SIERRA
Specification #199901 For
Polyethylene Upright Double Wall Storage Tanks
Revision: B - 11/21/03

1. Scope

1.1 This specification covers upright, double wall, flat bottom storage tank assemblies. The assembly consists of one cylindrical inner primary tank and one blended form octagonal outer secondary tank. Each tank is molded in one-piece seamless construction by rotational molding. The tanks are designed for above-ground, vertical installation and are capable of containing chemicals at atmospheric pressure. The assembly shall be designed to prevent rainwater from entering the containment tank. The design shall allow direct primary tank base retention for up to seismic zone 4 conditions per UBC code requirements. The containment tank shall be designed to hold a minimum of 115% of the normal fill capacity of the primary tank. Included in this specification are requirements for material properties, design, construction, dimensions, tolerances, workmanship, and appearance.

1.2 This specification does not cover the design of vessels intended for use at pressures above or below atmospheric conditions. It is also not for vessels intended for use with liquids heated above their flash points, temperatures above 140 degrees Fahrenheit for Type I materials, or temperatures above 130 degrees Fahrenheit for Type II materials (see section 4.1 for material classifications).

2. Applicable Documents

2.1 ASTM (American Society for Testing and Materials) Standards:

D618 Conditioning Plastics and Electrical Insulating Materials for Testing
D638 Tensile Properties of Plastics
D790 Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials
D883 Definitions of Terms Relating to Plastics
D1505 Density of Plastics by the Density-Gradient Technique
D1525 Test Method for Vicat Softening Temperature of Plastics
D1693 Test Method for Environmental Stress-Cracking of Ethylene Plastics
D1998 Standard Specification for Polyethylene Upright Storage Tanks
D2765 Degree of Crosslinking in Crosslinked Ethylene Plastics as Determined by Solvent Extraction
D2837 Method for Obtaining Hydrostatic Design Basis for Thermoplastic Pipe Materials
D3892 Practice for Packaging/Packing of Plastics
F412 Definitions of Terms Relating to Plastic Piping Systems

2.2 ARM (Association of Rotational Molders) Standards:

Low Temperature Impact Resistance (Falling Dart Test Procedure)

2.3 ANSI Standards:

B-16.5 Pipe Flanges and Flanged Fittings

2.4 OSHA Standards:

29 CFR 1910.106 Occupational Safety and Health Administration, Flammable and Combustible Liquids

2.5 UBC CODE:

Uniform Building Code 1997 Edition

3. Chemical Compatibility

3.1 Chemical compatibility shall be according to the following chemical resistance guides:

Pruett, Kenneth M., "Chemical Resistance Guide for Elastomers", Compass Publications.

Pruett, Kenneth M., "Compass Corrosion Guide II", Compass Publications.

3.2 These references shall be considered as general guidelines only. In many cases, combinations of these chemicals are used in such a way that only the customer (by testing molded product samples) can make a determination in regards to acceptability.

4. Classification

4.1 Tanks are classified according to type as follows and it is the responsibility of the purchaser to specify Type I or Type II.

4.1.1 Type I - Tanks molded from cross-linkable polyethylene resin.

4.1.2 Type II - Tanks molded from linear polyethylene resin (not cross-linkable resin).

5. Materials

5.1 The material used shall be virgin polyethylene resin as compounded and certified by the manufacturer. Type I tanks shall be made from crosslinked polyethylene resin as manufactured by ExxonMobil Chemical, or resin of equal physical and chemical properties. Type II tanks shall be made from linear polyethylene resin as manufactured by Exxon Mobil Chemical, or resin of equal physical and chemical properties.

5.2 All polyethylene resin material shall contain a minimum of a U.V. 8 stabilizer as compounded by the resin manufacturer. Pigments may be added at the purchaser's request, but shall not exceed 0.25% (dry blended) of the total weight.

