Creating Value with Roto Decorating

First in a Six-part Series on Decorating and Labeling Rotomolded Products

When asked to author a series of six columns about decorating and labeling rotomolded products for *RotoWorld®* magazine, I reflected on the conversations I have had with people at tradeshows, industry meetings and on the phone during my nearly 30 years in the rotational molding industry.

A recurring question arises: Why are decorating and labeling rotomolded products so important to those of us who are associated with rotational molding? My answer comes without hesitation. Permanent labeling and decorating offers a substantial quality benefit not only to rotational molders, but to clients and end users as well. It is my hope that during 2008, this series will effectively explore this benefit.

In most other industries, the common labeling and coating methods used, such as painting, direct silk-screening, hot stamping, or the simple application of an adhesive-backed, paper or vinyl stock, printed labels to identify their products, all have critical limitations when being considered as options for typical rotomolded polyethylene products or components.

Let's begin by exploring why these labeling and coating methods restrict the options for the rotational molding industry.

The Problem with Polyethylene

The problem with polyethylene is that it's very difficult to decorate. That's an undisputed fact. It's a basic physics issue summed up in a public statement made years ago by one of our own, Mr. Phil Dodge (most recently of Equistar-Lyondell Chemicals), and a member of the ARMI Hall of Fame. According to Phil, ***"Polyethylene, by its nature, does not lend itself to any method of paint adhesion. The polyethylene material is non-porous, it is resistant to attack by solvents useful in paint formulation, and it has a non-polar chemical structure."*** Difficulties in decorating polyethylene can make the rotational molding process vulnerable to other competitive processes in many instances. Since 95% or more of industry volume is comprised of resin materials categorized in the polyolefin family, this issue is one that we must all be cognizant of as we deal with our customers' needs and conduct our daily business. Coupled with part surfaces that often still have residual oily mold releases present and the fact that the plastic will continue to gas out – sometimes for several days – makes decorating our parts a difficult one, to say the least.

Another characterization of our industry's most utilized resin family refers to polyethylene as being "***A Poor Man's Teflon®***," since this economical material has almost the same non-sticking effectiveness as Teflon. The bottom line is that nothing sticks to these naturally slippery materials, especially when these rotomolded products are subjected to constant exposure to chemicals, solvents, carbon fuels and UV attack, and more often than not, harsh outdoor environments. Constant fluctuations in outdoor temperatures dictate that our polyethylene products will swell, contract, and expand and shrink again, making it nearly impossible for graphics printed on dissimilar material substrates to adhere to the product for very long, or survive in-the-field conditions.

Having accepted these realities of polyolefins, we can now go forward in the exploration of new ideas that will provide us with better methods of overcoming these obstacles and achieving success in our mission. As Henry Ford once said, "Failure is the opportunity to begin again, more intelligently." Let's resolve to succeed!

A Solution to the Roto Decorating Question

A value-added feature of rotomolded products is the use of graphics on what would otherwise be an ordinary, unbranded polyolefin product. In order to help broaden our approach to the topic of Graphics in Rotomolding, I'd first like to define graphics.

Graphics are visual presentations on some surface to brand, inform, illustrate or entertain. Examples are drawings, line art, graphs, diagrams, typography, numbers, symbols and geometric designs. Graphics often combine text, illustration and color. Graphic design may consist of the deliberate selection, creation or arrangement of typography alone. Clarity or effective communication may be the objective, association with other cultural elements may be sought or the creation of a distinctive style.

During the three decades in which I have personally been associated with the rotomolding industry, I have witnessed many different types of graphics and color options used to enhance polyethylene plastic products. Some of the more common subcategories of graphic applications include important warning, caution and safety messages, instructional usage graphics, the addition of second languages, product certification labels, schematics, recycling information and company and product logos.

What is the fastest growing graphic application for our industry? Permanent product identification may be the fastest growing field for new graphic options in the rotational molding arena. An example is scannable bar codes – individual and serialized alphanumeric graphics that can be read either electronically, and/or with the human eye, are all important topics that are creating new opportunities for rotomolders to add value to their products.

Another example of a fast-growing graphic application is a graphic which requires changing data. Information which could change are the date of manufacture, lot number, tank size, or an individualized product ID – often critical if product warranties or tracking dates are required.

Seizing the Opportunity

The good news is that the inherent problem of affixing inks, paints and labels to the non-porous skin of our polyethylene products creates opportunity. It all depends on how you approach it.

Thomas Edison said, "Opportunity is missed by most people because it is dressed in overalls and looks like work." The time is now to decide what steps we want to take to seize the opportunity.

New graphic and colorant technologies, combined with unique and clever approaches to overcome decorating issues, are now enabling all rotomolders to create new opportunities that not only deal with these inherent material properties, but actually create value-added features that help to market their products.

In future parts of this series, we will discuss and further explore some of the more common subcategories of graphic applications. Subsequent articles and blogs will focus on finding new opportunities that capitalize on creative ideas which incorporate graphics and vibrant colors into the rotomolding process.

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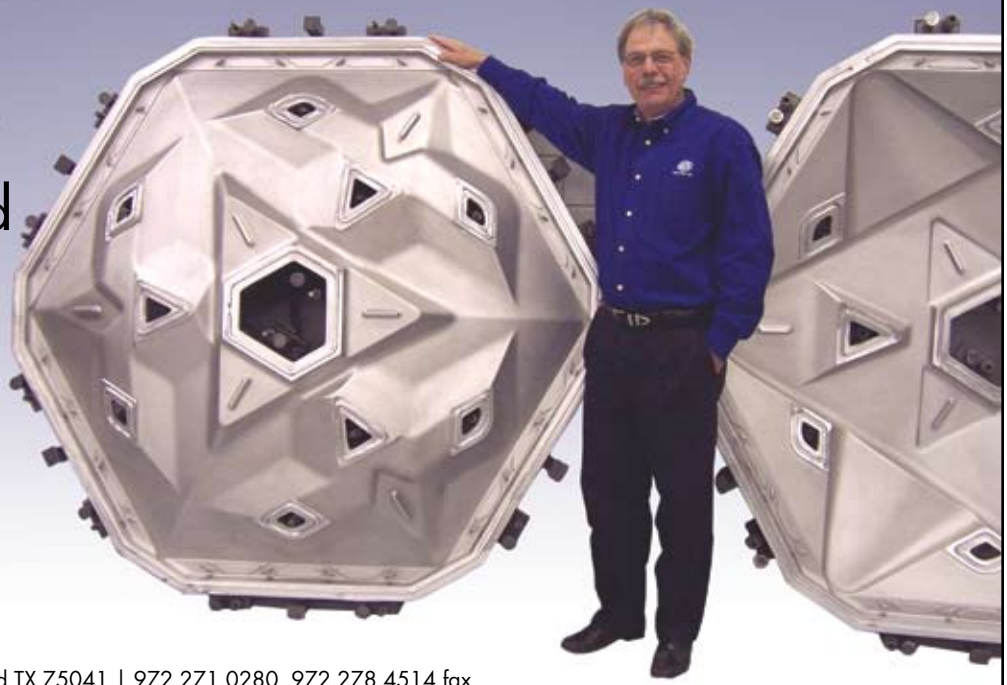

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