

CerSoft Version

PBT140818

Anode Loop #	Circuit #	Anode Loop Diameter			Total Loop Length (feet)	Anode Loop Length (feet)	Space Between Anode Loops	
		(feet)	(inches)	(meters)			(inches)	(meters)
1 *	1	4.1	49	1.25	1 st 2 loops connected as 1 Circuit			
2	1	12.3	148	3.75	274.0	58	49	1.25
3	2	20.5	246	6.25	262.4	64	49	1.25
4	3	28.7	344	8.75	280.2	90	49	1.25
5	4	36.9	443	11.25	298.0	116	49	1.25
6	5	45.1	541	13.75	315.7	142	49	1.25
7	6	53.3	640	16.25	331.5	167	49	1.25
8	7	61.5	738	18.75	349.3	193	49	1.25
9	8	69.7	837	21.25	367.0	219	49	1.25
10	9	77.9	935	23.75	384.8	245	49	1.25
11	10	86.1	1033	26.25	402.6	271	49	1.25
12	11	94.3	1132	28.75	420.3	296	49	1.25
13	12	102.5	1230	31.25	438.1	322	49	1.25
14	13	110.7	1329	33.75	455.9	348	49	1.25
15	14	118.9	1427	36.25	473.6	374	49	1.25
16	15	127.1	1526	38.75	491.4	399	49	1.25
17	16	135.3	1624	41.25	507.2	425	49	1.25
18	17	143.5	1722	43.75	524.9	451	49	1.25
19	18	151.7	1821	46.25	542.7	477	49	1.25
20	19	159.9	1919	48.75	560.5	502	49	1.25
21	20	168.1	2018	51.25	578.2	528	49	1.25
22	21	174.2	2090	53.09	591.2	547	36	0.92

Space Between Largest Anode Loop & Ring Wall or Rim if no Ring Wall = 12 0.30

Sand Depth, (in) 11.81
 Anode Depth, (in) 10.81

Quote # See Bottom of Page

Tank Diameter (feet) 177.2 54.00 (meters)
 6 Qty. of Tanks This Size

8 Awg Cable
 6 Awg Cable

Anode System Calculated Values (black)

NIKA Engineering Ltd

Tank Identification:			54M Tank
Construction Type:	New Construction		Design Assumes Clean Homogenous Sand
Tank Bottom Diameter (m) (ft):		54.0	177
Maximum Tank Operating Temperature (degrees F) (degrees C):		86	30
Bare Bot. Design Current Density (CD) @ Opr.Temp. (mA/m ²) (mA/ft ²):		21.5	2.0
Design Current Density w/Coat Efficiency = <input type="text" value="0%"/> (mA/m ²) (mA/ft ²):		21.5	2.0
Prob. Max. Operating CD for 100mV Polarization. (mA/m ²) (mA/ft ²):		12	1.14
Design Life at Design Current (requested years) & (theoretical years):		50	>60
Max Electrolyte Resistivity at Max Rect V for Max Design Current Density (Ω-cm):			10,000
Max Anode Attenuation at Min Electrolyte Resistivity (%) (Ω-cm):		10	5,000
IR @ Midpoint Between Loops @ approx. Resistivity (V) (Ω-cm):		0.3	10,000
Min. Allowable Anode Dist. from Tank Bot. This Design (mm) (in.):		275	10.8
Sand Cushion Design Depth for Imbedded Anode (mm) (in.):		300	11.8
Type of Liner (HDPE, ClayMax, Geotextile)	48.75		HDPE
Ring Wall Thickness (m) (feet):		0.30	1.0
Anode Wire Substrate Material, and Material Standard:		CP G1 Titanium	ASTM B 348
Anode Active Elements and MMO Catalytic Coating Identifier:		IrO ₂ & Ta ₂ O ₅	CC-TIR-MMO
Apparent Dissolution Rate (mg/A-Yr):		1-10 mg/A-Yr Electrolyte Dependent	
Anode Substrate Resistance (ohm/ft):			0.0851
Tank Bottom Area less concrete wall thickness, if wall exists (m ²) (ft ²):		2265	24377
Design Current - Capacity (A) & Required (A):		63.3	48.75
Anode Current Requirement @ Design Life (mA/m) (mA/ft):		25.7	7.82
Actual Capacity @ Design Life & Temperature (mA/m) (mA/ft):		33.3	10.2
Anode Current Density @ - Max. Design (A/m ²) & Prob. Max (A/m ²):		5.44	3.11
Concentric Anode Arc Spacing (m) (ft):		1.25	4.1
Space between Outer Loop & Ring Wall or Rim, if no Ring Wall (m) (ft):		0.30	1.0
Total Anode Length (m) (ft):		1900	6235
Total Conductor Length (m) (ft):		1942	6371
Anode Wire Diameter (mm):			1.5
Conductor Rating	Size (Awg)= <input type="text" value="6"/>	Capacity (A)= 30	Outer Ring = 5.6
Anode Lead Cable Extending Outside of Tank Rim (m) (ft):		6.10	20
Jacket Insulation Primary Conductor Insulation:		HMWPE65	Kynar20
Anode Conductors (ohms/ft) (Zone 1) (2 Outer):		0.000403	0.000403
Anode-To-Electrolyte Res. @ 10,000 Ω-cm (Ohms):			0.05
Min. Rect. V + <input type="text" value="50%"/> @ Design CD & @ 10,000 Ω-cm			10
Min. Rect. Amps + <input type="text" value="10.0%"/> @ Design CD & @ 10,000 Ω-cm			54
Junction Box Ref. Elect. Terminals & Anode Double Lug Terminals:		10	21
Approximate Product Weight Anode Only (kgs) (lbs):		494	1090
Approximate Product Weight Anode & Plastic Mesh (kgs) (lbs.):		820	1804