RMD News

The Rotational Molding Division of SPE Newsletter

4th Quarter 2015 Volume 15 Issue 4

In the News:

Avantech Breaks Ground on New Facility and Names New President

In the News:

SMART: A New Era in Rotational Moulding

Meet our Members:

Glenn Beall

Glenn Beall Plastics Limited

VISIT US ON OUR WEBSITE
www.rotational-molding.4spe.org

In this issue:

Chairman's Message

Gary McQuay

Greetings fellow Rotational Molding Division members:

Even though 2015 is coming to an end, it is not going out quietly. The board has a number of things they are actively working on, and at the top of the list is our 2016 TOPCON. The TOPCON team, headed by past chair, Rob Donaldson, and board member Larry Whittemore, is gearing up for a top-notch TOPCON. Rob and Larry have several speakers lined up already, and they are actively seeking a few more from industry.

Both ARM and RotoWorld magazine were invited to our 2016 TOPCON, and they are expected to provide attendees. We are looking forward to their attendance.

Several board members attended the ARM meeting in Denver, Colorado, in early November. There were a lot of good presentations as well as some great networking. We will be sharing a booth with ARM at the IDSA show again this coming year, and we are looking forward to the show.

With this being the last newsletter of 2015, I want to take the opportunity to wish everyone a safe and happy holiday season. 2016 promises to be exciting and prosperous, and I am looking forward to all the opportunities it presents. I hope you can join me.

Newsletter Comments/Questions? Contact:

Sponsorship: Russ Boyle at
russ.boyle@gulfviewplastics.com
or call (727) 379-3072

Editor: Melissa Inman at (919)-888-0940
melissa.inman@gulfviewplastics.com

Asst. Editor: Dr. Peter Mooney
PlasRes@aol.com or call (336) 998-8004

INDEX

Meet Our Members

GLENN L. BEALL

Glenn Beall Plastics Limited

Glenn Beall is an engineer, author, seminar instructor, consultant, expert witness, inventor and a plastics industry activist, but most of all he is a product designer.

He has been involved in plastic product design since receiving his B.S. degree from Bradley University in 1957. He worked for General Electric and Abbott Laboratories before forming his own Product Design & Development company in 1968. Thirty-five patents have been issued in his name.

An industry activist, he joined the Society of Plastics Engineers in 1960. He served as President of SPE's Chicago Section before chairing the Society's National Membership, Divisions, Constitution & Bylaws, Seminars, and John W. Hyatt Awards Committees. He is a Past President and Charter Member of the Mold Making & Mold Design and Medical Plastics divisions, and a Founder and Past President of the Product Design & Development Division and the Rotational Molding division.

His efforts on behalf of SPE have been acknowledged with the Society's Outstanding Service Award (1970), President's Cup (1983), Outstanding Achievement in Education Award (1993), International Award (2003) and Excellence in Mentoring Award (2014).

Glenn is an Honored Service Member, Fellow and Distinguished Member of the Society. The hallmark of his SPE work is the thousands of people who attended the Plastics Technology seminars he taught from 1973 through 2008.

In The News

Avantech Breaks Ground on New Facility and Names New President

BRAINERD, MINN. — Avantech, a Minnesota-based manufacturer of tooling solutions to the global plastics industry, held a ground-breaking ceremony at the site of its new corporate headquarters and manufacturing facilities in Baxter, MN. The new site is minutes away from its current location in Brainerd, MN.

The new construction project will be carried out in two phases. Phase one - construction for a 43,000-square-foot facility on 6.5 acres - has already begun. Offices, administrative functions, and CNC-machine tool-building capabilities will be moved to the new facility in this first phase.

The second phase, to occur within the next three years, involves construction of an additional 24,000 square feet to house Avantech's pattern creation, prototype development, and cast-aluminum tooling foundry, currently located in Brainerd.

"Our successful history has built the foundation for an exciting future", said Tom Haglin, Avantech's CEO, who with his wife and co-owner, Ellen, acquired the company in 2012. "We want to help our customers expand their business footprint globally."

Avantech has invested substantially in CNC machinery, enhancing their services and capabilities. From involvement at the beginning stages of product design to delivering highly engineered tools, Avantech's solutions-focused approach has facilitated steady growth and establishment of customer partnerships throughout the global plastics industry.

Avantech also announced recently the promotion of Tom Innis, formerly the company's vice president of sales and marketing, to the position of president, effective October 1st, 2015. In addition to his organizational leadership role Innis will continue to direct the company's sales and marketing efforts as he has done since joining Avantech in 2013.

"We're excited to move Tom into the leadership role at Avantech", said Haglin. "In addition to his vast understanding of the rotational molding industry, he brings energy, leadership, and strategic vision to help move the Avantech business forward."

Innis, a graduate of the University of Wisconsin-Madison and La Universidad Ibero-Americana (Mexico City), joined the rotational molding industry in 1996 and has since held leadership positions with several established industry suppliers. Innis has also been active in the Association of Rotational Molders (ARM) and the Society of Plastic Engineers (SPE) Rotomolding Division, contributing to both organizations' board of directors and committee-related initiatives during his industry tenure.

"This (promotion to president) is a tremendous honor, and I'm very excited and grateful for the opportunity to help lead Avantech into the future", commented Innis who, in addition to his rotational molding market experience, includes executive-level leadership in the steel industry on his résumé. "We have a motivated, capable Avantech team—it's a privilege to play a key role in driving the business forward."

