

Specialty Manufacturers

Shapes the Future

A Newsletter by Specialty Manufacturers, Inc.

Volume 01, Spring 2003

Multi-Shot Molding, a High-Tech Process that Saves Time and Costs - Results in Sophisticated Products.

Multi-Shot molding goes by many names depending on the manufacturer you talk to. Some of the more common terms include; multi-color molding, co-injection molding and over molding. Whatever you call it, Multi-Shot brings a new level of technology and sophistication to Specialty Manufacturers' processes.

The procedure involves first, the injection molding of a first component and then that molded item is transferred into another cavity in the molding machine. The second procedure then molds a second configuration over the existing part. Two and even three shot moldings are increasingly evident in today's plastic markets, allowing for more sophisticated parts to be created.

"It's actually two machines in one," states Alberto Silva, president of Apollo Plastics, a division of Specialty Manufacturers. "Our press," Silva continues, has two barrels in parallel with each other. After the first shot is made, the machine has the capability to rotate the mold, allowing us to quickly and efficiently shoot the second material for the over mold."

As can be imagined, this Multi-Shot process requires very exacting tolerances to complete these types of complex molds yet, the operation has to be versatile so two types of plastics can be molded together, resulting in one complete part.

"Apollo is always looking to expand its capabilities with new technologies," states Silva. "The recent addition of a Two-Shot machine to our line of equip-

ment demonstrates our commitment to being a full service molder. Anyone can produce molded components, but not everyone can do Multi-Shot molding."

Multi-Shot is commonly used to add a second color or feature to an end product and has application in just about every plastic intense industry including automotive, electrical and medical products.

One of the more interesting uses are when a second material is added to a product in order to give it a better grip or feel. Great uses include rubber for knobs and handles or items that need to resist slippage. Multi-Shot presses come in various sizes and are measured by their tonnage (the amount of pressure that can be exerted into the plastic). Currently, both PRD, Inc., and Apollo offer Multi-Shot. Apollo's new machine is a 200 ton, 2-shot Engel press.

With this machine," states Silva, "We can produce the type of high tech moldings that many of our clients require. It's all about filling their needs. That's why we're here."

If you would like to learn more about Multi-Shot you can call Alberto Silva, Apollo, 773-282-9222 or Jeff Hamer, PRD, Inc., at 812-279-8885.

In the components above, the inner layer is made of clear polycarbonate for light transmission, the middle layer is Polyethylene Terephthalate (PET) used to form the outer body and the outer layer is made up of polyvinyl chloride (PVC) used to add tactile surface to the part.



There is So Much to be Accomplished in this Industry, So Many Dreams to Be Realized...

It is amazing how resilient the plastic injection molding industry has become over the years.

Since starting this company in 1958, first working out of my home, we have been through three recessions, a period of unprecedented global prosperity, the effects of mergers and acquisitions which have rocked the manufacturing community and created plant consolidations and closings by our competitors.

Through it all, we have had to bring a mix of innovation, experimentation and hard work to our business equation in order to stay competitive in a market that has an unending appetite for newer and better molded products.

Now with four divisions in two states and over 250 employees, our company, Specialty Manufacturers, Inc., has

realized yet another goal; to provide our customers with the knowledge base they

medical device that can save lives. Why do we want you to dream? Because that's when we

recently certified, to the ISO 14001 Environmental Management System Standard.

From time to time we will introduce you to some of our employees, like in the story about Darrin Tipton. People like him are the heart and soul of our company. Without them we would never have been able to earn the deep respect and admiration from our customers.

We believe our world is a great community of families with fascinating cultures. That the planet is populated by individuals with wonderful aspirations and with artisans who are inspired with dreams of products yet to be created.

Our mission is to be a quality leader in the plastics field.

We sincerely hope this newsletter will be interesting and informative.

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Shapes the Future

Our mission is to be a quality leader in the plastics field.

John W. Lucas, Jr., Founder Specialty Manufacturers

need to more fully understand the ever advancing technologies that are available in our industry. That is why this newsletter and our web site (www.spcmfg.com) have been created.

There is so much that can be accomplished by our company and our customers working together. We want all of you to have the freedom to dream up ideas; that special part for a new innovative product or the components for a

will go to work and provide the technology needed to empower your ideas into a real, tangible, form.

Take special note of our Multi-Shot molding article. Multi-Shot is a process that can speed product delivery and save costs while providing specifications unheard of from older technologies.

We take pride in the accomplishments of our PRD Division, which was

The Specialty Manufacturers' Directory

MEDICAL PRODUCTS

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Insert Molding Saves Time and Money

The method for marrying two different materials like metal and plastic may be taken for granted by some in the manufacturing industry. However, the method used for this task requires extreme attention to detail and an intricate understanding of the technology to achieve a completed part that will perform properly for the customer. That's why the Insert molding system was created.

Insert molding replaces those unnecessary steps in the assembly process that are normally required for combining

components made of metals, plastics and ceramics. Using insert molding techniques eliminates those functions in other methods that are both difficult to produce and costly to achieve.

