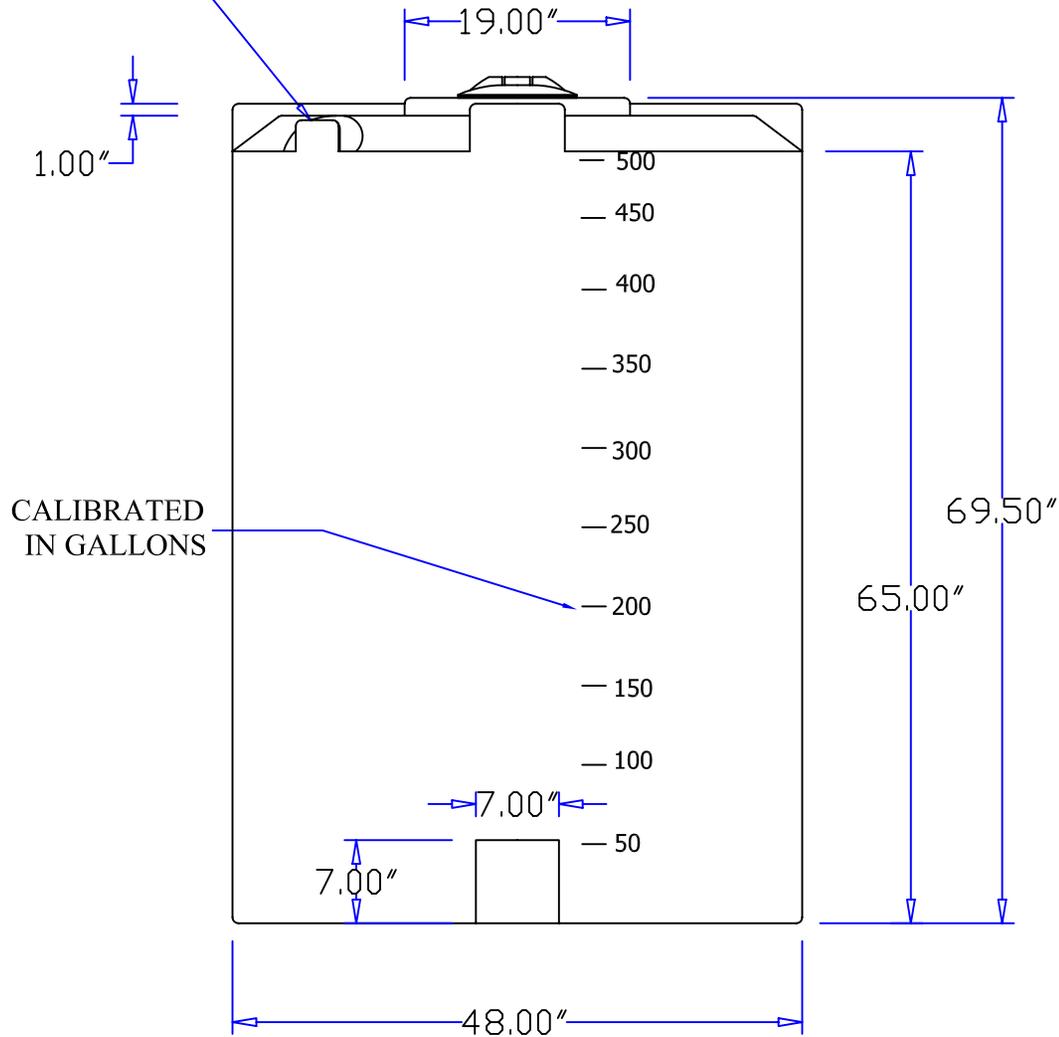
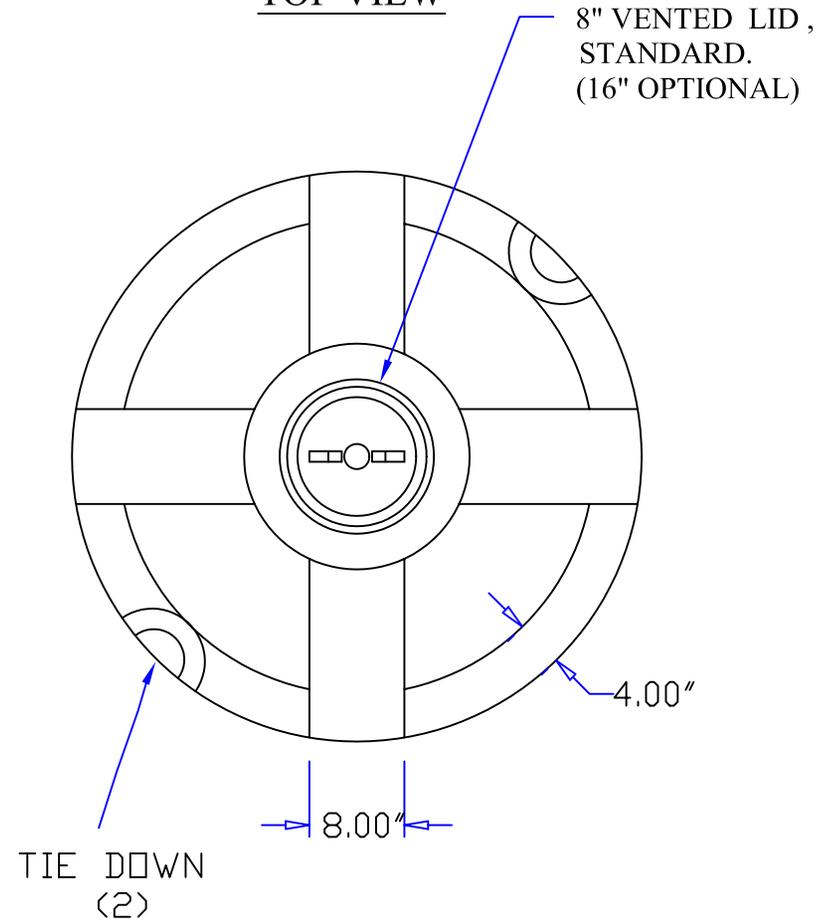