Avantech is a trusted manufacturer of quality tooling to plastic manufacturers worldwide. Industries served include agriculture, healthcare, outdoor recreation, floor care, watersports, home furnishings, construction, materials handling, and children's toys.
To learn more, visit the company's website at avantech.com

Industry News

SMART: A New Era in Rotational Moulding

Unmatched rotational product quality in half the cycle time

Persico Industrial, a company already known for innovation in rotational moulding, has now developed a brand-new technology called SMART (**S**imple, **M**aintenance Friendly, **A**ffordable, **R**eliable, **T**ime-to-market).

Simple, yet flexible, SMART is the best rotational moulding system available today for the manufacture of:

- **Very high-quality rotational parts** in medium-sized quantities.
- **A wide range of Rotational moulded products** on the same machine
- High-tech parts requiring **close tolerances or complex geometries**.

What's more, SMART is the ideal choice for:

- Material producers and researchers who want to experiment with **new rotomoulding materials and moulding conditions**.
- Newcomers to the field of rotational moulding who want **user-friendly implementation**.

smart
LEONARDO TECHNOLOGY

SMART Design Objectives

SMART, an alternative to Persico's standard Leonardo system, has been designed with the following goals in mind:

- To achieve greater flexibility
- To reduce investment costs

At the same time, SMART technology has incorporated the fundamental objectives of the Leonardo system:

- To eliminate both the conventional oven and cooling chamber
- To guarantee-consistent parts moulded under optimal conditions

SMART Technology Highlights

Unlike conventional rotomoulding systems that are controlled merely by preset times, **SMART monitors and controls the air temperature inside the mould continuously throughout the process**, so that:

- Heating and cooling **times are automatically adjusted** to the changing surrounding conditions.
- The moulded parts are **always consistent** and high quality.

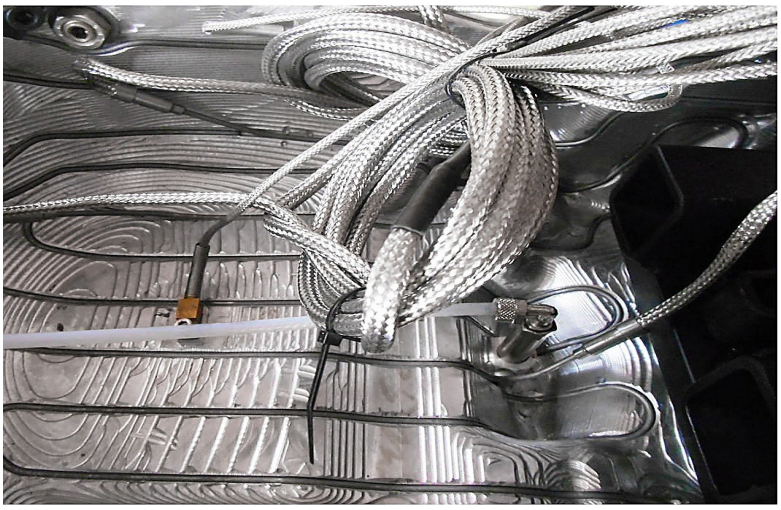
Continued on page 6

Industry News

Continued from Page 5

SMART has a **compact footprint**, because loading, heating, cooling and unloading can all take place in the same area.

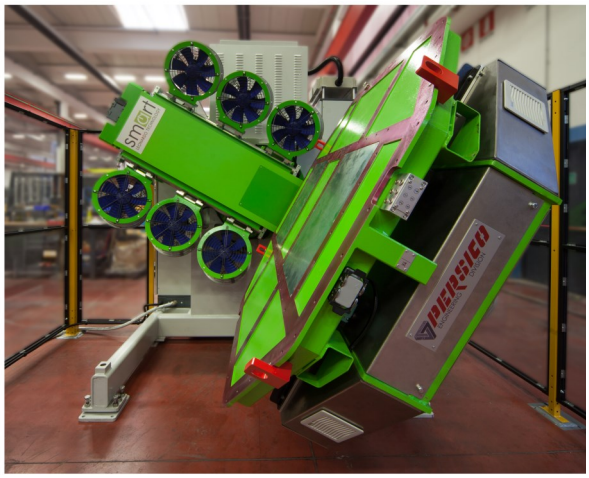
Each aluminium mould is heated by numerous electrical resistors housed in grooves on the moulds outer surface. The heated surface is divided into 18 or 24 **independently and continuously monitored temperature control zones**.



SMART Advantages

SMART's innovative features lead to the following benefits:

- Energy savings of up to 30% (heat is supplied **only** to the mould).
- Practically instantaneous daily startup even without the operator's presence (no oven preheat and no gas burner to be monitored).
- Much shorter heating cycles than in the traditional process (mould temperature can be increased rapidly).
- Walls with different thicknesses are feasible (a different temperature can be set for each mould control zone).
- Excellent wall thickness uniformity is also possible (the same temperature can be obtained at each point of the mould's inner surface, even in the case of double walls).
- Less deformation and reduced weight of the moulded part, in addition to shorter cycle times and less raw material used (up to 30% less, depending on the geometry).
- Moulds on the same arm can operate at completely different temperatures, in contrast to the conventional process.
- A wide range of materials can be processed, including materials sensitive to oxidation such as PA6 (the desired gas can be used inside the mould); high-temperature resistant engineering plastics such as PC, ECTFE, PVDF, PEEK (surface temperatures up to 350°C can be reached); and crosslinkable PE (just the right amount of crosslinking is always attained). The photo above shows a complex polycarbonate item produced with SMART:



SMART Technology Special Features and Options

SMART systems have numerous innovative features and optional accessories:

