



Solid Designs with Rotational Molding

A marketing advantage based on cost, appearance and function.

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Although rotational molding could be traced back to ancient Egypt for slurry casting of pottery, the technology wasn't applied to plastics until the 1940's and 1950's during which time it was used to mold dolls in PVC. A decade later in the 1960's the Engel process, which originated in Europe, was applied to molding LDPE for large hollow containers. This application and material set a trend for the industry which has become the foundation for the industry to this day. Polyethylene resins continue to constitute more than 90% of all the material specified for rotational molding and containers still represent the majority of resin consumed in applications. Despite these stigmas, rotational molding markets have diversified based on thousands of innovative applications that penetrated virtually every industry. In addition, innovative entrepreneurs have experimented with numerous plastics and exciting designs which has further increased the popularity of the process. So what is so unique about rotational molding? Let's answer this question from a designer's perspective.

The completely unique benefit of rotational molding is the creation of large, complex parts that can be molded as finished fully functional items. Rotational molding provides designers with the ability to design complete three dimensional forms in one piece. There is no other plastics process that can boast this claim. Unfortunately rotational molding is one of the best kept secrets for the majority of designers and has thus not enjoyed the popularity of injection molding, blow molding or vacuum

forming within the design community. As more designers discover the benefits of this process, new applications will be identified, further advancing the industry. When I was in college more than 40 years ago studying plastics engineering, I was introduced to rotational molding as a process used to mold tanks. That's all I knew about the process until twenty years later when I was desperately trying to solve a design problem and discovered rotational molding as the perfect answer to my dilemma. Since that moment, I've designed countless rotationally molded products ranging from collapsible pallets to chairs and even rickshaws.

There are three pathways for the industry to advance, grow and remain profitable. The first is improving processing technology which will lead to better quality and efficiency. The second is offering designers a wider selection of plastic materials. This is a chronic problem for designers like me who would specify the process in many untapped markets like medical products, analytical products and structural applications. The third is innovative design. Creative ideas are transformed into products by skilled designers who know the application, end user, material and manufacturing process. Glenn Beall, Glenn Beall Plastics (original guru of rotational molding design) has repeatedly stated "it all starts with design", and he is 100% correct. The industry cannot expand into new markets without well designed products that cost effectively test the boundaries of the process. Products that are designed based on unorthodox parameters and perform in unexpected ways