

FERRICS, ALUMS AND POLYMERS.

Containing chemicals that react to their environment.



Ferrics, alums and polymers are commonly used to treat water and wastewater. There are several reasons why these substances require specialized storage:

- Separation, settling and coagulation are major issues with these chemicals - and those conditions can be compounded by temperature variations.
- Settling and separation issues can lead to difficulty in pumping the chemicals.
- The chemicals are often delivered at elevated temperatures, testing the expansion and contraction capabilities of a tank.
- Ferrics create fumes that can defoliate surrounding trees and plants.
- Polymers can act as an environmental stress-cracking agent.

By providing the right kind of storage for these chemicals, safety can be maintained - and the integrity of the product can be preserved.



The Poly Processing System For Ferrics, Alums And Polymers

Several of Poly Processing's features can make your storage system work for handling ferrics, alums and polymers. An IMFO® system is ideal for **sludge control and ease of cleaning**, since the tank drains at its true bottom. Heat pads and insulation can help keep the chemicals at the optimal temperature, **greatly reducing the chance of separation and settling**.

A mixing system can also be installed to **keep the chemicals from separating** – and a scrubber can help **reduce the effects on foliage** if you're venting outdoors. As for handling elevated temperatures – this is where the strength of the XLPE tank comes in. The crosslinked construction of these tanks allows for **greater expansion and contraction**, while maintaining structural integrity, lessening your risk for tank failure.

CHEMICAL	RESIN TYPE	SPECIFIC GRAVITY RATING	FITTING MATERIAL	GASKET MATERIAL	BOLT MATERIAL
Aluminum Sulfate	XLPE	1.65	PVC	EPDM	316SS
Ferric Chloride	XLPE	1.65	PVC	EPDM	Titanium
Ferric Sulfate	XLPE	1.65	PVC	EPDM	Titanium
Ferrous Chloride	XLPE	1.9	PVC	EPDM	Titanium
Ferrous Sulfate	XLPE	1.65	PVC	EPDM	Titanium
Polymers	XLPE	1.35–1.9*	PVC	EPDM	316SS

*Based on type of polymer, amount of solids, etc., specific gravities can vary. Consult the specific MSDS for correct weight.

» See our website for a complete Chemical Resistance Chart.

NOTE: To meet NSF-61 certification, use OR-1000™.

Tank Specifications

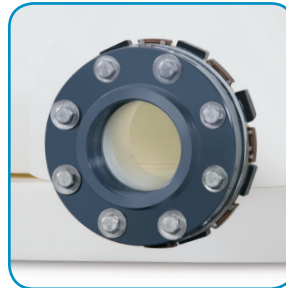


- **High-density crosslinked polyethylene (XLPE)** to handle the expansion and contraction of elevated temperatures
- **IMFO®** for the handling of sludge and easier cleaning (where secondary containment is already available)
- **Mixing brackets** for maintaining chemical integrity
- **Scrubbers** for reducing defoliation potential
- **SAFE-Tank®** if secondary containment is needed

Recommended System Components



Secondary containment:
SAFE-Tank® if concrete containment is not available
Alternative: PPC secondary containment basin or other secondary containment suitable for chemical, of adequate size for use



Fittings:
IMFO® eliminates the need for confined space entry.

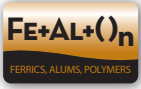


Plumbing:
Requires flexible connections [see page 54] to allow for lateral and vertical tank contraction and expansion and to reduce vibration stress



Venting:
SAFE-Surge™ manway cover is recommended on pneumatically loaded systems to support tank longevity.

The above components are just a few of the many options offered by Poly Processing. See pages 38–63 for additional information and products, or talk to your Poly Processing representative.



TECHNICAL OVERVIEW:

Ferrics, Alums And Polymers Storage Tanks

TANK

IMFO® Vertical Flat / Sloped Bottom of XLPE with OR-1000™:

- 230-15,500 gallons
- Appropriate spg rating for chemical as shown in Chemical Resistance Chart

NON-IMFO® ALTERNATIVES:

Standard Vertical Flat Bottom XLPE:

- 30-15,500 gallons
- Appropriate spg rating for chemical as shown in Chemical Resistance Chart

SAFE-Tank® XLPE:

- 55-8,700 gallons
- Appropriate spg rating for chemical as shown in Chemical Resistance Chart
- Spg ratings for secondary tanks \geq 3,000 gallons may be equal to or 1 less spg than primary tank.

All other tank sizes must equal primary tank spg rating.

SECONDARY CONTAINMENT

Recommend **SAFE-Tank®** secondary XLPE as shown above

Non-SAFE-Tank® Alternatives:

- PPC secondary containment basin
- Other secondary containment suitable for hydrochloric acid, of adequate size for use

PLUMBING TO THE TANK

- Required use of **flexible connections** with fittings on lower third of sidewall
 - » Allows for lateral and vertical expansion and contraction of the tank
 - » Reduces pump and piping vibration stress on the tank
- Expansion joints must meet the following minimum requirements:
 - » Axial Compression \geq 0.67"
 - » Axial Extension \geq 0.67"
 - » Lateral Deflection \geq 0.51"
 - » Angular Deflection \geq 14°
 - » Torsional Rotation \geq 4°

VENTING

Please refer to the venting chart on www.polyprocessing.com/venting

FOUNDATION AND RESTRAINTS

- PolyBase or smooth concrete designed to accommodate IMFO®, SAFE-Tank® or vertical tank
- No restraint or ladder attachment bands circumscribing the tank are allowed. Cable restraint systems must pass cables over the top of the tank.

TEMPERATURE

Product should not exceed 100°F at delivery or during storage to maintain ASTM D1998 design parameters. Contact Customer Support if chemical is to exceed 100°F.

LID

SAFE-Surge™ manway cover for pneumatically loaded tanks; bolted manway cover for all other applications

OPTIONS

Restraint systems for wind and seismic, level gauges, ladders, heating pads, insulation, fume-tight manway cover, NSF-61 certification and engineering stamp

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