There is a lot of interesting content in the June issue of ARMO NEWS. The issue is sponsored by LyondellBasell.

Our newsletter can be divided into two parts. One includes information on the rotomoulding events worldwide that have already taken place, while the other presents even more interesting events to take place in the future, with appealing programmes and… beautiful photographs. Throughout the whole newsletter there are attractive materials on the rotomoulding industry.

There is a particularly noteworthy article of the Italian rotomoulding organisation, AISIR, on “LIVING AT SEA”, which with its photographs fits right into the current season and summer holidays that probably most of us are looking forward to quite impatiently. A must read if you want to find out what rotomoulding technology has in common with the construction of the prestigious AZIMUT yachts.

Another article not to be missed is by Ms. Leisa Donlan from the ARMA, who describes innovative solutions in communications with rotational moulding manufacturers through the organisation’s webpage. The current issue also continues the interesting feature by John Steel of Ico Polymers on the technical aspects of colour choice in rotomoulding, and also presents an interesting piece on product innovations by LyondellBasell.

Wishing you a pleasant read, as usual I encourage you to contact me with your notes and comments.

Anna Walorek-Iwanowska
ARMO Secretariat Manager
### ARMO calendar - upcoming events

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<th>NAME</th>
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<tr>
<td>StAR Meet &quot; ROTO - PROFITS &quot; Full Day Seminar by Gary Lategan,</td>
<td>July, 2010</td>
<td>Holiday Inn, near International Airport</td>
<td>S.B. Zaman</td>
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<td>Rotosolutions</td>
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<td>StAR Meet</td>
<td>August,2010</td>
<td>Chennai</td>
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<td>Annual ARMSA conference</td>
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<td>AFR Conference Annual</td>
<td>22-23.09.2010</td>
<td>Lyon/France</td>
<td>Anne De Lansalut, <a href="mailto:a.delansalut@allize-plasturgie.com">a.delansalut@allize-plasturgie.com</a></td>
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<td>Fall Training course for Rotomoulding technicians.</td>
<td>September, 2010</td>
<td>Italy</td>
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<td>Rotomoulding.”</td>
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<td>ARM CE / CEE ARM</td>
<td>14-16.10.2010</td>
<td>Slubice/Frankfurt Oder Poland/Germany</td>
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<td>StAR Meet</td>
<td>November, 2010</td>
<td>Delhi</td>
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<td>StAR Annual International Conference</td>
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<td>4th Nordic ARM conference</td>
<td>First quarter of 2011</td>
<td>Denmark</td>
<td>Ronny Ervik</td>
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In 2009, LyondellBasell introduced its first European product developments for use in rotomolding applications. Based on LyondellBasell’s Spherilene S process and a new catalysis system, Lupolen 3621 M RM and Lupolen 4021 K RM have the potential to establish new performance benchmarks in the production of rotomolding applications. The linear medium density polyethylene materials are new-generation hexene, fully UV-stabilized polymers.

Extensive customer trials have shown the grades to possess very good mechanical properties, such as very high stress cracking resistance (ESCR) and impact performance at low temperatures.

Lupolen 3621 M RM can be considered by customers for use in tanks, septic sewage systems, transportation and storage containers at sub-zero temperatures.

Lupolen 4021 K RM can be considered for use in large tanks, such as heating oil tanks, water tanks and agricultural storage tanks.

The resins are available in pellet and powder form and can be purchased directly from LyondellBasell or through its Ultrapolymers distribution network.
LyondellBasell’s new black grades used in rotomolding

LyondellBasell has recently extended its product portfolio with high-quality compounded black versions of both resins, Lupolen 3621 M RM Black and Lupolen 4021 K RM Black.

Potential application areas include fuel tanks, technical and industrial parts and underground applications such as manholes or sewage systems.

Both resins will be offered in pellet and powder form. Please contact LyondellBasell for samples.

Targeted APPROVALS

LyondellBasell is in the process of obtaining certification of the grades from organizations relevant to the rotomolding industry (DIBT, KTW, WRAS, TÜV). Results are expected in the second half of 2010.

For more information, please contact us.

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http://www.lyondellbasell.com

We will be happy to welcome you at our booth on the K-Fair.
Designers meet rotomoulding industry representatives in Lyon

In recent years, there have been significant changes in the rotational moulding industry (machines, materials, processes) bringing it out of the handcraft rut where it had been stuck for years. Representatives of the rotational moulding industry affiliated with AFR (Francophone Association of Rotational Moulding) include manufacturers of materials, moulds, machine design engineers, rotational moulding specialists, research centres. At their invitation, industrial designers had an opportunity to learn about this process at a meeting held in Lyon in June this year.

