



CERTIFIED TO  
NSF/ANSI 61



**POLYPROCESSING**  
SOLUTIONS, SIMPLIFIED.



## INTRODUCTION

When chemical storage solutions are smarter, your job is easier.

That is our goal at Poly Processing - to bring you safer, smarter tanks and fittings that make chemical storage easy for you.

We do this by basing our systems on your processing needs. At Poly, **each storage system is designed specifically for the chemical it will contain**. So issues like fuming, temperature sensitivity, weight and chemical reaction are all used to create the ideal storage situation, at drawing-board level.

We've been pioneers in rotational molding - and that has led to one of the most durable and affordable solutions for chemical storage: high-density crosslinked polyethylene, or **XLPE**. This thermoset resin gives you 20 times the environmental stress crack resistance, 10 times the molecular weight and 5 times the impact and tensile strength of standard high-density linear polyethylene.

Our **IMFO® (Integrally Molded Flanged Outlet) tanks** give you the capability for full drainage, which makes sludge buildup easier to control. Our **B.O.S.S.®** fitting is designed for a sure seal, with a simplified structure that prevents leakage. Our **SAFE-Tank® double-wall tanks** provide containment with a minimal footprint. And our **OR-1000™ engineered system** gives you 4 times the antioxidant strength of a standard polyethylene.

Combine those innovations with bend-over-backwards service, and you get a true partner in advanced chemical storage.

## WHO IS POLY PROCESSING?

Known as a leader in crosslinked polyethylene chemical tanks, Poly Processing is a company dedicated to storage safety, as well as operational- and cost-effectiveness. This national company has worked to raise the standards of the industry and continually develops new and better storage concepts that are based on client feedback.

Formerly known as the Abell Company, Poly was founded in 1955 as an agricultural distribution service. In 1970, the Abell family recognized a need for better storage solutions for corrosive chemicals. They developed a process for rotomolded, crosslinked plastic storage as an alternative to FRP, stainless steel and lined steel. Today, Poly Processing has manufacturing facilities in Louisiana, California and Virginia.

Poly Processing works with industry professionals and major educational facilities to research and develop further advances in chemical storage.

While Poly is known for its technological innovations, it is also known for its human approach to business and service. Here, every phone call is answered by a person, not a machine - and customer service is at the heart of all we do.



## ABOUT XLPE

High-density crosslinked polyethylene, or XLPE, is a thermoset resin that is specifically designed for critical applications like chemical storage. During the XLPE manufacturing process, a catalyst (peroxide) is built into the resin, which creates a free radical. The free radical generates the crosslinking of the polymer chain, so the tank essentially becomes one giant molecule. The result is a resin that is specifically designed for critical chemical applications.

### **XLPE versus Linear Polyethylene**

- XLPE has 20 times the environmental stress crack resistance of HDPE.
- It has 10 times the molecular weight of HDPE.
- It has 5 times the impact and tensile strength of HDPE.

### **XLPE versus Fiberglass-Reinforced Plastic (FRP)**

- XLPE offers seamless construction for greater strength.
- With FRP, chemicals can wick into the fiber, compromising tank life.
- XLPE can have a lower cost of ownership, due to the low amount of required maintenance compared to FRP.
- FRP often requires special handling to avoid cracking.

### **XLPE versus Carbon and Stainless Steel**

- XLPE has seamless one-piece construction, which eliminates the potential for chemical attack points and bad welds.
- Unlike carbon and stainless steel, XLPE has very broad chemical resistance capabilities without the need for high-cost coatings.
- XLPE does not require ongoing maintenance and inspection.
- XLPE is a cost-effective solution to high-priced alloys.

## WE'RE THE ONLY COMPANY

with chemical tanks certified to NSF/ANSI 61 standards!

NSF/ANSI Standard 61 addresses crucial aspects of drinking water system components - and Poly Processing is the ONLY company offering storage tanks certified to NSF/ANSI 61 standards for chemical storage. Most products are tested under NSF-61 with the pH 5, pH 8 and pH 10 exposure waters defined in the standard. These exposure waters were designed to simulate the wide variety of potable water chemistries encountered across North America. However, these exposure waters were not designed to predict leaching of materials in chemical storage tanks. Poly Processing's OR-1000™ products have been tested with the NSF-61 exposure waters, as well as with corrosive chemicals, to ensure they are safe for potable water use.