A **powerful external air cooling system**, consisting of 6 fans positioned on the arm and optional Venturi devices, creates an air jet which hits the mould much more consistently than in a traditional rotomoulding machine, because the fans rotate together with the arm. The external cooling system is combined with **internal cooling by air or water**. As no water is used on the outer surface of the mould, **the temperature of the moulded part decreases uniformly, thereby drastically reducing deformation**.
The arm is equipped with brush slip rings and other devices to deliver electricity, air and control signals to the rotating mould support platform. As the machine operates at ambient temperature rather

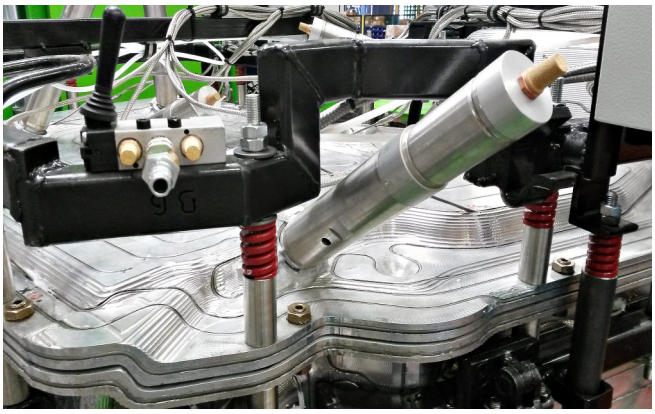
Continued on page 7

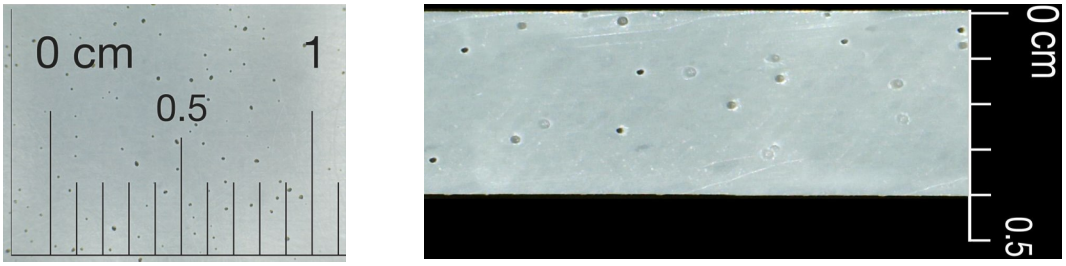
Industry News

Continued from Page 6

than in an oven and the absence of water for exterior cooling, **any standard pneumatic or electrical accessories, as well as standard arm lubrication greases, may be used**.

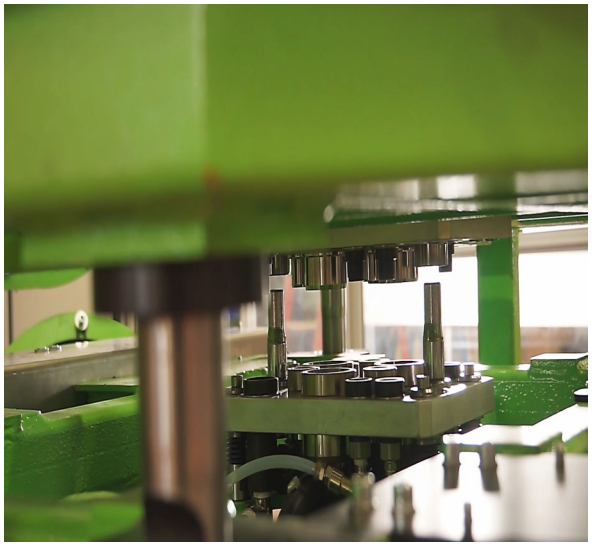
Optional equipment to control pressure and create a vacuum inside the mould can be added, in order **to achieve a virtual total absence of internal and surface bubbles** on the moulded part. This results in superior aesthetic appearance and impact resistance.





1. surface and cross section magnification with no internal pressure/vacuum application

2. surface and cross section magnification when internal pressure/vacuum are applied



To maximize productivity, an **optional quick-change frame system** can be installed **to reduce mould loading/unloading downtime to practically zero**. When one mould is swapped for another, the mechanical, electrical and pneumatic connections are made simultaneously, so the SMART machine never has to be stopped. While the operator alongside the machine handles the routine work on the mould just unloaded (mould opening, part unloading, powder loading and mould closing), the mould just loaded on the machine immediately starts the moulding process.

A special **servo-controlled motor adjusts the arm counterweight position after a frame change**, if necessary. SMART also has an **optional recognition device to automatically detect the frame** and load the corresponding recipe, counterweight position and all other production parameters (mould temperature, shot weight and others).