5.3 Mechanical Properties of Type I tank material:

PROPERTY	ASTM	VALUE
Density	D1505	0.938-0.946 g/cc
Tensile (Yield Stress 2"/min)	D638	3000 PSI
Elongation at Break (2"/min.)	D638	>300%
ESCR (100% Igepal, Cond. A, F50)	D1693	>1000 hours
ESCR (10% Igepal, Cond. A, F50)	D1693	>1000 hours
Vicat Softening Degrees F. Temperature	D1525	250
Flexural Modulus	D790	100,000 PSI

5.4 Mechanical Properties of Type II tank material:

PROPERTY	ASTM	VALUE
Density (Resin)	D1505	0.940-0.948 g/cc
Tensile (Yield Stress 2"/min)	D638	2950 PSI
Elongation at Break (2"/min.)	D638	>1000%
ESCR (100% Igepal, Cond. A, F50)	D1693	550 hours
ESCR (10% Igepal, Cond. A, F50)	D1693	48 hours
Vicat Softening Degrees F. Temperature	D1525	235
Flexural Modulus	D790	129,000 PSI

6. Design Requirements

6.1 The minimum required wall thickness of the cylindrical shell at any fluid level shall be determined by the following equation, but shall not be less than 0.187 in. thick.

T = P x O.D./2 SD = 0.433 x S.G. x H x O.D./2 SD

T = wall thickness
SD = hydrostatic design stress, PSI
P = pressure (.433 x S.G. x H), PSI
H = fluid head, ft.
S.G. = specific gravity, g/cm^3
O.D. = outside diameter, in.

6.1.1 The hydrostatic design stress shall be determined by multiplying the hydrostatic design basis, determined by ASTM D2837 using rotationally molded samples, with a service factor selected for the application. The hydrostatic design stress is 600 PSI at 73 degrees Fahrenheit for Type I and Type II materials. In accordance with the formula in 6.1, the tank shall have a stratiform (tapered wall thickness) wall.

6.1.2 The hydrostatic design stress shall be derated for service above 100 degrees Fahrenheit and for mechanical loading of the tank.

6.1.3 The standard design specific gravity shall be 1.5 or 1.9.

6.2 The minimum required wall thickness for the cylinder straight shell must be sufficient to support its own weight in an upright position without any external support. Secondary containment tanks shall be designed per SIERRA standard containment thickness requirements. The secondary containment shall be configured to allow shipment of the primary tank inside of the secondary tank. The shipment shall be done without the aid of additional spacer blocks which can be lost during shipment causing tank damage.

6.3 The top head must be integrally molded with the cylinder shell. The minimum thickness of the top head shall be equal to the top of the straight wall. The primary tank top shall be configured to prevent rain water from entering the secondary containment tank. The top head of tanks with 2000 or more gallons of capacity shall be designed to provide a minimum of 1300 square inches of flat area for fitting locations. The primary tank shall be keyed to the secondary tank preventing primary tank rotation. The secondary containment shall have 115% of the normal fill capacity of the primary tank.

6.4 Tanks with 2000 or more gallons of capacity shall have a minimum of 3 lifting lugs integrally molded into the top head. The lifting lugs shall be designed to allow erection of empty primary and secondary tanks. Tanks shall be capable of being lifted into position as a unit (primary and secondary tanks).

6.5 The tank shall be designed to provide a minimum of 4 tie-down lugs integrally molded into the top head. The tie-down lugs shall be designed to allow tank retention in wind and

seismic loading situations without tank damage. The primary/secondary tank unit shall be configured to allow direct primary tank base retention for seismic load conditions. The base retention unit shall be anchor bolted to an appropriate structure and not require additional spacer blocks. Refer to section 12.2 for tank tie-down accessories.

7. Dimensions and Tolerances

7.1 All dimensions will be taken with the tank in the vertical position, unfilled. Tank dimensions will represent the exterior measurements.

7.1.1 The tolerance for the outside diameter of the primary tank, including out of roundness, shall be per ASTM D1998.

7.1.2 The tolerance for fitting placements shall be +/- 0.5 in. in elevation and 2 degrees radial at ambient temperature.

8. Test Methods

8.1 Test specimens shall be taken from fitting location areas or piggy-back test molds.

8.2 Low Temperature Impact Test

8.2.1 Test specimens shall be conditioned at -40 degrees Fahrenheit for a minimum of 2 hours.

8.2.2 The test specimens shall be impacted in accordance with the standard testing methods as found in ASTM D1998. Test specimens < 1/2" thickness shall be tested at 100 ft.-lb. Test specimens > 1/2" thickness shall be tested at 200 ft.-lb.

8.4 Degree of Crosslinking Test (% Gel - Type I Only)

8.4.1 The test method used is to be the oxlene insoluble fraction (gel test) per ASTM D2765 Method C. This test method is for determination of the ortho-xlene insoluble fraction (gel) of crosslinked polyethylene.

