

**TRI-MER® CORPORATION  
ENGINEERING  
TECHNICAL BULLETIN**

**LARGE POLYPROPYLENE TANKS**

Tri-Mer® Corporation is one of the largest fabricators of large polypropylene vessels. In the field, we have polypropylene tanks in excess of 100 feet in length. Typically, Tri-Mer® tanks range in size from 10 to 70 feet long in varying widths and heights depending on installation requirements.

Standard material of construction for these vessels is 1" minimum thick solid polypropylene. We have a unique method of manufacturing tanks. We operate an automatic welding device that joins the flat 1" thick sheets together in such a way that the joint is 100% the strength of the original material. In areas where we cannot use the automatic welder, we use an extrusion welding machine that extrudes the same material that the sheet is made of into a chamfered corner, filleting it under high temperature. This also results in a weld that is 100% the strength of the original material.

This type of fabrication is extremely reliable and has advanced the technique of fabricating polypropylene tanks to the point that when replacing existing equipment, it makes sense to seriously consider this type of vessel.

Many of our customers commonly drop heavy steel parts from racks during process time. These parts some times slip, the crane mismanuevers, or they slide into the tank wall thus dropping to the bottom of the tank. With a tank constructed of 1" thick polypropylene, an operator does not have to worry about gouging the tank wall or tank bottom. The material is 100% homogeneous throughout, and unlike fiberglass or lined tanks, if the sidewall is scratched or damaged, the polypropylene tank will not delaminate in any way.

For this reason, polypropylene tanks are becoming very popular as replacements for fiberglass and/or other types of vessels that are commonly susceptible to damage. This especially includes lined vessels such as rubber brick lined, or tanks lined with flexible PVC liners. If either of those are damaged in any way, it is very difficult to repair the tank and damage continues to take place.

The same is true of fiberglass tanks. If damage occurs to the veil on the fiberglass structure, delamination will take place causing significant structural damage and finally resulting in total destruction of the tank.

The Tri-Mer<sup>®</sup> heavy-duty tank design is based on an external steel structural support designed to interface with the one inch thick interior polypropylene structure. Operative temperature, chemical composition of liquid being held in the tank, process, and operating conditions are all factored into the final design to assure reliability.

Tri-Mer<sup>®</sup> also manufactures smaller tanks for customers with reduced process requirements. Usually these tanks are manufactured with thinner wall material and lighter structural support due to reduced operational requirements.

For the user that does have a heavy-duty operation, it makes sense to look into the Tri-Mer<sup>®</sup> heavy-duty polypropylene tanks. We have a long history of manufacturing this type of vessel.

We are known throughout a wide variety of industries for our specialized tank fabrications and would welcome the opportunity to quote specific vessels based on your operational requirements.