POLYPROCESSING COMPANY

Providing Solutions Through Innovation

PolyGard™ FAQ's

- How long has PPC been lining steel vessels?
  We began lining steel vessels during the mid-80's with a patented process for a Tank Within a Tank using HDXLPE. An inherent problem with HDXLPE is that it would shrink, leaving an "air" gap between the liner system and the steel tank.

- How long has PPC been using PolyGard™?
  PolyGard™ has been used successfully used since 1997

- In what applications would you use PolyGard™?
  Offshore transportables, acid transport trailers, chemical process tanks, large diameter lined pipe particularly elbows, Ts, and Y's

- What are the temperature limitations?
  -40º F to 170º F depending on the application.

- How thick is this liner material?
  ¼" nominal vs. 1/16" or less for spray-in liners and coatings

- What is the life expectancy of PolyGard™?
  Our customers report a significantly longer life as compared to other materials of construction.

- What is the price for a PolyGard™ system?
  In rotational molding, length of process time plus the cost of materials are the driving factor of price. While smaller tanks require less resin, they require the same amount of process time. Therefore, smaller tanks will cost more per gallon than larger tanks. A 2500 - 3500 gallon tank price will range from $1.75 to $2.25 per gallon. Compared to other materials at $1.50 to $2.00 per gallon. A onetime setup charge will apply.

- What chemicals are compatible with PolyGard™?
  Because PolyGard™ is modified thermoplastic polyethylene, the chemical resistance is equal to HDXLPE or HDPE

- Is PolyGard™ impact resistant?
  All polyethylenes have very good impact resistance. A ¼" PolyGard™ sample exceeds 150 ft-lbs @ -40º F impact. Many other liners are NOT impact resistant, in fact, become very brittle.

- Do you have special requirements for the steel tank before you apply PolyGard™?
  Yes we do. In fact, we have a written specification that addresses Tank Identification, Steel Tank Preparation, Radii Requirements, Lining Tolerances, Testing Procedures and Inspection Procedures.

- Can PolyGard™ be repaired?
  This product is designed to "bond" to the steel vessel, so the size of the damaged area becomes restrictive. Diameters up to 1" are repaired easily; however, larger areas require special attention. PPC personnel will gladly help with any situation.

- How do I remove the PolyGard™ liner?
  Because this product has created a bond with the steel vessel, removing an old or damaged liner is not a simple task. Our customers have had success using "steel" shot to blast and others had to rely on grinders or pneumatic chippers.

- What applications is PolyGard™ used for?
  We have lined offshore transport vessels which have met DOT/US Coast Guard requirements, Process Tanks for the Chemical Industry, large diameter Lined Pipe especially elbows, T's and Y's as well as DOT Chemical Transport Trailers.

- Can I use different chemicals in the same vessel, like a chemical transport trailer?
  Yes. Polyethylene offers a wide spectrum of chemical compatibility. This gives you the opportunity to use one asset to handle of variety of chemical applications. As always, you should follow proper safety and decontamination procedures before introducing new chemicals to your vessel.

- Is PolyGard™ FDA approved or approved for potable water?
  The base resin has not been tested by the resin supplier for either FDA or potable water.

- What are the PolyGard™ limitations as to pressure and vacuum?
  Pressure limitations are limited to the pressure rating of the steel vessel. The resin suppliers have not developed any data pertaining to vacuum nor do any of our customers pull a vacuum during their operations. As a note, polyethylene tanks, without the steel shell, have a vacuum rating of .25 p.s.i.

- What is the process for obtaining a quotation?
  Provide a drawing to one of our customer service representatives who will provide you with your PolyGard™ quotation. This process will take 24 to 48 hours.

- Does PPC provide steel tanks?
  While we know plastics, we do not pretend to be steel experts. We have relationships with qualified steel suppliers with close proximity to our facilities to minimize your freight cost. We will be glad to provide these names to you for your review and decision. No matter who builds your steel vessel, our design staff will work closely with them to provide a vessel designed to receive a PolyGard™ lining.

- Is PolyGard™ available from all of your manufacturing locations?
  At the present time it is available from Monroe, LA or French Camp, CA.

- Are there any size or weight limitations?
  Yes. The steel vessel cannot exceed 230 inches on the diagonal and cannot weight more than 10,000 pounds.

- Can my vessel have threaded nozzles?
  No, all nozzles must be flanged.

- How many nozzles can I have on my tank?
  The number of nozzles is limited to their proximity to each other. Each nozzle will have a flange on the end. In order to apply PolyGard™ to the flange face, PPC places a special "cap" around the flange. If the proximity of the flanges is too close, special considerations must be made. PPC's customer service and design personnel will be glad to assist your engineers in reviewing nozzle locations.

- What is the smallest outlet size available?
  Our recommendation for the smallest outlet size is 2". Remember, the PolyGard™ system has a ¼" nominal thickness thus <u>reducing</u> your outlet diameter by ½", so remember to adjust your nozzle size to provide adequate flow rates.

- What is the PolyGard™ warranty?
  1 year