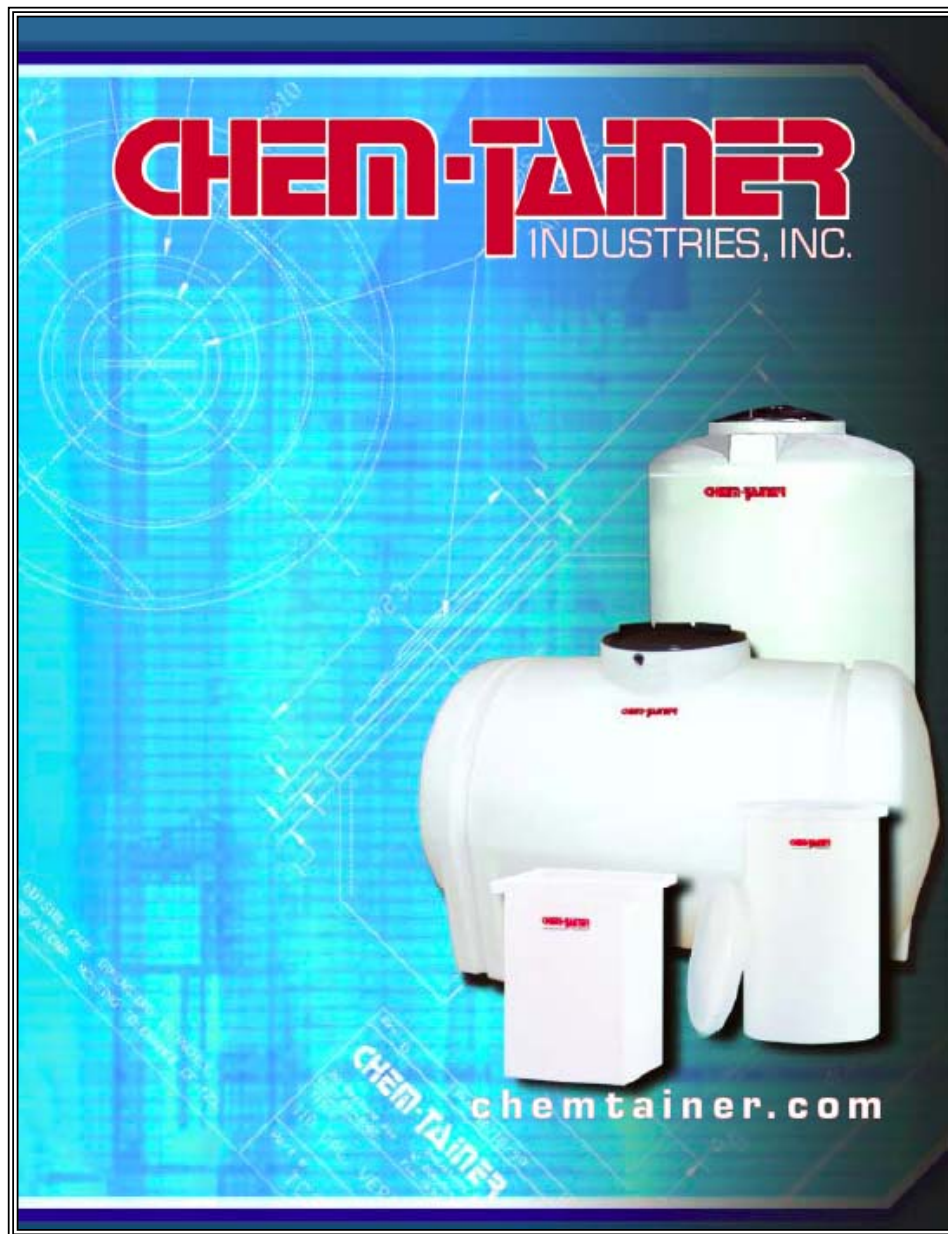


Specifications Manual



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1.0 DESCRIPTION OF TANK

1.1 SPECIFICATIONS (see pages 4-7)

1.2 GENERAL

These are one piece tanks, rotationally molded of linear medium or high density polyethylene or high density crosslinkable polyethylene (XLPE). Refer to material type in the tank charts for availability. Tanks come in a variety of shapes, are available in closed head designs with flat bottom (IC, IA & IX series), conical bottom (JA & JC series), round horizontal (LC & LA series) or oval horizontal (MC & MA series). These tanks can be furnished with various accessories as per customer specifications and are capable of holding aggressive chemicals at atmospheric pressure. Open top mixing and processing tanks are available in cylindrical, conical bottom and rectangular designs, refer to Chem-Tainer product catalog.