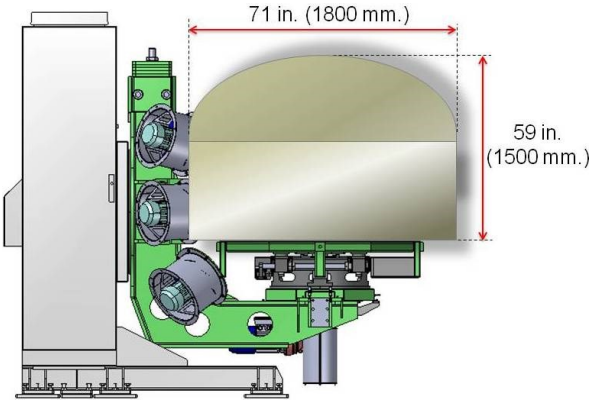
Continued on page 8

Industry News

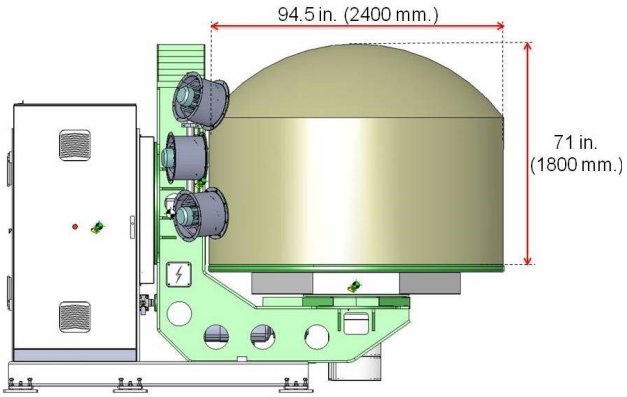
Continued from Page 7

SMART Arm Sizes

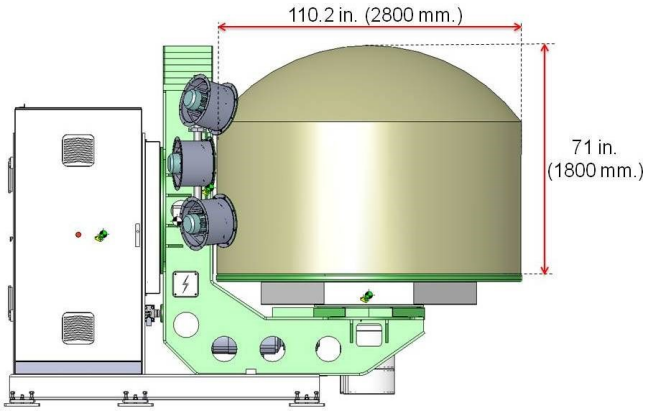
SMART is now available in three different arm sizes (compared below with approximately similar-sized offset arms of conventional machines).



SMART V. 1.8: This can be compared approximately on height as handling the same capacity as a conventional offset arm in a machine with a diameter of 75 in. (1900 mm.) or on width with a conventional machine with a diameter of 88 in. (2200 mm.).



SMART V. 2.4: This can be compared approximately on height as handling the same capacity as a conventional offset arm in a machine with a diameter of 100 in. (2500 mm.) or on width with a conventional machine with a diameter of 120 in. (3000 mm.).



SMART V. 2.8: This can be compared approximately on height as handling the same capacity as a conventional offset arm in a machine with a diameter of 100 in. (2500 mm.) or on width with a conventional machine with a diameter of 140 in. (3500 mm.).

Continued on page 9

Submit your news story or technical article to the RMD Newsletter !

The submission deadline for the next addition is March 1st.

Industry News

Continued from Page 8

The SMART Revolution

SMART is a revolutionary system in all respects,-providing **cutting-edge features for both rotational moulding experts and newcomers** alike:

- **High productivity** – nearly double the hourly output, yet simple and flexible to use.
- **High quality end product** – great precision and geometric complexity.
- **State-of-the-art technology** – suitable for innovative raw materials and so far untried moulding conditions.

Thanks to SMART's unprecedented features and Persico's know-how, material producers and research centres can expand their horizons and experiment with new materials under moulding conditions previously unattainable with traditional rotomoulding processes. Newcomers can also benefit from the easy-to-implement, advanced turnkey technology.

SMART is the start of a new era in rotational moulding.

For further information please contact Sales Manager Alberto Carrara, ph. +39 035 4531 811, Alberto.Carrara@persico.com.

Rotational Molding Division TopCon 2016

Don't miss your opportunity to participate in the RMD's 2016 TopCon June 5-8

Table Tops : $300

Sponsorships: $1200, $600, $300

Contact Russ Boyle at 727-379-3072 or Russ.boyle@gulfviewplastics.com for more information

SPE
ROTATIONAL MOLDING

SOCIETY OF
PLASTICS ENGINEERS

Founded in 1942

The only global community for plastics professionals

16,000 members in 84 countries

A world-wide network

40 technology & business conferences annually

and many more resources...

Be part of the largest plastics community

Join at www.4spe.org

Designer's Corner

WALL THICKNESS CONSIDERATIONS

By: Glenn Beall

> Editor's Note:
>
> This is the fourth in a series of twenty-six articles that will review how to design rotationally molded plastics parts and products. We look forward to publishing these articles over many issues. This is a great opportunity for newcomers to the community as well as an always appreciated chance for review of important information.

The first three articles in this series started with the Spring 2007 issue of the Product Design & Development Division's newsletter. Those articles dwelt on rotational molding product design and the important differences between product design and part design. This series of articles were written by Glenn Beall.

As a new product progresses through product design and on into the part design phase, the emphasis changes. During the product design phase the primary emphasis has to be on creating a structure that will satisfy the functional requirements of the product in its end-use environment. Part design is concerned with proportioning the individual parts in an assembly in such a manner that they can provide that function and be economically produced.

The first decision to be made in finalizing the design of a rotationally molded part is to determine the part's nominal wall thickness. The thickness of a molded part is dictated by two primary considerations. The wall thickness must provide for the functional requirements of the product while accommodating the molding requirements of the process. A flexible PVC medical waste collection bag might be strong enough to function properly with a 0.5mm (0.020 in.) wall thickness, but the molding process can only produce that shape with a 1.0mm (0.040 in.) thickness. In this case processing would take priority over function and cost.

The ideal wall thickness is the thinnest wall that will provide for both the functional and processing requirements of the product. Thickness has a direct effect on cost. Plastic material represents a significant fixed cost that cannot be influenced by the molder or the customer. Thinner walls reduce both material cost and molding cycle time. Generally speaking thinner is better.

