



Explore Vantage Plastics Capabilities:

The Engineering Design Process is closely followed by Vantage Plastics as well as other Great Lakes Bay manufacturers. [Thermoforming](#)

Identify the Problem: Identify the Need and Constraints

- Vantage Plastics works closely with _____ to understand the needed product.
- Application Engineers must _____ effectively with customers to make sure all of the processes meet the customer needs.

Explore and Design: Brainstorm ideas, Collaborate, Develop Solutions

- The Sales Engineers take over to develop a design concept and a price quote along with production samples to _____ and _____.
- Next, Project Engineers enter the process with the capabilities of _____ modeling and _____ analysis to provide better visualizations of the produce and avoid costly _____ later.

CREATE and Try It Out: Build a prototype,

- On to tooling! The first prototype is made of _____. It is a rough draft that must pass customer review and inspection. A prototype is very important to ensure the product is _____ and it saves _____ for the customer. Once the customer is _____ a tool is made from _____.
- Again more samples are produced for customer inspection. Revisions are made and when everyone is happy the product goes to _____.
- Materials Management is charged with finding the right material to fit the product. Vantage, along with the other plastics manufacturers in the Great Lakes Bay Region, demonstrates a high level of responsibility concerning materials. Vantage customers may be offered _____ for production. This can help reduce _____ and help benefit the _____.
- Sheet plastic is produced on-site. Thickness, dimensions and color choice are properties considered here. These sheets are used in the process of _____.
- Thermoforming is the process of taking a _____ of plastic and forming it into a contoured part or shape. The flat sheet of plastic is _____ in a large oven. The hot plastics is then stretched over a _____ where pulling a vacuum on the cavity forces the sheet to the contour of the mold. At this point in the process the sheet begins to _____ and the plastic sheet becomes rigid again as it takes the _____ of the mold.

TEST, EVALUATE and Make It Better:

- Quality Control Managers put the product through _____ testing. The product is test for _____ and _____. Again, all customers requests need to be met before the product is ready for full production.
- Vantage again demonstrates a commitment to sustainability. They specialize in _____ and the management of materials after their _____. They offer a guaranteed buyback program after the useful life of their products. They provide this service to other companies that have _____ plastic which is recyclable.