8.4.2 The percent gel level for Type I tanks on the inside 1/8 in. of the wall shall be a minimum of 65%.

8.5 Ultrasonic Tank Thickness Test

8.5.1 All tanks 2000 gallons or larger shall be measured for tank wall thickness at 6”, 1ft., 2ft. and 3ft. on the tank sidewall height at 0° and 180° around the tank circumference with 0° being the tank manway and going counter-clockwise per ANSI standard drafting specifications. A copy of this test report can be ordered when placing the original tank order. All tanks shall meet design thickness requirements and tolerances.

8.5.2 Tanks smaller than 2000 gallons are only periodically measured at the start of a production run or after any design changes. Customers can place an order for tank wall thickness measurements on smaller tank sizes when placing the original order. A copy of the test report will be provided if ordered.

8.6 Hydrostatic Water Test

8.6.1 The hydrostatic water test shall consist of filling the tank to brim full capacity for a minimum of four hours and conducting a visual inspection for leaks. A hydrostatic water test will be conducted ***if*** ordered by the customer.

8.7 The tank shall be visually inspected to determine such qualities as are discussed in Section 9.

9. Workmanship

9.1 The finished tank wall shall be free, as commercially practicable, of visual defects such as foreign inclusions, air bubbles, pinholes, pimples, crazing, cracking and delaminations that will impair the serviceability of the vessel. Fine bubbles are acceptable with Type II tanks to the degree in which they do not interfere with proper fusion of the resin melt.

9.2 All cut edges where openings are cut into the tanks shall be trimmed smooth.

10. Tank Fittings (Nozzles)

10.1 Fittings - Threaded Bulkhead

10.1.1 Threaded bulkhead fittings are available for above liquid installation depending on the tank diameter and the placement of the fitting in the tank. Fittings must be placed away from tank knuckle radius' and flange lines. Consult SIERRA for placement questions. The maximum allowable size for bulkhead fittings placed on a curved cylindrical section of tanks 48 in. to 142 in. in diameter is 2 inch. Tank wall thickness must be considered for bulkhead fitting placement. The maximum wall thickness for each fitting size is shown below.

Fitting Size	Maximum Wall Thickness
1/2 in.	0.750 in.
3/4 in.	0.875 in.
1 in.	0.875 in.
1 1/4 in.	0.875 in.
1 1/2 in.	0.875 in.
2 in.	1 in.
3 in.	1.125 in. (Flat Surface Only)

10.1.2 The bulkhead fittings shall be constructed of PVC, PP, or other specified material. Gaskets shall be a minimum of 1/4" thickness and constructed of 40-50 durometer EPDM, 60-70 durometer Viton®, or other specified material.

10.2 Fittings - Bolted Double 150 lb. Flange Fittings

10.2.1 Bolted double flange fittings are available for below liquid level installation for sizes 2 in. through 4 in. depending on the placement of the fitting in the tank. Fittings must be placed away from tank knuckle radius' and flange lines. Consult SIERRA for placement questions. Bolted double flange fittings provide the best strength and sealing characteristics of any tank fitting available. Allowable fittings sizes based on tank diameter for curved surfaces are shown below.

Tank Diameter	Maximum Bolted Fitting Size Allowable
48 in. - 86 in.	3 in.
90 in. - 102 in.	6 in.
120 in. - 142 in.	8 in.

The bolted double flange fittings shall allow tank wall thickness up to 2 1/2 in.

10.2.2 The bolted double flange fitting shall be constructed with 2 ea. 150 lb. flanges, 2 ea. 150 lb. flange gaskets, and the correct number and size of all-thread bolts for the flange specified by the flange manufacturer. The flanges shall be constructed of PVC Type I, Grade I, or other specified material. Gaskets shall be a minimum of 1/4" thickness and constructed of 40-50 durometer EPDM, 60-70 durometer Viton® or other specified material. There shall be a minimum of 4 ea. full thread bolts. The bolts may have gasketed flanged metal heads or bolt heads encapsulated in Type II polyethylene material. The encapsulated bolt shall be designed to prevent metal exposure to the liquid in the tank and prevent bolt

rotation during installation. The polyethylene encapsulation shall fully cover the bolt head and a minimum of 1/4" of the threads closest to the bolt head. The polyethylene shall be color coded to distinguish bolt material (white - 316 S.S., yellow - Hastelloy C276, red - Monel, green - Titanium). Each encapsulated bolt shall have a gasket to provide a sealing surface against the inner flange.