The minimum allowable thickness is determined by strength requirements and the material's ability to uniformly coat the cavity. The maximum allowable wall thickness is dictated by cycle time and the material's ability to withstand the long, high temperature oven cycles without degradation.

Each plastic material responds differently to the rotational molding process. There are exceptions, but the range of wall thicknesses that are suitable for the commonly molded materials are listed in Table I.

TABLE I

	Ideal		Possible	
Plastic Material	Min. mm (in.)	Max. mm (in.)	Min. mm (in.)	Max. mm (in.)
Polyethylene	1.50 (0.06)	12.70 (0.50)	0.50 (0.02)	50.80 (2.00)
Polypropylene	1.50 (0.06)	6.40 (0.25)	0.75 (0.03)	10.16 (0.40)
Polyvinyl Chloride	1.50 (0.06)	10.16 (0.40)	0.25 (0.01)	25.40 (1.00)
Nylon	2.50 (0.10)	20.32 (0.80)	1.50 (0.06)	31.75 (1.25)
Polycarbonate	2.00 (0.08)	10.16 (0.40)	1.50 (0.06)	12.70 (0.50)

This table lists both ideal and possible thicknesses. The best results will always be achieved by selecting a thickness in the ideal range.

Continued on Page 14

Designer's Corner

Continued from Page 12

Rotational molding is not the ideal process for producing parts that require variation in wall thickness. The only material that lends itself to wide variations in thickness is PVC. A special molding technique called "*stop rotation*" allows some parts to be produced with both thick and thin walls. This molding technique stops the rotation of the mold in a specific position after the PVC has coated the cavity. Gravity then causes the ungelled liquid material to drain into the lowest part of the cavity to create a thicker wall.

The rotational molding process is noted for its ability to produce hollow plastic parts with uniform wall thicknesses. Some gradually changing wall thickness can be produced by changing the thermal conductivity of the mold in specific areas. Incorporating an aluminum panel into a fabricated steel mold would increase the thermal conductivity of the cavity in that location. The aluminum surface of the cavity would reach molding temperature before the steel surfaces. The aluminum surfaces would then have a longer time to pick up the plastic powder than the steel surface would. The same effect can be achieved by varying the wall thickness of a cast aluminum cavity. In other instances heat-absorbing projections are placed on the outside surface of a cavity in an area where a thicker wall is desirable. The reverse effect can be achieved by shielding or insulating portions of the cavity so that they take longer to heat up to molding temperature. These techniques and others extend the capabilities of the process, but rotational molding is at its best producing hollow parts with uniform wall thicknesses.

A properly designed part and a good-quality mold that heats uniformly will produce parts with a uniform wall thickness. This is highly desirable as parts containing thick walls take longer to form and to cool. The plastic in thick walls stays hot longer and shrinks more than that in thin walls which cool faster. A molded part with both thick and thin walls will have different shrinkage factors in different locations. These differences in shrinkage create molded-in residual stress and a propensity for post-mold warpage.

The non-uniform cooling associated with variations in wall thickness also affects the percentage of crystallinity in the molded part.

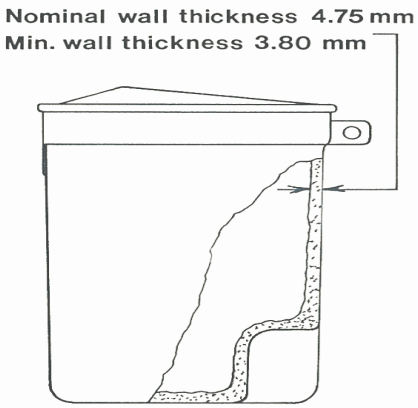
Rotational molding is an open molding process that defines only those surfaces of a part that are in contact with the cavity. The inside surfaces are free-formed. Once the mold is built it does not change. The wall thickness is thereafter controlled by the amount of material put into the mold and the cycle-to-cycle variations of the process.

Continued on Page 15

Designer's Corner

Continued from Page 14

The exact wall thickness of a rotationally molded part cannot be specified in the common manner employed for closed-molding processes such as injection and compression molding. The ideal way to specify a wall thickness for this process is to indicate both the nominal or average wall thickness and the minimum thickness that is acceptable anywhere on the part, as depicted in Figure 4.



Wall thickness uniformity is dependent on the size and shape of the part and the material being molded. A commercial thickness variation is in the range of ±20%. Thickness variations of ±10% can be achieved in some cases where uniformity is more important than part cost. These wall thickness tolerances do not include this process's tendency to produce thickness variations at the corners of a part. That unique characteristic of the rotational molding process will be reviewed in a later article on corner radiuses.

One of the interesting and useful advantages of rotational molding is that once the mold has been built it can be used to produce parts with thicker or thinner walls without mold changes by simply charging the mold with more or less material. The optimum wall thickness can then be established by testing the actual part. These tests are always more reliable than strength calculation or speculation. There are few other plastic molding processes that provide the designer with this capability.

This article is a condensed extract from G. L. Beall's Hanser Publishers book entitled "Rotational Molding Design, Materials, Tooling, & Processing" available at hanser@ware-pak.com or phone (877) 751-5052.

What can SPE Membership do for you?

Looking for a career change in the plastics industry? Go to

http://www.4spe.org/membercenter/careers/index.php

You will find advice on managing change, search for opportunities, even post your resume.

Society of Plastics Engineers
Division of Rotational Molding
13 Church Hill Road
Newtown, CT. 06470

Phone: 847-549-9970
Fax: 847-549-9935

Rotational Molding Division of the Society of Plastics Engineers.

