and "Tantiron" "C" (Grade 2). Details of these are given in the following text.

"TANTIRON" "N" - ASTM A518M-86 & IPS-M-TP750/1 (Grade 1)

Generally referred to as "normal" for use in neutral soils, fresh water environments and applications including hot water tanks, storage tanks and filter units.

"TANTIRON" "C" - ASTM A518M-86 & IPS-M-TP750/1 (Grade 3)

Generally referred to as "chrome" - for use in aggressive acidic or alkaline soils and sea water environment, including offshore platform and coastal structures.

CHEMICAL COMPOSITION

As specified in above mentioned standard the chemical composition of anodes are given below;

Grade	Chemical Composition						
	C	Si	Mn	Mo	Cu	Cr	Fe
Grade 1	0.9~0.1	14.25~14.75	1.5	0.2	0.5	-	Reminder
Grade 2	0.9~0.1	14.25~14.75	1.5	0.2	0.5	4.3~5.0	Reminder

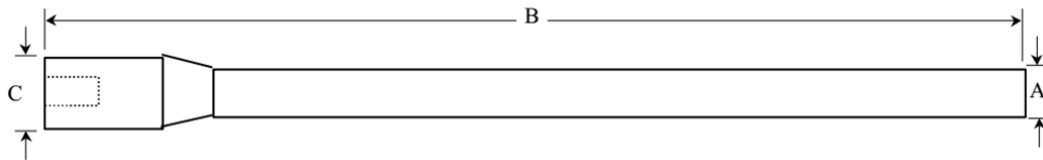


ANODES FIGURES

Three types of anodes in different size are available

1. Single ended anodes
2. Double ended anodes
3. Alternative ranges

1) SINGLE ENDED ANODES



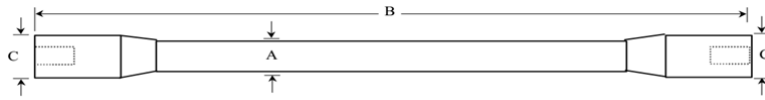
A. diameter		B. length		C. head		Surface Area		Approx weight	
mm	in	mm	in	mm	in	sqm	sqft	kg	lb
25	1	915	36	50	2	0.08	0.9	4.1	9
38	1 ¹ / ₂	915	36	63	2 ¹ / ₂	0.12	1.3	9.1	20
38	1 ¹ / ₂	1220	48	63	2 ¹ / ₂	0.16	1.7	10.9	24
38	1 ¹ / ₂	1525	60	63	2 ¹ / ₂	0.19	2.1	12.7	28
51	1 ¹ / ₂	915	36	76	2 ¹ / ₂	0.16	1.7	15.5	32
51	2	1220	48	76	3	0.21	2.2	19.0	42
51	2	1525	60	76	3	0.26	2.8	22.7	52
63	2	915	36	102	3	0.20	2.1	21.8	48
63	2 ¹ / ₂	1220	48	102	4	0.26	2.8	28.6	63
63	2 ¹ / ₂	1525	60	102	4	0.32	3.4	35.4	78
76	2 ¹ / ₂	915	36	102	4	0.23	2.5	29.5	65
76	2 ¹ / ₂	1220	48	102	4	0.30	3.3	39.0	86
76	3	1525	60	102	4	0.38	4.0	48.6	107
76	3	1525	60	89	4	0.34	3.65	47.0	103.5