10.2.3 Standard orientation of bolted double flange fittings shall have bolt holes straddling the principal centerline of the tank in accordance with ANSI/ASME B-16.5 unless otherwise specified.

10.3 Fittings - Bolted Stainless Steel Fittings

10.3.1 Bolted stainless steel fittings are available for below liquid level installation depending on the tank diameter and the placement of the fitting in the tank. Fittings must be placed away from tank knuckle radius' and flange lines. Consult SIERRA for placement questions. Allowable fittings sizes based on tank diameter for curved surfaces are shown below.

Tank Diameter	**Maximum Bolted Fitting Size Allowable**
48 in.	3 in.
64 in. - 142 in.	4 in.

The bolted stainless steel fittings shall allow tank wall thickness up to 2 1/2 in.

10.3.2 The bolted stainless steel fittings shall be constructed with a minimum of 4 fully threaded 3/8 in. studs. Each fitting shall have two gaskets and two flanges. One gasket shall be compressed between the inside of the tank wall surface and the inside flange of the fitting. The other gasket shall be compressed between the outside tank wall surface and the outside flange of the fitting. The stainless steel fittings come standard with female pipe threads on both the inner and outer flanges. Other threading arrangements may be specified. The fittings shall be constructed of Type 316 stainless steel. Gaskets shall be a minimum of 1/4" thickness and constructed of 40-50 durometer EPDM, 60-70 durometer Viton® or other specified material.

10.4 Fittings – Unified Fitting Outlet (UFO™)

10.4.1 The UFO shall provide a flexible containment seal between the inner primary tank and the outer secondary containment tank. This fitting outlet when used in combination with fittings as per sections 10.2 and 10.3 provides access for connecting piping to the inner primary tank while maintaining containment integrity between the inner primary tank and the outer secondary containment tank. This fitting outlet may be used for 2,3, and 4 in. fitting sizes.

10.4.2 The fitting outlet shall consist of 1 ea. flexible polyethylene containment boot, 1 ea. appropriate fitting gasket, 1 ea. UFO gasket, 1 ea. solid 304 stainless steel UFO flange, 1 ea. split 304 stainless steel UFO flange, and 12 ea. 3/8 in. 304 stainless steel bolt assemblies. Gaskets shall be a minimum of 1/4" thickness and constructed of 40-50 durometer EPDM, 60-70 durometer Viton® or other specified material.

10.5 Fittings - Siphon Tube Fittings

10.5.1 Siphon tubes may be added to the fittings specified in sections 10.2 and 10.3. A siphon tube will allow these fittings, when used as drainage fittings, to provide better tank drainage.

10.6 Fittings - Self-Aligning Threaded Bulkhead

10.6.1 Self-Aligning fittings are available for installation in vapor phase applications on curved surfaces depending on the spherical dome radius and the placement of the fitting on the tank dome. Fittings must be placed away from tank radius. Consult SIERRA for

placement questions. The maximum allowable size for self-aligning fittings placed on a spherical section of the tank is shown below.

Tank Diameter	Maximum Fitting Size Allowable
45 in. - 48 in.	2 in.
64 in. - 142 in.	3 in.

Tank thickness and fitting angle may need to be considered for self-aligning fitting placement. The maximum thickness and installation angles for each fitting size are shown below.

Fitting Size	Maximum Angle	Maximum Thickness
1 in.	27 degrees	1.000 in.
2 in.	25 degrees	0.750 in.
3 in.	20 degrees	1.000 in.

10.6.2 The self-aligning fittings shall be constructed of PVC or other specified material. Gaskets shall be a minimum of 1/4" thickness and constructed of 40-50 durometer EPDM, 60-70 durometer Viton®, or other specified material.

10.7 All tank fitting attachments shall be equipped with flexible couplers or other movement provisions provided by the tank customer. The tank will deflect based upon tank loading, chemical temperature and storage time duration. Tank piping flexible couplers shall be designed to allow 4% design movement. Movement shall be considered to occur both outward in tank radius and downward in fitting elevation from the neutral tank fitting placement.