2.0 MATERIALS

2.1 LINEAR POLYETHYLENE

A high quality, chemically resistant plastic with high stress crack and impact resistance. Linear polyethylene is translucent and exhibits properties that are ideal for applications that are exposed to low temperatures and/or high impact. Unlike thermosets, linear polyethylene is weldable, thus allowing for greater flexibility when designing modification to our standard tanks. The plastic complies with USDA and FDA regulations for storage and processing of food. Linear polyethylene is fully recyclable and thereby provides a convenient method of disposal.

2.2 CROSS-LINKED POLYETHYLENE

High density cross-linked polyethylene has excellent low temperature impact and environmental stress-crack resistance. This polyethylene is a thermoset, thus does not permit the utilization of welded tank connections. Cross-linked polyethylene does not have USDA or FDA compliance for storage of processing edibles and is not recyclable.

2.3 ULTRA VIOLET LIGHT STABILIZERS AND FILLERS

The plastic does contain a minimum of 0.25 to a maximum of 0.50 long term U.V. stabilizer. It does not contain any fillers.

2.4 PIGMENT

Pigment can be added at purchaser's request. These pigments would be compatible with the polyethylene and will not exceed 0.5% dry blended and 2% compounded in of the total weight.

3.0 TANK CONSTRUCTION

3.1 MECHANICAL PROPERTIES

The minimum for the properties of the material shall be as follows based on molded parts:

<u>PROPERTY</u>	<u>ASTM</u>	<u>VALUE</u>	<u>UNITS</u>
Density	D1505	59 (0.937 - 0.942)	#/ft ³ (gm/cc)
ESCR Spec. Thickness			
125 Mills F-50	D1693	1000	Hrs.
Tensile Strength			
Ultimate 2"/min.	Type IV Spec.	2600	PSI
Elongation at break			
2"/min.	Type IV Spec.	450	%
Vicat Softening Temp.	D1525	240	Deg. F
Brittleness Temp.	D746	-180	Deg. F
Flexuarl Modulus	D790	100,000-110,000	PSI

STORAGE TANK SPECIFICATIONS

3.2 APPEARANCE

The finished surface of the tank shall be free as commercially practicable from visual defect such as foreign inclusions, air bubbles, pin holes, craters, crazing and cracking that will impair the serviceability of the tank.

3.3 CUT EDGES

All edges cut out i.e., open top flanges, manways, shall be trimmed to have smooth edges.

3.4 DIMENSIONS AND TOLERANCES

General - all dimensions will be taken with the tank in its proper, usable position and unfilled. Tank dimensions will represent the exterior measurements.

3.4.1 Outside diameter – The tolerance for the outside diameter including out of roundness, shall be +/-3%.

3.4.2 3.4.2 Shell wall and head thickness - The tolerance for thickness shall be +/-20% of the design thickness. The total amount of an area on the low side of the tolerance shall not exceed 10% of the total area and individual area shall not exceed 1 ft. 2 (.09m²) in size.

3.5 PERFORMANCE REQUIREMENTS

The following performance requirements shall be conducted on samples taken from the manway cut out area or where fittings are inserted in each tank

3.5.1 Low Temperature Impact

Low temperature impact is determined by using a 30 lb. Falling dart at -20 degrees F.