NEW\* EASY  
TO HANDLE  
TIE DOWNS.

SIDE VIEW



TOP VIEW



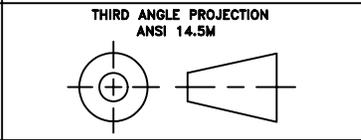
REV	DESCRIPTION	DATE	APPRD

DRAWN / DATE MSYKES/5/12/03
APPRD. / DATE

MATERIAL / SHOT WEIGHT	
HDPE PP	120 LBS.

**BAILIFF ENTERPRISES, INC.**  
8423 AIRLINE DRIVE, HOUSTON, TEXAS 77037  
PHONE (281) 447-5372 FAX (281) 999-1223

ALL DIMENSIONS ARE IN DECIMAL INCHES  
TOLERANCES UNLESS OTHERWISE SPECIFIED  
± .5% @ 68° F



NOTES:

CLIENT / DESCRIPTION	
500 GALLON VERTICAL TANK	
SCALE N.S.	PART NO. VTB500-48

# Important Tank Information

These are very important items to keep in mind when setting up and using a plastic storage tank. Failure to act on these items can cause failure of your tank or fittings and will void your warranty.

**Use an expansion joint or other method of allowing tank expansion and eliminating pump vibrations.**

Poly tanks expand and contract by up to 3% based on temperature and fill. Hard piping that does not allow for movement can cause tank failure at the fitting. Pump vibrations can also cause failure due to cracks forming near the fitting. A soft expansion joint or off-set hose can take away these problems.

**Use appropriately sized venting to keep from causing a vacuum or pressurizing a tank.**

Poly tanks should always be kept at atmospheric pressure. Creating a vacuum or a pressurized situation with a tank can cause tank failure. Outfitting a tank with appropriate venting solves the problem. The industry rule-of-thumb is to have a vent 1" larger in diameter than your largest inlet or outlet fitting.

