

DESIGN

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PART

Make it Here

# Stronger Than Ever

See what's fueling the rise of American manufacturing



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DESIGN



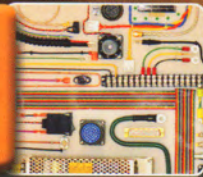
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# Made in America

## Large-Part Pressure Former Sails Above Overseas Competition

By Rebecca Carnes

Supplying heavy-gauge, large-part pressure forming at lower quantities has insulated Ray Products from having to face much overseas competition. The simple reason, according to Jason Middleton, the company's vice president of sales and development, is that heavy-gauge, large-part pressure forming doesn't outsource well.

With 65 years of experience spanning three generations of family ownership, Ray Products ([www.rayplastics.com](http://www.rayplastics.com)) is an ISO 9001:2008 certified facility offering plastic manufacturing services that match or exceed most other processes in terms of aesthetics. The Ontario, Calif.-based company uses advanced equipment, such as fully robotic trimmers and 3D coordinate measuring systems accurate to within 1/10,000<sup>th</sup> of an inch, to produce quality parts unparalleled by overseas suppliers, according to Middleton.

What makes pressure forming unique is that pressure-formed parts can, in many cases, match or exceed the complexity and aesthetics of injection molded parts, especially in a larger part, Middleton said in an emailed response. And when using pressure forming, the tooling costs "are a fraction of what they would be with injection molding," he added. "As a result, pressure forming is often the most cost-effective solution for high-quality, durable plastics in quantities from the low hundreds to high thousands," he said.

Overseas manufacturing, on the other hand, is more targeted towards making a million or more of something without any changes to design. But if an OEM is going to make 500, 2,000, or 5,000 of a part, pressure forming would be the best option, Middleton said.

"Overseas manufacturing requires high shipping costs and longer shipping times, along with frequent communication difficulties," he said. "At higher quantities than what our process makes sense for, it might be possible to overcome those difficulties and realize some cost savings. But not at the quantities where pressure forming is the most cost-effective process."

## Beware: The Hidden Risks of Offshoring

HATFIELD, Pa.—When determining the best place to source parts and services, companies should consider not just the "lowest price," but the "best price," which takes into consideration all of the total costs and risks that go into offshoring. This can include shipping delays, lead time delays, and loss of intellectual property (IP).

The Rodon Group ([www.rodongroup.com](http://www.rodongroup.com)), a high-volume plastic injection molder based in Hatfield, Pa., has worked with many companies, including Walmart, to reshore work. Rodon is an avid proponent of the "Made In America" philosophy, having

participated in the 2014 Manufacturing Summit in Denver and the White House "Select USA" roundtable discussion last May. The company is also an active member of American Made Matters.

The Rodon Group has published "Hidden Risks in Your Offshore Supply Chain," which gives an overview of the hidden risks associated with offshoring and suggests that OEMs conduct a total cost analysis—such as the Reshoring Initiative's free online Total Cost of Ownership (TCO) Estimator—before deciding where to source. More information on the TCO Estimator is available at [www.reshorennow.org](http://www.reshorennow.org).

Following are excerpts from "Hidden Risks in Your Offshore Supply Chain," by The Rodon Group.

### Costs: Factors that contribute to the complete cost associated with a product

**Labor.** For years, China and other countries have been able to capture manufacturing contracts based on hourly rates alone. At first, these costs may appear to be cheaper. However, many companies also invest time and money to make sure these low cost suppliers meet their quality requirements and specifications. Today, the increase in foreign wages has changed the equation. When you factor in all other costs, China is no longer the low cost provider it once was.

**Intellectual Property Loss.** Companies large and small have found it very difficult to protect their proprietary design in some foreign countries. Chinese OEMs have become notorious for these infractions. If your product has unique advantages over the competition, you may want to consider keeping your OEM close to home or even manufacturing in-house. Unless you are a large corporation that can afford to take the risk, there is little recourse in many countries to stop IP fraud from occurring.

**Shipping.** Many companies fail to understand the full cost of shipping from China and other low-wage countries. Many foreign manufacturers will include FOB (free on board) shipping. FOB is the price paid by the manufacturer to get the goods to port. Once on the carrier, the purchasing company pays for the remainder of the shipping costs to the final destination(s), as well as import duties and taxes. All of these charges need to be considered to assess total shipping costs. Time to market is also a cost if there are any delays that occur in receiving goods for sale. When commitments and timelines are not met, profit is lost. Once a delay occurs, to get merchandise to market in time, some manufacturers have used air freight to expedite the shipping. Air freight can be ten times more expensive than shipping by container, which can erode margins quickly.

**Determining True Costs.** To determine if offshoring your supply chain is really the right move, use the Total Cost of Ownership estimator created by the Reshoring Initiative. This calculator outlines 36 variables that will impact the final cost to the purchasing company.