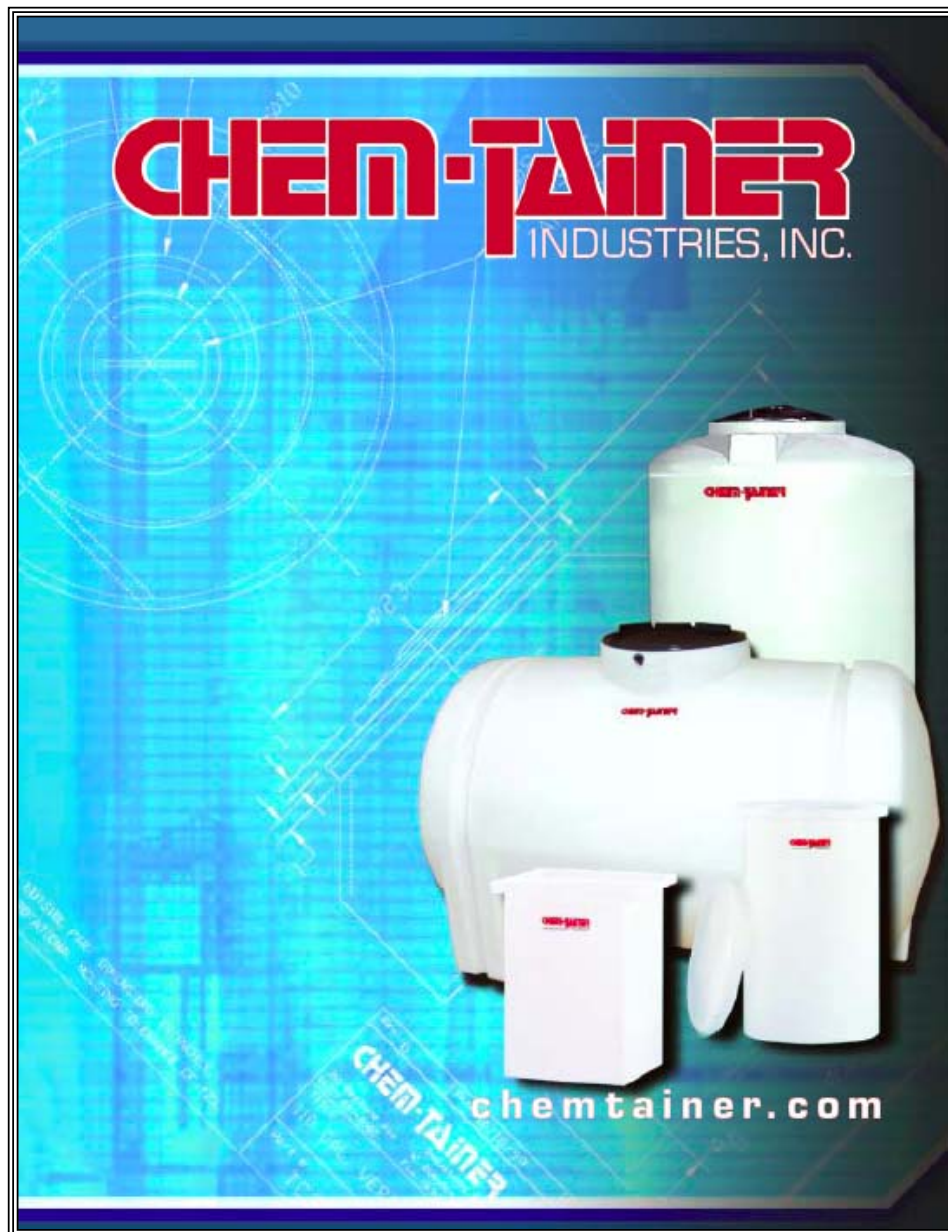


Specifications Manual



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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.

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