Your Award Winning Newsletter - 2005, 2006 & 2007

Classified Advertising Opportunities

The **RMD Newsletter** is an award-winning publication available to thousands of SPE members on the RMD website.

This quarterly publication is well-read and received by international organizations and individuals involved in the rotational molding industry.

The RMD is now offering the opportunity for you to reach the global rotational molding markets by placing classified advertising in upcoming editions.

RMD Classified Ads provide an excellent opportunity for you to:

- ***Sell new and used rotational molding equipment and accessories***
- ***Promote goods and services to the rotational molding industry***
- ***Advertise for help wanted and positions wanted within the rotational molding industry***

Positions Wanted ads may be sent to:
Melissa.inman@gulfviewplastics.com
(919)-888-0940

For paid advertising contact:
Russ Boyle
(727)-379-3072
Russ.boyle@gulfviewplastics.com

Rotational Molding Division

Newsletter and Website Advertising

Business card size advertisement	$400/year
1/4 page size advertisement	$800/year

Advertising in the Newsletter also includes a business card size advertisement on the Rotational Molding Divisions' website

Please contact Russ Boyle at 727-379-3072 or russ.boyle@gulfviewplastics.com

View the current and previous editions of the RMD Newsletter online at www.rotational-molding.4spe.org

MEMBERSHIP APPLICATION
(Online at www.4spe.org/join)

Society of Plastics Engineers
6 Berkshire Blvd., Suite 306
Bethel, CT 06801-1065 USA

Membership Application
PH: 203-775-0471 • Fax: 203-775-8490
www.4spe.org • membership@4spe.org

Contact Information *Please print clearly*

First Name (Given Name) Middle Name

Last Name (Family Name)

Company Name/University Name (if applicable)

Mailing Address is: ☐ Home ☐ Business Gender: ☐ Male ☐ Female (for demographic use only)

Address Line 1

Address Line 2

Address Line 3

City State/Province

Country Zip/Postal Code Phone

Preferred Email (This will be your member login and is required for usage of online member services)

Alternate Email

Date of Birth (*Required* for Young Professional membership)

Graduation Date (*Required* for Student membership) Job Title

Membership Types *Check one*

☐ **Student: $31** (Graduation date is required above)
☐ **Young Professional: $99** (Professionals under the age of 35. Date of birth is required above)
☐ **Professional: ~~$144.00~~ $129** (Includes $15 new member initiation fee)

Choose 2 *free* Technical Division and/or Geographic Section Member Groups. →

1. _____ 2. _____

Additional groups may be added for $10 each. Add Special Interest Groups at no charge.

1. _____ 2. _____
3. _____ 4. _____

Dues include a 1-year subscription to *Plastics Engineering* magazine-$38 value (non-deductible).
SPE membership is valid for 12 months from the date your membership is processed.

Payment Information Payment must accompany application. No purchase orders accepted.

☐ Check Enclosed Amount _____

Charge: ☐ Visa ☐ Mastercard ☐ American Express Expiration Date: _____

Account Number: _____

Amount Authorized: _____ CSC#: _____ Last 3 digits from the back of MC/Visa. 4 digits from the front of AMEX.

Cardholder's Name (as it appears on card): _____

Signature of Cardholder: _____

Payment by Wire Transfer Instructions

You **must** include account number +ABA number + bank fees.
Please include the Member ID# and Name so we may apply payment to the correct person.

USD: WELLS FARGO: 108 Federal Road, Danbury, CT 06811 USA

ACCT #2681786097 ABA #121000248 SWIFT CODE #WFBIUS6S

The SPE Online Member Directory is included with membership. Your information is automatically included unless you indicate otherwise.

_____ Exclude my email address from the Online Membership Directory
_____ Exclude all my information from the Online Membership Directory
_____ Exclude my address from 3rd party mailings

By signing below, I agree to be governed by the Bylaws of the Society and to promote the objectives of the Society. I certify that statements made in the application are correct and I authorize SPE and its affiliates to use my phone, fax, address and email to contact me.

Signature _____ Date _____

Technical Division Member Groups - Connect with a global community of professionals in your area of technical interest.

☐ Additives & Color Europe - D45
☐ Applied Rheology - D47
☐ Automotive - D31
☐ Blow Molding - D30
☐ Color & Appearance - D21
☐ Composites - D39
☐ Decorating & Assembly - D34
☐ Electrical & Electronic - D24
☐ Engineering Properties Structure - D26
☐ European Medical Polymers - D46
☐ European Thermoforming - D43
☐ Extrusion - D22
☐ Flexible Packaging - D44
☐ Injection Molding - D23
☐ Medical Plastics - D36
☐ Mold Making & Mold Design - D35
☐ Plastics Environmental - D40
☐ Polymer Analysis - D33
☐ Polymer Modifiers & Additives - D38
☐ Product Design & Development - D41
☐ Rotational Molding - D42
☐ Thermoforming - D25
☐ Thermoplastic Materials & Foams - D29
☐ Thermoset - D28
☐ Vinyl Plastics - D27

Geographic Section Member Groups - Network with local industry colleagues.