11. Tank Attachments

11.1 Tank Attachments – Ultrasonic Level Indicator

11.1.1 The ultrasonic level indicator shall consist of a 2 or 3 in., 4 – 20 mA output PVC sensor and a 3-1/2 digit display unit. The sensor may be equipped with male pipe threads and be connected to the tank with a PE bulkhead fitting, or the sensor may be Teflon® faced and flange bolted to the tank with encapsulated 316 S.S. bolts. The sensor is connected to a display unit that is mounted to the containment tank. The display unit box shall be NEMA 4 rated and factory pre-wired for 110 VAC power. All connections shall be labeled to prevent errors in field installation. The display unit is preprogrammed for the tank ordered. The display will show hundreds of gallons (display x 100 = gallons).

11.2 Tank Attachments – Leak Detector Unit

11.2.1 The leak detector unit shall consist of a proximity sensor, a welded 2 in. fpt connection, a 2 in. bung plug with a ¾ in strain relief, and an indicator box. The sensor is placed in the interstitial space between the primary and secondary tanks approximately 1 in. above the tank bottom. The indicator box shall be NEMA 4 rated and factory pre-wired for 110 VAC power. All connections shall be labeled to prevent errors in field installation. The indicator box will show a green light when power is on and the sensor is not detecting a liquid. The light is a push to test light allowing the operator to test for power outage or malfunction. If the green light goes out there are two possibilities. The green light does not come on when the button is pushed. This would indicate a lack of power to the unit or the light bulb is burned out. If the green light comes on when pushed, then a possible leak condition is indicated.

11.3 Tank Attachments - Manway and Fill Cap (Non-sealed)

11.3.1 Fill caps are available in a 10 in. vented-threaded style on various tank sizes with a minimum opening diameter of 7.125 in. Cap attachment shall be provided with all standard

10 in. cap placements with a polyurethane cap tie. Check SIERRA specification drawing for availability and position.

11.3.2 Manways are available in an 18 in. vented-threaded style (minimum opening diameter of 16 in.), a 24 in. vented threaded style (minimum opening diameter of 22 in.) and a 24 in. slip fit style (minimum opening diameter of 19.25 in) on various tank sizes. Check SIERRA specification drawing for availability and position.

11.3.3 All caps and manways shall be constructed of polyethylene material.

11.4 Tank Attachments - Bolted Sealed Top Manway

11.4.1 Sealed manways are available in 18, 20 and 24 in. sizes on certain tanks in selected positions. Consult SIERRA for placement positions.

11.4.2 The sealed manway shall be constructed of polyethylene material. The bolts shall be polypropylene or other specified material. The gaskets shall be closed cell, crosslinked polyethylene foam and Viton® materials.

11.5 Tank Attachments – External Fill Pipes

11.5.1 External fill pipes shall be prepared per the customer approved drawings and specifications. All external fill pipes shall be supported at 3 ft. maximum intervals with a support structure independent of the tank (ground supported). All designs shall be done according to the specific needs of the customer.

11.5.2 All external fill pipes shall be constructed of PVC or other specified materials.

11.6 Tank Attachments – Internal Down Pipes

11.6.1 Internal down pipes shall be prepared per the customer approved drawings and specifications. All internal down pipes shall be supported at 5 ft. maximum intervals with a support structure welded to the inside of the primary tank (only available in tanks constructed with Type II resin). The support design may utilize a PVC clamp or other specified materials for support. All designs shall be done according to the specific needs of the customer.

11.6.2 All internal down pipes shall be constructed of PVC or other specified materials.

11.7 Tank Attachments - U-Vents

11.7.1 Each tank must be properly vented for the type of material and flow rates expected. Vents must comply with OSHA 1910.106 (F) (iii) (2) (IV) (9) normal venting for atmospheric tanks or other accepted standard, or shall be as large as the filling or withdrawal connection, whichever is larger but in no case less than 1 in. nominal inside diameter. U-vents are offered in sizes from 1 in. to 6 in. with or without screening. Consult SIERRA for necessary venting and placement information.

11.7.2 All u-vents shall be constructed of PVC or other specified materials.

12. Tank Accessories

12.1 Tank Accessories - Ladders

12.1.1 Ladders shall be constructed of painted mild steel, stainless steel, FRP or other specified material.

12.1.2 Safety cages shall be provided with ladders as optional equipment unless required by OSHA standards.

12.1.3 All ladders shall be designed to meet applicable OSHA standards. Reference: OSHA 2206; 1910.27; fixed ladders.

12.1.4 Ladders must be mounted to the tank to allow for tank expansion and contraction due to temperature and loading changes. All top ladder mounts shall be connected to integrally molded in attachment lugs that allow for tank movement.