<u>Wall thickness in. (mm)</u>	<u>ft-lb. (J) to fail.</u>
Less than & including 0.25 in. (6.6 mm)	90 (122.0)
0.26 in. (6.6 mm) to & including 0.50 in. (12.9 mm)	100 (135.5)
0.51 in. (12.9 mm) to & including 0.75 in. (19.3 mm)	150 (203.2)
0.76 in. (19.3 mm) to & including 1.00 in. (25.4 mm)	200 (271.0)

3.5.2 Percent Gel - for crosslinked polyethylene

The percent gel level is determined by using the test method found in ASTM D1998. The percent gel level for crosslinked tanks on the inside 0.125 in. (3.2mm) of the wall shall be a minimum of 60%.

3.5.3 Visual Inspection - The tank is visually inspected to determine such qualities as are discussed in Section 3.2, Appearance.

4.0 MARKINGS

4.1 The tank is marked to identify the producer - Chem-Tainer, Inc., date (month and year) of manufacture, capacity and serial number.

4.2 The proper caution and/or warning signs are affixed to the tank

4.3 Tank capacities should be based on total tank volume.

5.0 PACKAGING AND SHIPPING

- 5.1 All fittings and flange faces shall be protected from damage by covering with suitable plywood, hard-board or plastic securely fastened. Tanks shall be vented at all times.
- 5.2 Pipe and tubing, fittings and miscellaneous small parts shall be packaged. Loose items which may scratch the interior surface shall not be placed inside the tank during shipment. Additional protection, such as battens, end wrapping, cross bracing, or other interior fastenings may be required to assure each individual equipment pieces are not damaged in transit.
- 5.3 Upon arrival at the destination, the purchaser is advised to inspect for damage in transit. If damage has occurred, a claim should be filled with the carrier by the purchaser. The supplier should be notified if the damage is not first repaired by the fabricator prior to the product being put into service. The purchaser accepts all future responsibility for the effect of the tank failure resulting from damage.
- 5.4 It is recommended that the tank be hydrostacially tested at the time of installation.

**ON PAGES 5-8 ARE LISTED
TANK DIMENSIONS
GALLONAGE
MATERIALS OF CONSTRUCTION
AND
SPECIFIC GRAVITY RATINGS
FOR ALL CHEM-TAINER BULK STORAGE TANKS.**

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CHEM-TAINER INDUSTRIES, INC
 SPECIFICATIONS FOR POLYETHYLENE VERTICAL FLAT BOTTOM
 BULK STORAGE TANKS IC, IA AND IX SERIES

1.1 SPECIFICATIONS

Tank Size (Gallons)	Model Number	Diameter (inches)	Height (inches)	Manway (inches)	Material (type)	Specific Gravity Rating at 73° Fahrenheit
20	TA1628IC	16	28	8	Linear	1.5
25	TA1829IC	18	29	5	Linear	1.5
40	TA1841IC	18	41	5	Linear	1.5
45	TC1851IA	18	51	4	Linear	1.9
55	TC2038IA	20	38	8	Linear	1.9
65	TC2338IA	23	38	8	Linear	1.9
75	TC2349IA	23	49	8	Linear	1.9
100	TC2360IA	23	60	8	Linear	1.9
110	TC3536IC	35	36	8	Linear	1.5
110	TC3536IA	35	36	8	Linear	1.9
110	TC3635IX	35	36	8	XLPE	1.9
130	TC2376IC	23	76	8	Linear	1.5
130	TC2376IA	23	76	8	Linear	1.5
160	TA2866IC	28	66	8	Linear	1.5
165	TC3158IC	31	58	8	Linear	1.5
165	TC3158IA	31	58	8	Linear	1.9
210	TA4048IC	40	48	5	Linear	1.5
220	TC3563IC	35	63	8	Linear	1.5
220	TC3563IA	35	63	8	Linear	1.9
220	TC3563IX	35	63	8	XLPE	1.9
225	TA3172IC	31	72	8	Linear	1.5
300	TC3581IC	35	81	16	Linear	1.5
300	TC3581IA	35	81	16	Linear	1.9
300	TC3581IX	35	81	16	XLPE	1.9
300	TC4259IC	42	59	16	Linear	1.5
300	TC4259IA	42	59	16	Linear	1.9
300	TC4560IC	45	60	16	Linear	1.5
300	TC4560IA	45	60	16	Linear	1.9
300	TA4254IC	42	54	8	Linear	1.5
425	TA4275IC/IA	42	75	8	Linear	1.5/1.9
500	TA4676IC/IA	46	76	16	Linear	1.5/1.9
500	TC4676IC	46	76	16	Linear	1.5
500	TC4676IA	46	76	16	Linear	1.9
500	TC4676IX	46	76	16	XLPE	1.9
500	TC6442IC	64	42	16	Linear	1.5
500	TC6442IA	64	42	16	Linear	1.9
500	TC6442IX	64	42	16	XLPE	1.9
550	TC4594IC	52	66	16	Linear	1.5
550	TC4594IA	45	94	16	Linear	1.5
550	TN6742IC	45	94	16	Linear	1.9
550	TA5266IC/IA	67	42	16	Linear	1.5/1.9
650	TC5660IC	56	60	16	Linear	1.5
650	TC5660IA	56	60	16	Linear	1.9
700	TC6460IC	64	60	16	Linear	1.5
700	TC6460IA	64	60	16	Linear	1.9
750	TC750XIC	46	119	16	Linear	1.5
750	TC750XIA	46	119	16	Linear	1.9