☐ Alabama/Georgia-Southern
☐ Asean*
☐ Australia-New Zealand
☐ Benelux
☐ Brazil
☐ California-Golden Gate
☐ California-Southern California
☐ Caribbean
☐ Carolinas
☐ Central Europe
☐ China
☐ Colorado-Rocky Mountain
☐ Connecticut
☐ Eastern New England
☐ France
☐ Hong Kong
☐ Illinois-Chicago
☐ India
☐ Indiana-Central Indiana
☐ Israel
☐ Italy
☐ Japan
☐ Kansas City
☐ Korea
☐ Louisiana-Gulf South Central
☐ Mexico-Centro
☐ Michigan-Detroit
☐ Michigan-Western Michigan
☐ Middle East
☐ Nebraska
☐ New Jersey-Palisades
☐ New York
☐ North Carolina-Piedmont Coastal
☐ Ohio-Akron
☐ Ohio-Cleveland
☐ Ohio-Miami Valley
☐ Ohio-Toledo
☐ Oklahoma
☐ Ontario
☐ Oregon-Columbia River
☐ Pennsylvania-Lehigh Valley
☐ Pennsylvania-Northwestern Pennsylvania
☐ Pennsylvania-Philadelphia
☐ Pennsylvania-Pittsburgh
☐ Pennsylvania-Susquehanna
☐ Portugal
☐ Quebec
☐ Spain
☐ Taiwan
☐ Tennessee-Smoky Mountain
☐ Tennessee Valley
☐ Texas-Central Texas
☐ Texas-Lower Rio Grande Valley
☐ Texas-North Texas
☐ Texas-South Texas
☐ Tri-State
☐ Turkey
☐ United Kingdom & Ireland
☐ Upper Midwest
☐ Utah-Great Salt Lake
☐ Virginia
☐ Washington-Pacific Northwest
☐ West Virginia-Southeastern Ohio
☐ Western New England
☐ Wisconsin-Milwaukee

*Asean: Indonesia, Malaysia, Phillipines, Singapore, Thailand, Cambodia, Laos & Vietnam

Special Interest Groups - Explore emerging science, technologies and practices shaping the plastics industry. Choose as many as you would like, at no charge.

☐ Additive Manufacturing / 3D Printing - 033
☐ Advanced Energy Storage - 024
☐ Alloys & Blends - 010
☐ Bioplastics - 028
☐ Failure Analysis & Prevention - 002
☐ Joining of Plastics & Composites - 012
☐ Marketing & Management - 029
☐ Non-Halogen Flame Retardant Tech. - 030
☐ Plastic Pipe & Fittings - 021
☐ Plastics Educators - 018
☐ Plastic in Building and Construction - 027
☐ Quality/Continuous Improvement - 005
☐ Radiation Processing of Polymers - 019
☐ Reaction Injection Molding - 032
☐ Thermoplastic Elastomers - 006

Recommended by (optional) _____ ID# _____

PE15

RMD Interim Financial Report

SPE's Rotational Molding Division
Annual Financial Report 2014-2015
July 1, 2014 to June 30, 2015

		Actual (proposed)	Budget
Cash Balance: Beginning of Period		$44,687.94	
Cash Receipts in Period:			
SPE Rebate		$890.64	
Interest		$49.48	
Newsletter Ads/Sponsorships		$0	
Scholarships/Grants Fund			
TopCon (TopCon 2014)		$35,473.77	
Total Income in Period		$36,413.89	
Total Cash to be accounted for		$81,101.83	
Cash Disbursements in Period:			
Board Meetings		$265.81	
TopCon (TopCon 2014)		$500.00	
e-Newsletter Printing/Mailing		$0.00	
Awards (Student Papers)	$0.00		
Scholarships/Grants		$0.00	
ANTEC Expenses		$0.00	
Postage		$45.14	
Awards		$1023.98	
Memorial		$331.01	
Website `		$2799.88	
IDSA		$1000.00	
Donation—Plastics Pioneers		$500	
Website Domain name (2013-2022)		$	
Webinar	$0.00		
MISC (ARM booth	)	$738.83	
	Bank Fees		
$23.48			
Total Disbursements in Period		$7228.13	
Cash Balance End of Period		$73,873.70	

The Cash Balance is made up as follows:

Scholarships/Grants (savings acc.)	$0	
Checking Account		$5,246.83
Savings Account	$68,626.87	
Total Cash Balance		**$73,873.70**

Respectfully submitted
By Russ Boyle

SPE's **Digitized Presentations** are multimedia recordings of past e-Live™ Presentations.

Available for purchase on CD-ROM, they include presentations on more than 15 different plastics processes. Past e-Live™ Presentations are archived weekly. Go http://www.4spe.org/elearning/ for more information.

Interested in sponsoring the RMD Newsletter? Please contact : Russ Boyle at Russ.boyle@gulfviewplastics.com or call at (727) 379-3072

Welcome to SPE's Ask PiP (People in Plastics) discussion forums.
Ask PiP is a question/answer forum for the plastics industry.

This free service has been completely redesigned for easier access, utilization and functionality. We've added many new features to save you time and allow easier navigation. Ask PiP will now accommodate everyone. You can contact others in your field, post your questions or supply answers. All for FREE.
http://www.askpip.org/

SPE-RMD LEADERSHIP ROSTER 2014-2015
Officers/Directors/Chairman

Barry Aubrey
3694 TanBark Court
Amelia, OH 45102
(513)-892-9336
abiff99@aol.com
Past Division Chairman 2000-2001

Glenn Beall
Glenn Beall Plastics
32981 N. River Road
Libertyville, IL 60048
(847)-549-9970
glennbeallplas@msn.com
Historian
Past Division Chairman 1999-2000

Russ Boyle
Gulf View Plastics
18816 Oak Way Drive
Hudson, FL 34667
(727)-379-3072
Cell (270)-823-2256
Russ.boyle@gulfviewplastics.com
Treasurer