### Poly Processing offers NSF-certified solutions for the storage of:

Acetic Acid ≤ 80%	Ferrous Sulfate ≤ 30%	Sodium Aluminate ≤ 100%
Aluminum Sulfate ≤ 50% (Alum)	Hydrochloric Acid ≤ 37%	Sodium Bisulfite ≤ 40%
Calcium Carbonate 60-100%	Hydrofluoric Acid ≤ 52%	Sodium Carbonate ≤ 85%
Calcium Chloride ≤ 30%	Hydrofluosilicic Acid ≤ 30%	Sodium Chlorite ≤ 34%
Chlorine Dioxide ≤ 38%	Liquid Ammonium Sulfate 35-45%	Sodium Hydroxide ≤ 50%
Citric Acid ≤ 100%	Magnesium Chloride ≤ 35%	Sodium Hypochlorite ≤ 0.08%
Copper Sulfate ≤ 25%	Phosphoric Acid ≤ 75%	Sodium Hypochlorite ≤ 15%
Deionized Water	Poly Aluminum Chloride ≤ 100%	Sodium Permanganate ≤ 40%
Ferric Chloride ≤ 50%	Polyorthophosphate ≤ 100%	Sodium Silicate ≤ 100%
Ferric Sulfate ≤ 60%	Potable Water	Sulfuric Acid ≤ 98%
Ferrous Chloride ≤ 37%	Potassium Hydroxide ≤ 50%	Zinc Orthophosphate ≤ 100%

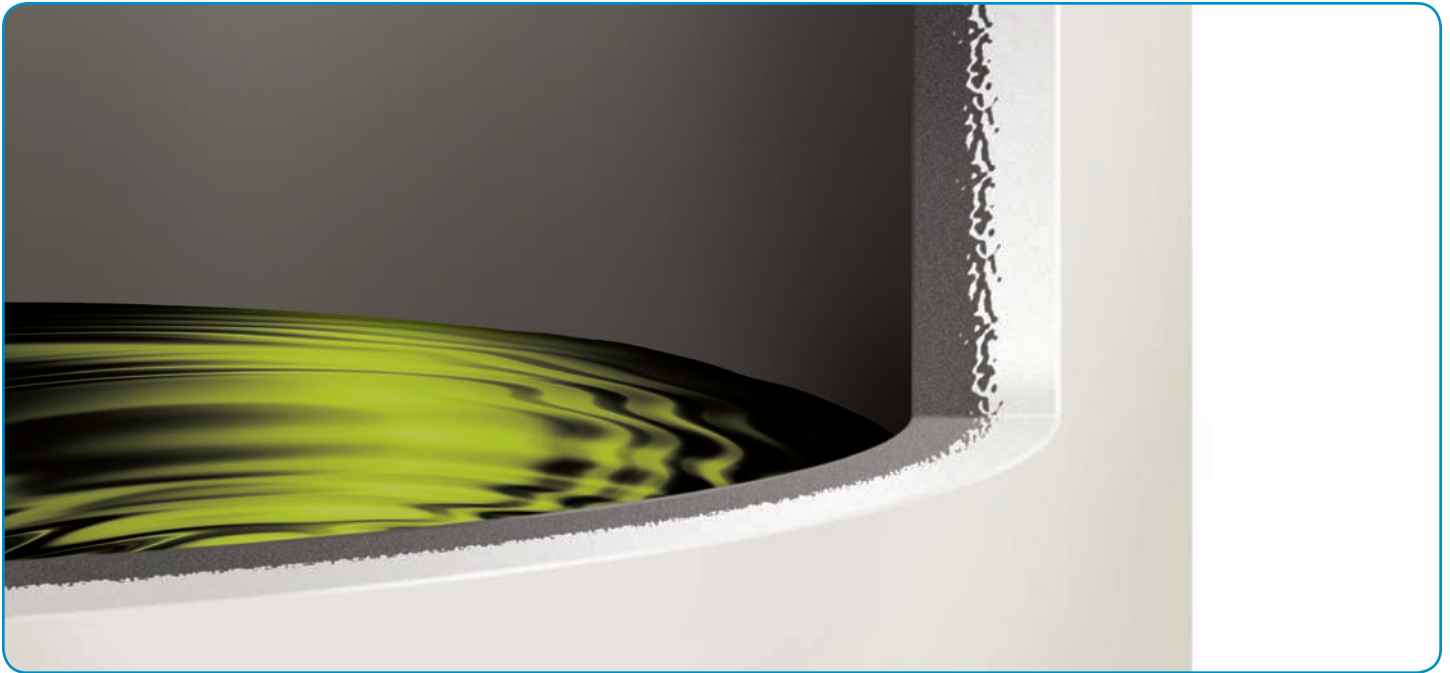
Talk to your Poly Processing representative to find out more - or visit our website, [www.polyprocessing.com](http://www.polyprocessing.com), to review our NSF white paper.



