



4.3 Mechanical properties – The nominal values for the properties of the plastic material, based on molded parts, are as follows:

<u>ASTM TEST</u>	<u>PARAMETER</u>	<u>NOMINAL VALUE</u>
ASTM D1693	Environmental stress cracking	>1,000 hrs.
ASTM D638	Tensile strength, at yield	2,830 psi
ASTM D790	Flexural modulus	86,780 psi
ASTM D1998	Low temp. impact test	*

\* IMPACT TEST: Dart drop impact test shall be performed in accordance with the test methods specified in ASTM D1998.

## 5. WORKMANSHIP

5.1 Sizes – Tank sizes will vary in accordance with the customer's requirements.

5.2 Flat bottom tanks should be supported on a flat surface containing no sharp objects or properly spaced dunnage. It is recommended that the following be used when a tank is to be elevated: confined sand, smooth concrete, asphalt pad, smooth steel or a plastic pad.

5.3 Appearance – The finished surface shall be as free as commercially practical from visual defects such as foreign inclusions, air bubbles, pinholes, and craters.

5.4 Cut Edges – All cut edges (i.e., manway) Shall be trimmed to have smooth edges.

5.5 Wall sample – By agreement between buyer and seller, a representative wall sample may be used by determination of acceptable surface finish and visual defects.

5.6 Dimensions and tolerances – The tank diameter shall be measured externally to allow for variance in wall thickness to handle different materials. Tolerance on the outside diameter, including out of roundness, shall be  $\pm 3\%$ . Measurement shall be taken in a vertical position. Tolerances for fittings shall be at  $\pm 2^\circ$  radial and  $\pm 1/2"$  in elevation.

5.7.1 Wall thickness – The minimum wall thickness shall be in accordance with ASTM D1998, for all vertical style products 500 gallons and above.

## 6.0 WIND AND EARTHQUAKE PROTECTION

6.1 Seismic/wind restraint systems, both indoor and outdoor, vary according to tank size, contents, and geographic location. Contact Poly Processing Company or your local representative in the preliminary stages of design for specific details. Design requirements are per the current Uniform Building Code (UBC).

## 7. FITTINGS AND ACCESSORIES

7.1 Fittings – Tank fittings will be the best available for the product being stored. They may be PVC, polyethylene, polypropylene, stainless steel, C-276, Kynar, etc., either bolted or bulkhead, with a large nut or nuts.

7.2 Gaskets – Materials available are XLPE foam, EPDM, Litharge Viton, and other special materials as required by the stored liquid.

7.3 Flanged nozzles – Flanges for liquid inlets and outlets may be specified. Unless otherwise specified, flanges will have ANSI 150 psi standard flange bolt pattern and nipples. Other components affixed to the flange will be of similar material to the flange.

7.4 Assembly of flanges – Standard orientation will have bolt holes straddling the principal centerline of the vessel unless otherwise specified.

7.5 Closed tanks should have a properly sized vent. Consult factory for more information.

7.6 Chemical Resistance Charts – The Chemical Resistance Charts should be used as a reference for all materials of construction.

## 8. TESTING PROCEDURES

8.1 Test samples shall be taken from the manway cut out area or where fittings are inserted in the tank.

8.2 Low temperature impact test – The low temperature impact test stated in ASTM D1998 shall be used to conduct this test. The sample should meet the following requirements:

<u>Wall thickness, in (mm)</u>	<u>Ft-lbs (J) to failure, min</u>
Less than and including 0.25 in (6.6 mm)	90 (122.0)
0.26 in (6.6 mm) to and including 0.50 in (12.9 mm)	100 (135.5)
0.51 in (12.9 mm) to and including 0.75 in (19.3 mm)	150 (203.2)
Greater than 0.76 in (19.3 mm)	200 (271.0)

8.3 Degree of Crosslinking test (Gel test) – The procedure described in ASTM D1998 shall be used to conduct this test. A minimum of 65% gel must be obtained.

8.4 Production tests – All tanks that meet ASTM D1998 specifications, and all UL Listed tanks, are hydrostatically tested.