VERTICAL FLAT BOTTOM BULK STORAGE TANKS

Tank Size (Gallons)	Model Number	Diameter (inches)	Height (inches)	Manway (inches)	Material (type)	Specific Gravity Rating at 73° Fahrenheit
850	TC850XIC	48	124	16	Linear	1.5
850	TC850XIA	48	124	16	Linear	1.9
850	TC850XIX	48	124	16	XLPE	1.9
850	TA5492IC/IA	54	92	8	Linear	1.5/1.9
1000	TA6481IC/IA	64	81	16	Linear	1.5/1.9
1000	TN6481IC	64	81	16	Linear	1.5
1000	TN6481IA	64	81	16	Linear	1.9
1000	TC6481IX	64	81	16	XLPE	1.9
1000	TN6974IC	69	74	16	Linear	1.5
1000	TN6974IA	69	74	16	Linear	1.9
1100	TN8751IC	87	51	16	Linear	1.5
1100	TN8751IA	87	51	16	Linear	1.9
1200	TC8652IC	86	52	16	Linear	1.5
1200	TC8652IA	86	52	16	Linear	1.9
1200	TC8652IX	86	52	16	XLPE	1.9
1300	TN8758IC	87	58	16	Linear	1.5
1500	TA1500IC/IA	64	115	16	Linear	1.5/1.9
1500	TA8569IC/IA	85	69	16	Linear	1.5/1.9
1500	TC1500IC	64	121	16	Linear	1.5
1500	TC1500IA	64	121	16	Linear	1.9
1500	TC1500IX	64	121	16	XLPE	1.9
1550	TN8765IC	87	65	16	Linear	1.5
1550	TN8765IA	87	65	16	Linear	1.9
1650	TA8574IC/IA	85	74	16	Linear	1.5/1.9
1700	TC8674IC	86	74	16	Linear	1.5
1700	TC8674IA	86	74	16	Linear	1.9
1700	TC8674IX	86	74	16	XLPE	1.9
2000	TA2000IC/IA	64	156	16	Linear	1.5/1.9
2000	TA9083IC/IA	90	83	16	Linear	1.5/1.9
2000	TC2000IC	64	144	16	Linear	1.5
2000	TC2000IA	64	144	16	Linear	1.9
2000	TC2000IX	64	144	16	XLPE	1.9
2100	TN8787IC	87	87	16	Linear	1.5
2100	TN8787IA	87	87	16	Linear	1.9
2200	TC8696IC	86	96	16	Linear	1.5
2200	TC8696IA	86	98	16	Linear	1.9
2200	TC8696IX	86	96	16	XLPE	1.9
2500	TC9589IC	95	89	16	Linear	1.5
2500	TC9589IA	95	89	16	Linear	1.9
2500	TA2500IC/IA	90	100	16	Linear	1.5/1.9
2800	TC9598IC	95	98	16	Linear	1.5
2800	TC9598IA	95	98	16	Linear	1.9
2800	TC9598IX	95	98	16	XLPE	1.9
3000	TC3000IC	95	105	16	Linear	1.5
3000	TC3000IA	95	105	16	Linear	1.9
3000	TA3000IA	90	118	16	Linear	1.5
3200	TC3200IC	95	112	16	Linear	1.5
3200	TC3200IA	95	112	16	Linear	1.9
3200	TC3200IX	95	112	16	XLPE	1.9
3600	TC3600IC	86	156	16	Linear	1.5
3600	TC3600IA	86	156	16	Linear	1.9
3600	TC3600IX	86	156	16	XLPE	1.9
4000	TC4000IA	95	140	16	Linear	1.9
4000	TC4001IC	102	125	16	Linear	1.5
4000	TC4001IA	102	125	16	Linear	1.9
4000	TA4000IC/IA	96	140	16	Linear	1.5/1.9