Rob Donaldson
M Holland Company
400 Skokie Blvd.
Suite 600
Northbrook, IL 60062
(682)-214-1828
Cell (682)-351-8315
rdonaldson@mholland.com
Past Division Chairman 2012-2015

Melissa Inman
Gulf View Plastics
109 Lands End Dr.
Williamsburg, VA 23185
(919)-888-0940
Melissa.inman@gulfviewplastics.com
Publications/Newsletter Chairman
Web Page Chairman
Director 2014-2017

Tom Innis
Avantech
1021 Madison St.
Brainerd, MN 56401
(440) 384-7654
Email: tinnis@avantech.com
Director 2015-2018

Gary McQuay
Engineering Manager
Plastics Innovation & Resources Center
DIF26
Pennsylvania College of Technology
One College Avenue
Williamsport, PA 17701
(570)-321-5533 Ext. 7681
Cell (570)-490-4667
Chairman 2015-

Dr. Peter Mooney
Plastics Custom Research Services
695 Burton Road
Advance, NC 27006
(336)-998-8004
PlasRes@aol.com
Secretary
Publication/Newsletter Co-Chairman

Bruce Muller
Plastics Consulting, Inc.
682 SW Falcon Street
Palm City, FL 34990
(772)-781-6699
plasticsC@aol.com
Honorary Member

Michael Paloian
Integrated Design Systems
74 West Main Street
Oyster Bay, NY 11771
(516)-482-2181 x 101
paloian@idsys.com
Webinar Chairman
Past Division Chairman 2007-2008

Jon Ratzlaff
Chevron Phillips Chemical Co. LP
146 Plastics Tech Center
Phillips 66
Research Center
Highways 60 & 123
Bartlesville, OK 74003-6670
(918)-977-4761
RATZLJD@cpchem.com
Inter/Intrasociety Chairman
Past Division Chairman
2001-2002
SPE International President

Rotational Molding Division Past Chairs

Glenn Beall	1999-2000	Paul Nugent	2005-2006
Barry Aubrey	2000-2001	Ken Wessler	2006-2007
Jon Ratzlaff	2001-2002	Michael Paloian	2007-2008
Marshall Lampson	2002-2003	Greg Stout	2008-2009
Ken Pawlak	2003-2004	C. “Hank” White	2009-2012
Larry Schneider	2004-2005	Rob Donaldson	2012-2015

Continued on page 20

SPE-RMD LEADERSHIP ROSTER 2014-2015
Officers/Directors/Chairman

Dr. Denis Rodrigue
University Laval
1065 Avenue De La Medecine
Dept. Chemical Engineering RM 3546
Quebec City, QC G1V OA6
Canada
(418)-656-2903
Denis.rodrigue@gch.ulaval.ca
ANTEC Technical Program Chairman
Director 2014-2017

Larry Schneider
Schneider Plastics, Inc.
39155 N. Pine Grove Avenue
Wadsworth, IL 60083
(847)-623-7535
schplastic@aol.com
Awards Chairman
Past Division Chairman
2004-2005

Thomas Steele
Cytec Industries
1937 West Main Street
Stamford, CT 06904
(203) 321 2261
Thomas.steele@cytec.com
Director 2014-2017

Ken Wessler
Hedstrom
P.O. Box 99
Dunkirk, OH 45836
(419)-294-7269
kenwessler@prodigy.net
Grants and Scholarships Chairman
Past Division Chairman
2006-2007

Charles (Hank) White
Pennsylvania College of Technology
PMC DIF 26
One College Avenue
Williamsport, PA 17701
(570)-321-5533
cwhite@pct.edu
Past Division Chairman

Larry Whittemore
Stoner, Inc.
P.O. Box 65
1070 Robert Fulton Highway
Quarryville, PA. 17566
(717)-786-7355 Ext. 3118
Lwhittemore@StonerSolutions.com
Director 2015-2018

SPE Liaison

Kathy Schacht
Society of Plastics Engineers
6 Berkshire Blvd. Suite 306
Bethel, CT 06801-1065
(203) 740 5430
Cell (203)-775-8490
kschacht@4spe.org

International Ambassadors

Roy Crawford
18 Stonebridge Estate
RD 9
Hamilton 1706
New Zealand
67 64 7838 4673
r.crawford@waikato.ac.nz

Mark Kearns
Queens University
Ashby Building
Stranmillis Road
Belfast BT9 5AH
44 2890974700
m.kearns@qub.ac.uk

Volunteers

John Bartolomucci
Plastics and Polymer Engineering Tech.
DIF 27
Pennsylvania College of Technology
One College Avenue
Williamsport, PA 17701
(570)-320-2400 Ext. 7012
jbartolo@ptc.edu

Joseph Lindsey
PlayPower, Inc.
907 E. County Road
Monett, MO 65708
(417)-354-2563
Joe.lindsey@playpower.com

The Rotational Molding Division would like to acknowledge and thank the following organizations that share their resources with the RMD by allowing and encouraging their employees to serve as members of the RMD Board of Directors.

PCRS
PLASTIC CUSTOM RESEARCH SERVICES

PLASTICS CONSULTING, INC.
WWW.PLASTICSCONSULTING.COM

CRI
CUSTOM RESINS

M. HOLLAND
THE GOLD STANDARD IN PLASTICS

Glenn Beall Plastics, Ltd.
Product Design
& Development

nexeo solutions

ExxonMobil Chemical

Pennsylvania College of Technology
PENNSTATE

Plastics Innovation & Resource Center
www.pct.edu/pirc

SELJAN COMPANY INC.

Chevron Phillips Chemical Company LP