The event took place on 3 June 2010, at the Plastic Ecodesign Center, the first facility of this kind in France, opened at the beginning of May 2010 in Lyon. The interesting exposition "Materiautech du Rotomoulage" (rotomoulding technical materials) helped all the participants discover the abundance of materials and made for sensory evaluation of their qualities through the use of model samples (les Gems® rotomoulés).
Growing South East Asian / ASEAN Interest in Indian Rotomoulding Industry

The South East Asia region and the ASEAN countries have been growing as India’s trade partners ever since the signing of Free Trade Agreements (FTAs) between India and some of these countries in the recent past. The same spurt in interest and activity has been seen in the rotomoulding sector between these countries and India. This was noticed when 7 delegates from 3 companies of the region attended the “ARMO 2010 Rotomoulding Conference by StAR in Goa” in Jan-Feb earlier in the year. The trend continued when around mid March a 20 strong delegation of rotomoulders from Thailand visited the important Indian rotomoulding centres of West and North India. Of particular interest to the Thai moulders were the rotomoulding machine and mould manufacturers of India. Thai moulders like Aqua Nishihara Crop. (who were also represented at the Goa Conference), Cosmos Corp and Diamond Brand Group among others were part of the delegation. They represented a product range which included Water tanks, Septic tanks, Underground sumps, Canoes and Boats.

Indian machine manufacturers like Reinhardt in Vadodara, NAROTO in Ahmedabad, and Fixopan & MPlast in Delhi invited them to their production facilities.

Sailesh Sheth, a Consultant member of StAR made a presentation on Indian Rotomoulding to the delegation when it visited Ahmedabad on March 15, 2010.

Interesting sidelights about the delegation that were notable were that the largest moulder company among them was using 350 MT of raw material per month, and that leading Thai supplier company SCG Performance Chemicals had taken the lead to organize the India visit of the delegation. Since SCG had been Conference and Rotomart participant at “ARMO 2010 in Goa”, there seemed to have been immediate positive fallout of the Goa conference.
Introduction

In 2008, AISR - Aziende Italiane Stampaggio Rotazionale (the Italian Rotomoulding Association) initiated a competition for ideas under the name LIVING AT SEA, developed in cooperation with AZIMUT, the world’s leader in yacht building. The competition was born out of a desire to build a “bridge” connecting designers and producers, with the purpose of developing ideas for applying rotational moulding technologies in shipbuilding, and thus creating a foundation for making real products which could be used in AZIMUT’S luxury boats.

Themes and goals

The underlying goal of the competition was to develop designs of furnishings for the yachting industry that would be innovative both in terms of form and functionality, compatible with the essence of the AZIMUT brand and which could be implemented in mass production. The competition focused particularly on designs of products made using rotational moulding technology destined for two special zones within the AZIMUT yachts, i.e. the upper deck and the cockpit. The following furnishing elements were defined as the key design elements:

- a. a table for the upper deck or cockpit with a fixed height and folding tabletop
- b. a table for the upper deck or cockpit with adjustable height and non-folding table top
- c. folding seats for both zones
- d. a chaise longue for the sunbathing zone
- e. folding and modular upholstered seats
- f. upper deck cabinets for storing kitchen appliances
- g. a lamp or lighting cylinder

All the above-mentioned elements should be equipped with floor fittings or, as in the case of the lamp, fittings for other surfaces as well as the floor, integrated into the product design. Except for the lamp, it was also desirable to integrate the object’s primary function with the possibility of using it as a light source.
Design

Engaged in the design process were postgraduate industrial design students of Istituto Superiore di Architettura e Design (ISAD) in Milan, who participated, as part of their studies in 2008, in a teaching course on Rotational Design, devoted to designing products made using rotomoulding technology. At the meeting which took place in October 2008 at AZIMUT’s head office in Avigliana (Turin), the students were briefed on competition details and the design stage was inaugurated. Design proposals were created between October 2008 and February 2009 under the supervision of the architect Riccardo Giovanetti, who coordinated the projects developed by the participating students. When this stage was completed, in April 2009, the designs were officially submitted to the competition jury comprising representatives of AZIMUT’s design department.