VERTICAL FLAT BOTTOM BULK STORAGE TANKS

Tank Size (Gallons)	Model Number	Diameter (inches)	Height (inches)	Manway (inches)	Material (type)	Specific Gravity Rating at 73° Fahrenheit
4300	TC4300IC	120	105	16	Linear	1.5
4300	TC4300IA	120	105	16	Linear	1.9
4300	TC4300IX	120	105	16	XLPE	1.9
4500	TC4500IC	95	156	16	Linear	1.5
4500	TC4500IA	95	156	16	Linear	1.9
4500	TC4500IX	95	156	16	XLPE	1.9
5000	TC5000IC	102	151	16	Linear	1.5
5000	TC5000IA	102	151	16	Linear	1.9
5150	TA5150IC/IA	102	159	16	Linear	1.5/1.9
5600	TC5600IC	120	138	16	Linear	1.5
5600	TC5600IA	120	138	16	Linear	1.9
6250	TA6250IC/IA	102	194	16	Linear	1.5/1.9
6800	TC6800IC	120	150	16	Linear	1.5
6800	TC6800IA	120	150	16	Linear	1.9
6800	TC6800IX	120	150	16	XLPE	1.9
7800	TA7800IC/IA	120	178			
9000	TN9000IC	141	144	16	Linear	1.5
9000	TN9000IA	141	144	16	Linear	1.9
9150	TA9150IC/IA	120	206	16	Linear	1.5/1.9
10500	T10500IC	142	175	16	Linear	1.5/1.9
12000	T12000IC	141	192	16	Linear	1.5
12000	T12000IA	141	192	16	Linear	1.9

CHEM-TAINER INDUSTRIES, INC

SPECIFICATIONS FOR POLYETHYLENE CONICAL BOTTOM BULK STORAGE TANKS JC AND JA SERIES

1.1 SPECIFICATIONS

Tank Size (Gallons)	Model Number	Diameter (inches)	Height (inches)	Material (type)	Specific Gravity Rating at 73° Fahrenheit
200	TA4254JC/JA	42	54	Linear	1.5/1.9
300	TA4265JC/JA	42	65	Linear	1.5/1.9
345	TA5256JC/JA	52	56	Linear	1.5/1.9
350	TA4282JC/JA	42	82	Linear	1.5/1.9
500	TA5279JC/JA	52	79	Linear	1.5/1.9
1000	TA6498JC/JA	64	98	Linear	1.5/1.9
1500	TC8684JC	86	84	Linear	1.5
1500	TC8684JA	86	84	Linear	1.9
1600	TA9090JC	90	90	Linear	1.5
1700	TA8583JC/JA	85	83	Linear	1.5/1.9
2500	TA2500JC/JA	90	108	Linear	1.5/1.9
2600	TA2600JC/JA	90	126	Linear	1.5/1.9
2600	TA2600JC/JA	85	144	Linear	1.5/1.9
2650	TC2650JC	86	132	Linear	1.5
2650	TC2650JA	86	132	Linear	1.9
3000	TA3000JC/JA	90	125	Linear	1.5/1.9
4600	TA4600JC/JA	102	155	Linear	1.5/1.9
4900	TA4900JC/JA	102	159	Linear	1.5/1.9
5500	TN5500JC	119	146	Linear	1.5
5500	TN5500JA	119	146	Linear	1.9
7500	TN7500JC	141	148	Linear	1.5
7500	TN7500JA	141	148	Linear	1.9