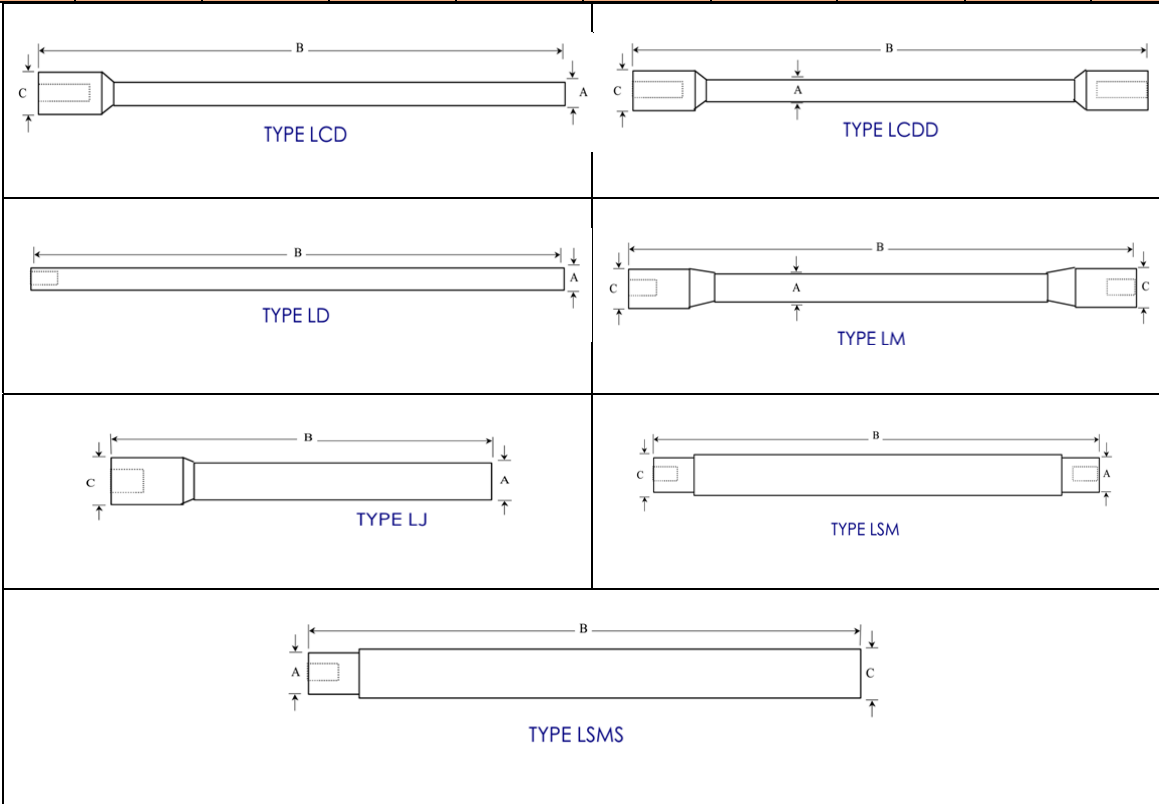
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Corrosion control & Cathodic protection
شرکت پی جی پارس (سهامی خاص)
سیستم های حفاظت کاتدیک (مغزلی، تولید و اجرا)

2) DOUBLE ENDED ANOD



A. diameter		B. length		C. head		Surface Area		Approx weight	
mm	in	mm	in	mm	in	sqm	sqft	kg	lb
38	1 1/2	1525	60	63	2 1/2	0.21	2.2	14.1	31
50	2	1220	48	75	3	0.22	2.3	20.9	46
50	2	1525	60	75	3	0.26	2.8	25.4	56
63	2 1/2	1220	48	90	3 1/2	0.26	2.8	31.3	69
63	2 1/2	1525	60	90	3 1/2	0.32	3.4	38.1	84
75	3	1220	48	90	3 1/2	0.31	3.3	40.4	89
75	3	1525	60	90	3 1/2	0.38	4.1	49.9	110





TYPE	A. diameter		B. length		C. head		Surface Area		Approx. weight	
	mm	in	mm	in	mm	in	sqm	sqft	kg	lb
LCD	38	1 ¹ / ₂	1525	60	50	2	0.18	2.0	11.8	26
LCDD	38	1 ¹ / ₂	1525	60	50	2	0.18	2.0	11.8	26
LD	76	3	1525	60	---	---	0.34	3.6	42.0	92.5
LM	50	2	1525	60	75	3	0.26	2.8	27.2	60
LJ	75	3	915	36	127	5	0.23	2.5	36.3	80
LSM	114	4 ¹ / ₂	1525	60	100	4	0.51	5.5	100	100
LSMS	114	4 ¹ / ₂	1525	60	100	4	0.51	5.5	100	220

CABLE CONNECTION TO ANODE AND ENCAPSULATION

Cable connection's is "lead caulking connection" Instruction for making connection is:

- 1) Bare the end of cable for about 1" (25 mm) and insert in to the tubular insert.
- 2) Splay out the cable strands, then place into the cored hole until it reaches the bottom.
- 3) Pour molten lead in to the cored hole to approx. 1/2" (12.5mm) thick. When cooled, tamp down until a good mechanical and electrical connection has been made.
- 4) By applying a 10 amps current at 12 Volts to the anode, test the voltage drop across the connection. This should be no greater than 3 mil volts.
- 5) Apply masking tape around the head of the anode, standing 1/4" (6mm) proud above the face of the anode head. Fill the cored hole with "potting resin", covering the head also by 1/4" (6 mm) thickness. Allow 24 hours to cure.



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