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## OR-1000™

An inner-surface technology for four times the antioxidant power.



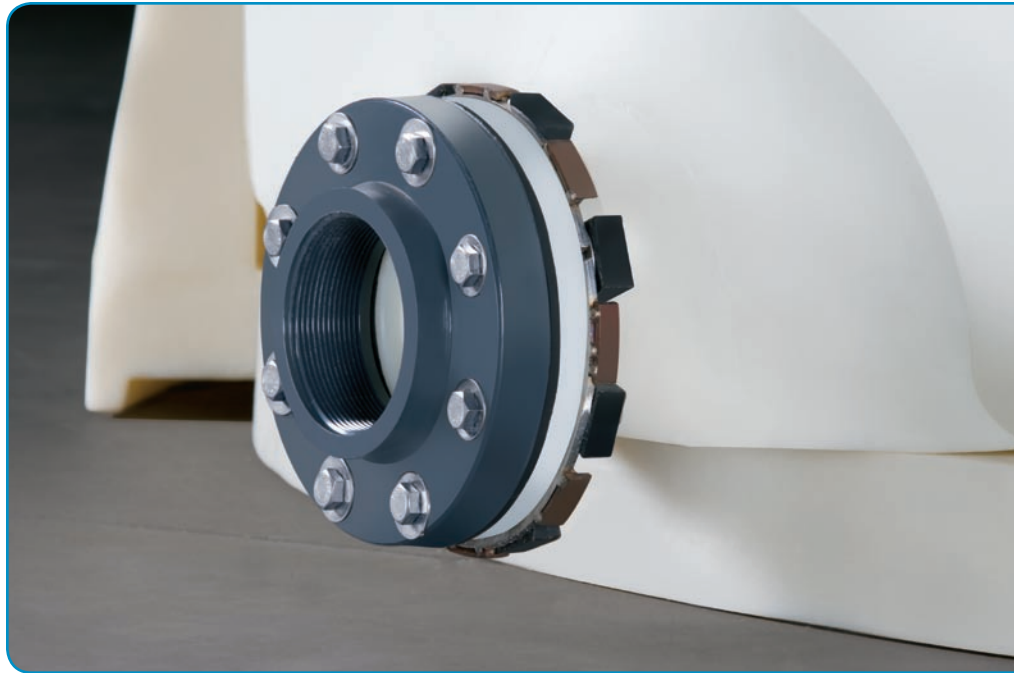
Poly Processing's exclusive OR-1000™ system was specifically designed to address the aggressive oxidation effects of sodium hypochlorite, sulfuric acid and hydrochloric acid by adding an additional chemical barrier between XLPE and the chemical. OR-1000's engineered inner surface is made of medium-density polyethylene, specifically formulated to resist oxidation. Its outer surface is made of XLPE for superior strength. The 2 surfaces are molecularly bound together during the rotomolding process, creating a truly seamless bond between the XLPE and the inner surface.

### **The advantages of OR-1000™:**

- The result gives you 4 times the antioxidant strength of any polyethylene on the market today!
- All wetted surfaces are covered by OR-1000™, eliminating the opportunity for a chemical attack on the structural portion of the tank.
- OR-1000™ can be used on any of our tanks, including SAFE-Tank® and IMFO® tank systems.

## INNOVATIVE TANK SOLUTIONS

IMFO®: integrally molded for major hazard control.