CHEM-TAINER INDUSTRIES, INC
 SPECIFICATIONS FOR ELLIPTICAL HORIZONTAL BOTTOM
 BULK STORAGE TANKS LC AND LA SERIES

1.1 SPECIFICATIONS

Tank Size (Gallons)	Model Number	Diameter (inches)	Length (inches)	Manway (inches)	Material (type)	Specific Gravity Rating at 73° Fahrenheit
15	TA1430LC	14	30	5	Linear	1.5
25	TA1634LC	16	34	5	Linear	1.5
30	TC2218LA	22	18	4	Linear	1.9
35	TA1834LC/LA	18	34	5	Linear	1.5/1.9
65	TC2343LA	23	43	5	Linear	1.9
65	TA2439LC	24	39	5	Linear	1.5/1.9
125	TA3240LC	32	40	8	Linear	1.5/1.9
165	TA3251LC	32	51	8	Linear	1.5/1.9
200	TC3845LA	38	45	8	Linear	1.5
200	TC3845LA	38	45	8	Linear	1.9
225	TA3852LC/LA	38	52	8	Linear	1.5/1.9
300	TC3866LC	38	66	16	Linear	1.5
300	TC3866LA	38	66	16	Linear	1.9
335	TA4456LC/LA	44	56	16	Linear	1.5/1.9
535	TA4878LC/LA	48	78	16	Linear	1.5/1.9
735	TA735XLC/LA	48	103	16	Linear	1.5/1.9
925	TA6281LC/LA	62	81	16	Linear	1.5/1.9
1065	TA1065LC/LA	58	106	16	Linear	1.5/1.9
1300	TA1300LC/LA	62	114	16	Linear	1.5/1.9
1625	TN1625LC/LA	63	134	16	Linear	1.5/1.9

CHEM-TAINER INDUSTRIES, INC
 SPECIFICATIONS FOR POLYETHYLENE ELLIPTICAL HORIZONTAL
 BULK STORAGE TANKS MC AND MA SERIES

1.1 SPECIFICATIONS

Tank Size (Gallons)	Model Number	Length (inches)	Width (inches)	Height (inches)	Manway (inches)	Material (type)	Specific Gravity Rating at 73°Fahrenheit
200	TA200XMC/MA	41	66	26	8	Linear	1.5/1.9
300	TA300XMC/MA	48	70	30	8	Linear	1.5/1.9
400	TA400XMC/MA	57	70	36	8	Linear	1.5/1.9
500	TA500XMC/MA	57	82	36	8	Linear	1.5/1.9
500	TC500XMC	80	53	45	16	Linear	1.5
500	TC500XMA	80	53	45	16	Linear	1.9
750	TA750XMC/MA	69	89	42	16	Linear	1.5/1.9
1000	TA1000MC/MA	78	90	49	16	Linear	1.5/1.9
1000	TC1000MC	145	53	45	16	Linear	1.5
1000	TC1000MA	145	53	45	16	Linear	1.9
1035	TA1035MC/MA	78	90	52	16	Linear	1.5/1.9
1235	TC1235MC	125	68	50	16	Linear	1.9
1600	TA1600MC/MA	78	138	49	16	Linear	1.5/1.9
2350	TA2350MC/MA	88	146	63	16	Linear	1.5/1.9
2635	TN2635MC	140	90	71	16	Linear	1.5
2635	TN2635MA	140	90	71	16	Linear	1.9
3200	TA3200MC/MA	88	172	74	16	Linear	1.5/1.9
4035	TN4035MC/MA	192	92	77	16	Linear	1.5/1.9