

What rotomolding needs

By Robert Dunne

Consolidation creates challenges for rotomolders, and growth opportunities for plastics suppliers.

Every frequent flyer knows that when airlines merge, existing routes are cut and travelers are forced to find alternate routes to their destinations. The alternates are usually circuitous, laborious, and time intensive, and often require flying to a slightly different destination — Midway instead of O'Hare, for example, when visiting Chicago.

It's even more taxing when resin suppliers merge. Materials are discontinued and product designers and developers are forced to find alternate materials with comparable properties. But for rotational molders, there may not be alternate materials with comparable properties. Left with no alternate route to their destinations, rotational molders are often cornered into revising their designs to accommodate available materials.

Case in Point

When Exxon merged with Mobil, synergies in its oil business were clear. But in plastics, the company eliminated all of



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Mobil's rotational molding grade resins, believing Exxon's resins were comparable and the duplication was neither necessary nor cost-efficient.

We and other rotational molders had been using Mobil grades for decades with great success, even to the point of fine-tuning product designs to capitalize on the resins' characteristics. We experimented with the replacement resins but in some cases, the differences in melt flow, stiffness, and other properties were enough to upset the process. In molding housings, for example, the parts were designed around geometry that demanded flow in certain areas. The Mobil resin filled the part well, but the replacement had slightly different flow characteristics and stiffness.

We would have preferred the original Mobil resins but to achieve the quality we and our customers require — and had become accustomed to — we had no choice but to look elsewhere. McCann Plastics, a compounder in North Canton, OH, recommended several new and experimental resins from Nova that addressed our issues and we are using them successfully.

Artificial ceiling

Yet even with these and other available resins, we do not have the range of rotational molding resins needed to support the growth of the market over the next 20 years. If resin companies miss this opportunity, product designers may be compelled to injection mold or blowmold their parts. Since these processes cannot provide the design creativity that rotational molding offers, designers may be forced to shelve a seamless, one-piece solution in favor of a design split into several parts that then require costly assembly. And this work will likely be performed overseas.

Some of our proprietary products (www.modroto.com/materialhandling),

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for example, would be even stronger and more functional if they were 100% rotationally molded. However, due to the lack of suitable resins, several of our products combine a rotationally molded part with vacuum-formed or injection molded parts and metal components. Similarly, manufacturers of lawn and garden equipment, construction machines, and other products happily rely on rotational molding for parts that are either on the inside or hidden from view. But for exposed parts, the desire for rotational molding's cost reductions and creative opportunities is outweighed by the necessity of an automotive-quality finish that looks sharp and appeals to end users.

Since rotational molding materials that combine these and other desirable characteristics do not exist, OEMs will have to continue paying comparatively more to use parts made via other processes, at least for the foreseeable future. Furthermore, while a handful of resin companies are working to develop a material that meets pending fuel permeation restrictions for plastic fuel tanks, even the latest products require two-step and secondary processes, and are not yet cost-competitive. If only we had a cross-linkable resin with enhanced fuel permeation abilities that delivered an automotive grade finish!

In a perfect world, we would have the opportunity to rotationally mold such tanks and visible parts, along with products in our proprietary lines. This is a realistic goal, but we can only achieve it with the development of more niche resins — materials that provide a mix-and-matchable menu of multiple characteristics such as automotive grade

finishes, fuel permeation characteristics, enhanced heat-resistance tendencies, and superior UV resistance, stiffness, and foam adhesion.

What we can do

We understand the impetus for the large resin manufacturers to focus on their top-selling materials and we remain grateful for Paxon cross-linkable polyethylene (Editor's note: Paxon is supplied by ExxonMobil).

We also understand that rotational molding resin sales have begun to impact the financial results of plastics suppliers large and small. We rotomolders need a wider variety of materials that focus not only on new, individual characteristics, but on materials that deliver several characteristics to suit more applications. We boast a strong track record that documents our ability to sell new materials as they are developed. But we can't do it alone. To enhance the potential profitability of developing these specialty resins, we need to incorporate resin companies in the process by promoting partnerships and joint ventures among the molders, distributors, and resin manufacturers. The smaller companies often bring specialized market knowledge to the table, yet they need the infrastructure of the global giants to make R&D and production costs efficient and profitable.

Over time, tapping the profit potential for expanding rotational molding resins will positively impact profitability at the smaller companies while even boosting the bottom lines at the likes of suppliers such as ExxonMobil, Chevron Texaco, and Borealis.

ROTOMOLDING SUCCESSSES



This new cart for managing linens, laundry and other products features an all-plastic design for load bearing strength, impact resistance and curb appeal. To achieve the desired properties, MOD engineers specified a rotationally molded cart and an injection molded base.



This golf club merchandising cart for Titleist replaced dozens of metal parts and panels with a rotationally molded design that added strength and durability. MOD engineers earned the "Conversion of the Year" award from the Association of Rotational Molders for their innovation.



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