Development and implementation

Out of 45 presented designs, AZIMUT chose the design collection of yacht furnishings made by Roberto Gonnelli, a student from Turin, including a chaise longue, armchairs, table and folding sofas. From the range of objects comprising the design, AZIMUT’s technical office chose the chaise longue which was then refined and put into production. This stage was completed with considerable support from Boca, a member company of AISR, specialising in manufacturing moulds for the rotomoulding industry, which made the prototype samples and then the finished moulds. Thanks to the cooperation with ITR Group, also an AISR member, a series of products was made which could then be officially presented to the general public.

Final presentation

The new chaise longue was first presented by AZIMUT in September 2009 during the trade show “Salon Nautique de Cannes” in France, and then in October of the same year at the trade show “Salone della Nautica” in Genoa. In both cases, the initiative was received with keen interest and broad appreciation. Since then the new product has been officially included in the prestigious catalogue of AZIMUT products.

The outstanding results of this competition show that close cooperation and partnership of producers, industry associations and schools of design can bring noteworthy and innovative affects, by promoting rotational moulding technology and refreshing the aesthetic and functional quality of plastics products.
Working with rotational moulders

At ARMA we often have inquiries from people that are looking to have a product manufactured by rotational moulding, so we have set up a page on the ARMA Website, www.rotationalmoulding.com which provides some simple steps to help get the most out of the consultation process with the manufacturer. We have answered a few of the frequently asked questions here:

Do I need to use a professional designer?

Not always. Some rotational moulding companies have in house design staff, others have strong partnerships within the professional design industry that you can utilize. Rotational moulding design is a highly specialist area and using a designer who is knowledgeable about the process could save you thousands of dollars in mould design, fabrication and manufacturing.

How far along with my product development should I be before I talk to someone?

You don’t need a fully realised design to begin speaking to manufacturers; in fact they can often provide feedback and tips that are specialist to the process to improve your design by eliminating fabrication or simplifying the design. It’s always better to speak with moulders early in the process to ensure you don’t waste time and money.

Why do quotes vary from moulder to moulder?

ARMA recommends you obtain 3 quotes from moulders during the development process. Remember it shouldn’t only be about price and what seems too good to be true, usually is. If there is a substantial difference in pricing, always ask the company what their price includes. You may find one company has factored in a realistic price for warranty service for example and another hasn’t included anything. There may be several excellent reasons for variations in different quotes, to help you compare them accurately, ARMA has a guide on working with moulders, which you can download.

Should I ask for a contract to supply?

ARMA recommends you only proceed when you have a written contract to supply which includes all the details of your project. ARMA members will have their own contract or can access the recommended contract through the association. As a guide, your contract should include the amount of items to be made, how much you have agreed to pay, if the articles will be guaranteed to be fit for purpose, if they include a warranty and who will be responsible for warranty claims.

What if I am buying a load of containers or other products from a manufacturer?

Even if you are buying products out of the stock held by a rotational moulder, you should have a contract that specifically details who will be responsible for honouring any manufacturer’s or „voluntary“ warranty on the products.

Can I ask for product insurance or take it out myself?

It’s an unfortunate reality that in business today, not everyone will survive in the long term. If you have decided to offer an additional warranty (voluntary warranty) to sell your products, you may want to ask your moulder or your insurer about product insurance. This will protect you from claims, should your manufacturer go out of business before any additional warranty period has expired.

What if something goes wrong with the product?

The legal implications of failure will differ depending on where your company is based. In some areas the warranty liability remains with the retailer of the product, not the manufacturer. In other areas this may not be the case but the best way to ensure everyone is clear about what will happen if a product does fail is for the details of this to be included in your contract to supply. ARMA recommends you take independent legal advice before you agree to, or sign, any legal document to be sure you understand the risks.

Regardless of which country or area in which you operate, it is a business owner’s responsibility to ensure they are aware of, and comply with, all relevant legislation in relation to the products they sell and the statements they make to get that sale.

Leisa Donlan, ARMA CEO
ARMSA Rotation 2010

Euphoria Golf Estate & Hydro set in the beautiful Waterberg mountain range in Limpopo, is where ARMSA will be hosting the Rotation Conference for 2010. It is only 2 hours drive from Johannesburg and the 18 hole championship golf course is the first golf course in Africa to be designed by Annika Sorenstam and provides a perfect links like bushveld experience. The Estate is also distinguished by a cableway which links the club house to the mountain estate and Sundowner Deck Restaurant, perfect for watching the sunset while enjoying breathtaking views.