**Operate within the appropriate temperature limits of the plastic.**

It is important to keep the liquid temperatures within the continuous use range for the type of tank you have. For HDPE, the maximum is 120F. For Polypropylene the maximum is 200F. For PVDF it can vary widely based on the application. In some cases it is up to 300F. Consult Arkema, Inc. for details regarding PVDF maximum temperatures for your application.

**Support the weight of valves and fittings that are connected to the tank.**

Plastic tanks cannot support the weight of fittings or pipes that are not independently supported. Having the weight of pipes, valves or other fittings resting on the tank can cause the tank to crack and leaks to occur.

BAILIFF ENTERPRISES

# Hydrostatic Testing

**We perform Hydrostatic Testing on each vertical tank that we sell.** It allows us to confirm the integrity of the tank and any fittings we have installed. The testing is required for tanks that are certified as meeting ASTM standard (D1998-21).

This is an ASTM standard for Polyethylene vertical tanks of 500 gallons or larger. We fill the tank 'brim full' for the testing. The ASTM standard does not specify a time period but we consider 4 hours as a minimum period for tanks of over 1600 gallons. For tanks of 5000 gallons and larger, our normal testing is overnight at a minimum. A certificate of completion of the test is available on request.

Hydrostatic testing is simple but very important. Since damage to tanks or fittings can occasionally occur during shipping, **we urge our customers to perform testing on delivered tanks before putting the tanks into service.** Fill the tank full to the brim and let it stand for at least 4 hours. For tanks that will be holding heavy chemicals such as sulfuric acid or sodium hydroxide, we recommend letting the water stay in the tank for at least 12 hours.

**When the test is complete, be sure to remove all water from the tank.** This includes siphoning any water that may be in the tank below the lowest drain fitting. Some chemicals like Sulfuric Acid and Sodium Hydroxide have an exothermic reaction when mixed with water. The heat that is generated can cause damage to the tank or the tank fittings.

If a tank leaks during testing, please contact us at 936-890-7777.

# BAILIFF ENTERPRISES

## Specification Submittal for Polypropylene Tanks

### **Manufacturing Criteria:**

Tank shall be manufactured using rotational molding as a seamless one-piece container. In the case of double wall tanks, two individual tanks will be molded and welded together.

Tank shall be manufactured from Rotoworx RMPP141 Copolymer Polypropylene resin or equivalent. All material shall be virgin resin and no re-cycled resin will be used.

Wall thickness for a given hoop stress is to be calculated in general accordance with ASTM D 1998-21 standards for Polyethylene tanks. No standards exist for Polypropylene tanks.

1. The wall thickness of any cylindrical portion at any fluid level shall be determined by the following equation:

$$T = P \times OD / 2SD \text{ or } 0.433 \times SG \times OD \times H \times OD / 2SD$$

Where: T = wall thickness, in

P = pressure, psi

SG = specific gravity, gm/cc

H = fluid head, ft

OD = outside diameter, ft

SD = hydrostatic design stress, 600 psi

a. The minimum wall thickness shall be sufficient to support its own weight in an upright position without external support but shall not be less than 0.187" thick.

2. On closed top tanks the top head shall be integrally molded with the cylindrical wall. Its minimum thickness shall be equal to the thickness of the top of the straight sidewall. In most cases, flat areas shall be provided for attachment of large fittings on the dome of the tank.

## BAILIFF ENTERPRISES

### Specification Submittal for Polypropylene Tanks

**Tank Design Criteria:**

Tank shall be manufactured in accordance with ASTM-D-1998 with the exception that the resin will be Polypropylene.

Closed top tanks shall be outfitted with a lid/manway sealed with a threaded polypropylene lid.

Fittings may include welded polypropylene couplings and flanges attached via thermoplastic welding; and, screw-on bulkheads made from polypropylene, cpvc or pvc.

**Manufacturers Warranty:**

The warranty shall be provided upon request for the specific service application. For most chemical applications, Bailiff Enterprises, Inc. offers a limited 3-year warranty.

**Quality Assurance:**

All tanks with installed fittings shall be hydro-tested prior to shipping to insure the integrity of the tank and fittings.

**Manufacturer:**

Tanks shall be manufactured by Bailiff Enterprises, Inc. Installation of fittings and fabrication shall be performed by Bailiff Enterprises, Inc.