THE INSERT ADVANTAGE

The disciplines behind Specialty Manufacturers' insert molding process allows

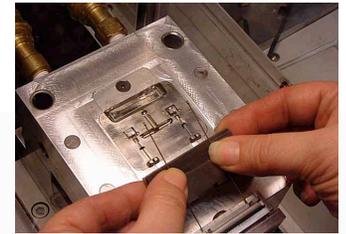
for the finished product to have the advantages of:

- improved wear
- increased tensile strength
- weight reduction
- flexibility
- improved conductivity and
- superior functional performance.

The insert molding process can be used for both high volume and low volume applications. The element that is to be combined may be hand-loaded or placed in the mold in automated form via robotics or on rotary tables (see photos at right to review the mold and product).

HOW IT'S DONE

During the molding process, the mold halves are opened and the



inserts are placed in the cavities. Then the mold is closed and the molten plastic is injected into the cavity where the inserts are encapsulated in plastic. After the parts are cooled, the mold opens and the finished component(s) are removed.



Screen insert molded into a power steering reservoir filter.

Darren Tipton, PRD's Can-Do Specialist

Long hours, hard work and creative problem solving are the tools of the trade for Darren Tipton, maintenance manager at PRD, Inc., a division of Specialty Manufacturers. As the maintenance manager, Tipton is responsible for the seamless operation of all the machines at the Springville, Ind., plant. He also heads up the automation procedures for every project and is often required to conduct the sampling of the new tools for production. "There are many

times," states Tipton, "when I am involved with the actual tool design,, especially when it requires the manufacture of intricate parts that are needed for the automated process." Having served in the Air Force as a Electro-environmental System Specialists for the F-16 Falcon, Tipton credits the success of PRD to the company's investment in superior technology, a



diversified highly trained employee roster and the speed of their automated operation which meets customer needs while saving unit costs. "We're dedicated 100% to customer satisfaction," states Tipton, "and we know we are as competitive in price and accuracy as any of the competition – both in and out of the country." It's Tipton's can-do philosophy which makes PRD, Inc., and D&M Tool Corp., the on site tool developer, leaders in the plastic injection molding industry.

"The only alternative to this method," states Jeff Hamer, Eng., Mgr., for PRD, Inc., a division of Specialty Manufacturers, "would be to take two molded products and assemble them together. From this perspective," Hamer continues, "we are eliminating a potential manufacturing step resulting in less labor, which equates to saving time and costs."

PRD, Inc., Recommended for ISO 14001 Certification

PRD, Inc., a division of Specialty Manufacturers, was recommended for certification to ISO 14001 on March 20, 2003.

Since being founded in 1979, PRD has taken a proactive approach to environmental protection. With the addition of the ISO 14001 certification, PRD has furthered its commitment to safeguarding the environment.

Companies that seek ISO 14001 certification are required to identify aspects and impacts to the environment such as waste reduction, recycling, water quality protection, energy and water conservation and other issues that may impact the natural environment and resources of their business and the surrounding community.

PRD's ongoing environmental Policy is to:

- Continually improve its operations and activities to protect the environment
- Operate in compliance with all applicable local,

- state, and federal environmental regulations
- Prevention of pollution in all operations and activities

PRD has been proactive in identifying environmental impacts in the areas of:

- Air emissions
- Liquid and solid waste
- Energy usage
- Storm water discharge
- Material usage
- Wastewater discharge
- Noise pollution

Objectives and targets have been established, where necessary, to address the reduction or complete elimination of these environmental concerns at PRD, which will benefit the the community as a whole by reducing the possible environmental impact in the area.

The ISO 14001 Environmental Management System is an international standard which requires companies to have documented policies and procedures addressing issues of environmental impact that may occur from all aspect of doing business.

For further information contact:

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Divisions of Specialty Manufacturers, Inc.



MEDICAL PRODUCTS,

a division of Specialty Manufacturers, produces plastic and metal components for the medical industry. Fully compliant with FDA Quality System Regulations, the company also adheres to other international standards. Medical Products offers Class 100,000 Clean Room facilities for assembly and molding and can provide temporary clean room enclo-

tures when needed. The company has expertise in the building of high speed assembly equipment to reduce costs while improving quality.



APOLLO PLASTICS

specializes in complicated thin wall molding, decorative work, laser etching, silk screening and pad printing. In addition to plastic injection molding the firm provides customers with a complete line of secondary

operations including; assembly, machining, painting, hot stamping and chemical/mechanical bonding.



PRD, Inc.,

has, for over 20 years been a manufacturer of high quality injection molded products. Working in concert with D&M Tool for design and development, PRD has offered a complete range of molding services to

clients in the United States, Canada and Europe.



D&M, TOOL CORP.,

is Specialty Manufacturers' state-of-the-art facility for creating molds and machined parts as required for plastic production. The company prides itself on owning the latest in equipment for product development and maintains cutting edge software for their CAD/CAM design systems.