Well known speakers, Leisa Donlan, Dru Laws and Bill Spaceley will deliver relevant papers on tank standards, energy saving and foaming technology. Other South African speakers will give insight into the current Southern African and African economic environment, possible futuristic designs for Rotational Moulding and many more.

In 2010 the ARMSA committee decided to make this a memorable and knowledgeable experience to all current and future rotational moulders. We would like to encourage our overseas counterparts to come and experience South Africa, true South African style and see what South African moulders have to offer.

For any information regarding this conference, please do not hesitate to contact us on info@armsa.co.za.
In our last article about colour we considered how customers react to the colours we choose. But what are the choices for colouring plastics?

- Visual appeal of the colour
- Technical considerations, will the colour be suitable for our process?

In this article we will consider the second point, some of the technical aspects related to colour choice.

We describe the constituents that make up a plastic colour in terms of:

- Colour (or “Hue”) which could be yellow, blue, green etc
- “Chroma” or “saturation” which can be dull or bright
- “Lightness” which can be dark or light
- “Opacity” which describes how much light passes through the colour. Fully opaque is zero transmission and translucent is a high level of light passes through

A regular colour question is: red, yellow and blue are they the three primary colours?

There are two sets of primary colours: red, green and blue are the additive primaries used in colour vision, colour
measurement, television sets and computer monitors (because they correspond to the sensitive elements in the human eye), but cyan, magenta and yellow subtractive primaries used in colour photography and printing. A cyan filter transmits green and blue light (absorbing red), a magenta filter transmits red and blue light (absorbing green) and a yellow filter transmits red and green light (absorbing blue).

The diagram below makes things clearer:

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**Heat stability**

Heat resistance test. Colour change is monitored at each set temperature for 5 minutes. In this example it is clear to see that this “PY180” colourant in HDPE is not suitable for use by all Rotomoulders, since rotomoulding hot air ovens are regularly set at more than 260°C and the colour starts to rapidly change at this temperature. If the moulder were using an open flame type of machine the effect would be even more obvious since surface temperatures can be far in excess of even 350°C!

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**Light stability**

Pigment light stability. In this case PR166 and PY53:1 (shown on the right) is exposed to light for a specified number of hours with the edges of the sample covered to shield the plastic from the light.

In this example it is clear that items made from PY53:1 type pigment should not be used in outdoor applications since most of the colour is lost from the central portion of the plastic plaque during the course of the exposure test.

Heat and light stability are only two parts of the complete picture of technical requirements for pigments used in plastics. Other items we consider include migration, shrinkage effects, compatibility, chemical resistance and regulations such as food contact.

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**Colourants for roto plastics**

The colourants we can choose from to make our colour in rotomoulding are usually either inorganic based pigments which are generally opaque and highly heat stable such as Iron Oxide for example, or Organic type pigments that are highly chromatic, cover a very wide range of hue, are semi translucent and generally less heat and light stable in comparison.

When choosing colourants in rotomoulding, suppliers need to consider the effect of the very harsh temperature environment during the moulding and also in service, such as outdoor UV light resistance. Here are some examples of how some pigments are suitable for rotomoulding and some are not.

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For more information please contact:


A business division of

A. Schulman

* Technical data courtesy of BASF Pigments
2010 ARM International Annual Meeting
October 2-5 in Montréal, Canada

The theme for the 2010 Annual Meeting is Thriving in The Global State of Rotomolding. You can’t afford to miss the premiere even for rotational molders, their suppliers, designers, consultants and educators.

Seminars and committee meetings will be held on Saturday, October 2; the tabletop exhibition will be open on Sunday, October 3; general sessions and workshops will take place Sunday, October 3 through Tuesday, October 5. Please refer to the detailed schedule on the following pages.

Highlights of the 2010 Annual Meeting include a new full-day seminar Practical Rotomolding with the Experts, Keynotes from Paul Nugent and former NBA Player Walter Bond, a spouses program highlighting beautiful Montréal, live entertainment during our gala dinner and much more.

Please review the schedule below. For more information on registration, table top exhibits, overnight room reservations and much more, please visit www.armmeetings.org.