## RMPP141 NATURAL

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**RMPP141** is a Polypropylene (PP) Compound specifically developed for rotational moulding, available as ambient ground powder or pellets. Black is also available ex stock.

It has excellent mouldability and its enhanced properties allow it to be used in demanding applications for which polyethylene is not the optimum polymer.

**RMPP141 Natural** complies with U.S. 21 CFR F.D.A. regulation Part 177.1520 clause (c) (1.1) and (d).

### FEATURES:

- **An excellent balance of high stiffness & high impact**
- **Good Temperature Resistance (dry & wet)**
- **High FNCT / ESCR and good chemical resistance**
- **Rated > UV12**
- **Excellent long term creep performance**
- **Improved surface hardness and scratch resistance**

### PROCESSING GUIDELINES:

- Oven temperature ~ 570<sup>0</sup>F to achieve mould surface temperature > 475<sup>0</sup>F
- PIAT 435<sup>0</sup>F – 455<sup>0</sup>F
- Rotation similar to LMDPE
- Smartvents will increase pressure inside mould and assist with reducing warpage and minimising pinholes
- PP can stress whiten so minimise impact when demolding

### OBSERVATIONS:

- Lubricity of PP means little or no mould release needed
- Lower shrinkage than PE
- Less warpage for large surfaces due to stiffness and crystallisation
- Complete crystallisation may take up to 72 hours to obtain optimal physical properties
- Heat is critical for sintering PP, so minimise heat sinks in mould

Properties	Conditions	Units	Nominal Values	Testing Methods
<b>Physical</b>				
Melt Flow Rate	445 <sup>0</sup> F/2.16kgs	g/10 min	13	ASTM D1238
Density <sup>2</sup>		g/cm <sup>3</sup>	0.900	ASTM D1505
<b>Mechanical &amp; Thermal</b>				
Tensile stress <sup>1</sup>	At yield	PSI	3500	ASTM D638
Tensile strain <sup>1</sup>	% At yield	%	5	ASTM D638
Tensile Modulus <sup>1</sup>		PSI	181,000	ASTM D638
Flexural Modulus <sup>1</sup>		PSI	174,000	ASTM D790
FNCT <sup>2</sup> 2% Ige *	5MPa @ 122 <sup>0</sup> F	Hours	>300	ISO16770
	6MPa @ 122 <sup>0</sup> F	Hours	170	10x10mm x 1.6mm notch
ESCR <sup>1</sup>	2% Igepal *	Hours	> 1000	ASTM D1693
Shore D Hardness <sup>1</sup>			62	ASTM D2240
HDT <sup>1</sup>	66 PSI	Deg F	240	ISO 75-2 4mm Edgewise
HDT <sup>1</sup>	264 PSI	Deg F	144	
ARM Impact <sup>1</sup>	73 <sup>0</sup> F ¼" thick	Ftlb	105	ARM Method
ARM Impact <sup>1</sup>	32 <sup>0</sup> F ¼" thick	Ftlb	55	ARM Method
ARM Impact <sup>1</sup>	-4 <sup>0</sup> F ¼" thick	Ftlb	27	ARM Method
Poisson Ratio			0.44	ASTM D638

**Notes:** <sup>1</sup> Roto moulded      <sup>2</sup> Compression moulded      \* Or equivalent

**Important:** The information contained in this document is of a general nature only and is intended to provide an indication of the potential properties and benefits of a particular polypropylene compound. The statistical and other information provided in this document has been determined in laboratory test conditions. Accordingly, there may be differences in performance in a production environment including having regard to the materials used. The information contained in this document should not be used as a sole basis for production or manufacturing purposes. Independent testing verification and independent professional advice should be obtained before making a decision to use any product or to apply any method or process. To the full extent permitted by law, PSD Rotoworx Pty Limited (ACN 166 016 244) ("PSD Rotoworx"), its related entities, their directors and employees: (i) give no warranty or representation that the information contained in this document is accurate and complete in every particular, and (ii) disclaim all liability for reliance on the information contained in this document.