Traditional tank maintenance can be a challenge with many chemicals – so Poly has developed a unique system that helps minimize the hazards associated with traditional vertical tank maintenance. With Poly's Integrally Molded Flanged Outlet, or IMFO® system, the flange is molded while the tank is processing, making it a stress-free part of the tank. The flange is created from the same material as the tank – it's not an insert introduced during or at post-production.

### The IMFO's advantages are many:

- Since the flange is at the bottom of the tank, full drainage is achieved below the tank knuckle radius, which can eliminate the need to enter the tank for cleaning.
- One-piece construction enhances long-term performance of the tank, since it doesn't compromise the tank hoop's integrity or structural design.
- In aggressive applications, the complete flange face is protected by the antioxidant OR-1000™ system.
- The IMFO's design brings you the highest amount of static head pressure, which contributes to the highest net positive suction head (NPSH) of any vertical non-coned tank.

## INNOVATIVE TANK SOLUTIONS

SAFE-Tank®: a complete system for secondary containment.



Poly Processing's SAFE-Tank® is a "tank-within-a-tank" system that keeps contaminants from entering the interstitial area. These tanks provide secondary containment to avoid the damaging of equipment or property, loss of chemical, or injury to employees in the event of a spill.

### The SAFE-Tank®:

- Provides 110% secondary containment.
- Will equalize the liquid and allow the chemical to be continually used until it is convenient to repair the tank.
- Is ideal for chemicals like sulfuric acid that can have dangerous exothermic reactions to water.
- Eliminates the expense, cost and maintenance of secondary concrete containment.
- Minimizes the system's footprint by providing secondary containment in a more compact way.
- Adding a bellows transition fitting will maximize your SAFE-Tank® system's performance.

SAFE-Tank® systems are also available with OR-1000™ for superior antioxidant resistance.

## OUR OTHER INNOVATIONS

### THE B.O.S.S.®:

#### A Simple Design For Better Leak Protection.

With its streamlined one-piece design, the B.O.S.S.® (bolted one-piece sure seal) reduces the seal point to a single gasket to greatly reduce chances for leakage. This unique fitting:

- Is constructed of polyethylene for chemical compatibility with your tank.
- Has an innovative backing ring design to reduce stress on the fitting and make it three times stronger than plastic fittings.
- Is easy to maintain and troubleshoot since the pipe connection is extended beyond the sidewall of the tank.
- Is available in 1, 2 and 3 inches I.D. with PVC or CPVC socket connection.

The B.O.S.S.® is available in three alloy options: 316 stainless steel, titanium and C-276. It comes fully assembled and pressure tested and can be installed through the tank wall as with any other standard bulkhead fitting. See page 49 to find out more.



### SAFE-Surge® MANWAY COVERS:

#### Emergency Air Surge Protection For Pneumatic-Filled Tanks.

Poly's SAFE-Surge® manway covers ensure that your tank maintains the proper ACFM at all times - even in the event of air surges that can't be handled by primary venting. This system was designed specifically for pneumatic-filled tanks. SAFE-Surge®:

- Is never to be considered part of your primary venting.
- Releases at a 6-inch water column to prevent over-pressurization.
- Features an easy inspection port.
- Is available for 19- and 24-inch manways.

This cover is REQUIRED in pneumatic filling operations excluding scrubbers.



### BELLOWS TRANSITION FITTINGS:

#### A Secure Yet Flexible Fully Contained SAFE-Tank® Bottom Discharge.

By incorporating an expansion joint, the tank expands freely during loading and unloading, and it also virtually eliminates damage from piping vibrations caused by pumps. With this performance-maximizing fitting:

- Containment of the expansion joint eliminates the threat of uncontained chemical leaks and dangerous "spurts."
- Piping layouts can be fully contained by connecting a dual-wall piping system onto the fitting. This can mean a safer workplace and less threat to the environment.
- Unsurpassed containment of discharge is allowed on a SAFE-Tank®.

The pressure-tested internal components of the fitting come to you pre-assembled and ready to install.





#### **SMARTER STORAGE MEANS A SAFER ENVIRONMENT**

At Poly Processing, we know that chemical storage isn't just about business processes. It's about protecting our environment from harm. So our company constantly strives to create smarter, safer ways to contain, maintain and transfer chemicals. By bringing new and better ideas to the industry, we're safeguarding our planet. It is part of our commitment to continually seek better solutions to chemical storage challenges.

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