12.1.5 Mild steel parts shall be deburred and painted with chemical resistant enamel paint.

12.2 Tank Accessories - Tie Down Systems

12.2.1 The tie down system shall be designed to withstand 110 MPH wind loads. Tie down systems must meet seismic zone 4 requirements per UBC 1997 code. Any anchor bolts shall be provided by the customer per the instruction and the base plates for the system.

12.2.2 The tie down system shall be offered in either painted mild steel or 304 stainless steel as specified by customer requirements.

12.2.3 Mild steel parts shall be deburred and painted with chemical resistant enamel paint or galvanized.

12.3 Tank Accessories - Tank Heating Systems

12.3.1 Heating systems for use with polyethylene tanks shall be designed to meet specific requirements such as tank material type, tank size, low ambient temperature, and desired maintenance temperature.

12.3.2 All control components of the heating system shall be mounted in water tight, high impact plastic box(es) with a gasketed cover.

12.3.3 All heating system components shall be NEMA 4 rated and factory pre-wired for 110 or 220 VAC. All connections shall be labeled to prevent errors in field installation.

12.3.4 Each control box shall carry a decal attached to the inside surface of the cover, on which an electrical wiring diagram will be printed.

12.3.5 Each control box shall contain two temperature controls. One control shall regulate the maintenance temperature setting and the other control shall regulate the high temperature setting. The maintenance temperature setting should be set at the desired maintenance temperature. The high temperature setting shall be adjusted to 10 degrees above the desired maintenance temperature to a maximum of 130 degrees Fahrenheit. All control systems must be designed with a power off failure mode.

12.3.6 The heating panels shall be designed to wrap around and lie flat against the surface of the secondary containment tank. The heating panels shall have a maximum heating density of 0.022 watts per square centimeter. All heating panels and sensor bulbs shall be attached to the tank with 2" wide duct tape. The high temperature sensor shall directly sense the temperature of the heating panels on the secondary containment tank. The maintenance temperature sensor shall directly sense the temperature of the inner primary tank. Under no circumstances shall cable type heaters be used with polyethylene tanks.

12.3.7 Insulation used shall be polyurethane foam with a density of 2.0 - 3.0 lb./ft ^3 with an "R" value of 8.33/in. The foam shall be applied with a nominal thickness of 2" to all external tank surfaces except the tank bottom shell.

12.3.8 Upon completion of application and curing of the insulation, two full coverage coats of latex mastic coating shall be applied to the surface of the insulation in such manner as to seal the insulation from the outside environment.

13. Marking, Packing and Packaging

13.1 The tanks shall be marked to identify the product, date (month and year) of manufacture, capacity, and serial number. The tank shall be shipped with a 3 of 9, HRI bar code label containing tank description, manufacturing order number, part number, serial number, manufacturer, and date.

13.2 The proper caution or warning signs as prescribed by OSHA standard 29 CFR 1910.106 shall be customer determined and supplied.

13.3 All packing, packaging, and marking provisions of ASTM Practice D3892 shall apply to this standard.

13.4 Customer specified labeling is available.

13.5 Tank shrink wrapping and bagging is available upon customer request.

13.6 All fittings that do not interfere with tank shipment shall be installed unless otherwise specified. Fittings and accessories that interfere with tank shipment or could be broken during shipment are shipped separately.

14. Shipping

14.1 Since there are variations in methods of shipping, SIERRA instruction shall be followed in all cases.

14.2 Consult the SIERRA "Guidelines for Use and Installation" booklet included with your tank for unloading instructions on specific tanks. This booklet can be found attached to the cap or manway area on the inside of the tank. Tanks with capacities of 2000 gallons or more have molded-in lifting lugs provided to assist with tank handling. All tank units are shipped with shipping cables allowing the two tanks to be handled as a unit during shipping and tank handling. Once the tank is put into position the shipping cables are to be removed to allow the tank to fully contact the tank pad/support area.

14.3 Upon arrival at the destination, the purchaser and/or his agent shall be responsible for inspection for damage in transit. If damage has occurred, a claim should be filed with the carrier by the purchaser, and the manufacturer should be notified prior to the tank being put into service.

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