Saturday October 2, 2010

7:00 AM
Seminar Attendee & Committee Member Breakfast

8:00 AM
Advanced Rotomolding Seminar
Roy Crawford, University of Waikato

Practical Rotomolding with the Experts
Dru Laws, Rotonics Manufacturing Inc; Bruce Muller, Plastics Consulting, Inc.; Michael Paloian, Integrated Design System, Inc.; and Sandy Scaccia, Norstar International

Education Committee

10:00 AM
Forums & Programs Committee

Noon
Seminar Attendee & Committee Member Lunch

1:00 PM
Materials Committee
PET Committee

3:00 PM
Membership Committee

5:30 PM
Board and Committee Member Reception

6:30 PM
Dutch Treat Committee Dinners

Sunday, October 3 2010

8:00 AM
Board of Directors Meeting

12:30 PM
Annual Meeting Kick-Off and Introductions
Global Rotomolding: A View from 30,000 Feet
Paul Nugent, MNOP Consulting
Changes in material supply, rollercoaster markets, growth in India and China and growing competition from other processes may seem like threats to some but the entrepreneurial spirit of rotomolding always rolls with the punches and looks for new pathways. Rotational molding continues to thrive globally despite volcanoes and both physical and economic earthquakes. This talk will take a look at regional molding activity and technical development around the world and then look at how rotomolding has truly evolved into a global community where information and opportunity flows faster than ever before.
Paul Nugent is an international consultant who has specialized for the past 23 years in the field of rotational molding. A native of Northern Ireland living in Pennsylvania he holds a Masters of Engineering degree in Aeronautical Engineering and a PhD in Mechanical Engineering from The Queen’s University of Belfast. The subject of his PhD work addressed heat transfer and process variables in rotational molding and his research lead to the development of Rotolog, the world’s first process control system for rotational molding and also of Rotasim, the first complete computer simulation. In 1995, after five years managing the Rotational Moulding Research Centre at The Queen’s University he moved from the academic field into a management position at Remcon Plastics, a US rotational molding company, where for six years he was responsible for production, engineering and quality control. During this time he developed the next generation in rotomolding process control, the IRT non-contact infrared system. In 2001 he left to write a book on rotational molding entitled Rotational Molding: A Practical Guide and has since offered his services in training and consulting to the industry on a worldwide basis. This has allowed him to travel extensively across six continents assisting clients in many roles from teaching to expert witness and from process troubleshooting to the streamlining of manufacturing operations as well as assisting with licensing of products and technology.

Innovative Products from Australasia
Leisa Donlan, ARMA

New Roto-Equipment Concepts (What’s New)
Michel Truax, STP Rotomachinery Inc.
Many rotomolders have special needs or require equipment that allows more flexibility for their operations. Ever try to operate a plant when some molds require very long set-up times or very long load/unload times? When this occurs, most of the time the rotomolder “accepts” the situation and slows down the other arms. Of course, this is not efficient but what can you do? STP Rotomachinery has introduced the Tornado for just this situation. This is a unique swing-arm machine with four truly independent arms. The arms no longer need to follow a pre-determined sequence thus each arm is free to go in the oven as soon as the latter becomes available. If a mold change requires 2 hours, the tornado can still produce parts on the other 3 arms. Downtime on an arm is no longer a barrier to productivity as each arm is independent from the other arms. Moreover, the rotomolder can decide the sequence based on efficiency, not restricted by requirements of the machine.

Global Rotomolding Business Trends
Gary Miller - A.Schulman

Group Breakfast
First-Time Attendee Breakfast

Spouse Program
Spouses will meet for breakfast at 8 AM. They will depart at 9 AM for a guided walking tour of Montreal, which will conclude just before lunch.

General Sessions Welcome

Better Products by Controlling Warpage
NOVA Chemicals

Easy Internal Heating and Cooling of Rotomolding Tools
Rory Jones, La Plastecnica
Mr. Jones will discuss the findings and theories regarding internal heating and cooling of rotomolding tools. In addition he will provide hints for those wanting to introduce this technology in their molding shops. We will discuss the technical hurdles that have been traversed in order to make this technology available to the majority of rotomolders around the world. The highlights of this technology include a 34% improvement in cooling rate, the variation in cooling rate reduced to a third and a 18% reduction in warpage.

Growth Opportunities from India
Ravi Mehra, Norstar International
The rotomolding industry in India has been developing & growing at 18-20% annually. Even higher rates of growth are possible imminent in the next 5+ years. Molders & Suppliers in India alone cannot do justice to this call for growth. Major growth is forecasted for infrastructure, automotive, transportation, furniture, retail, consumer and recreational, to name a few ideas will be presented on what is required and how the advanced global rotomolding community could and should participate in this growth. This opportunity is for ALL - Molders, Suppliers, Consultants, designers, educators and entrepreneurs!
Ravi Mehra has been involved in the rotomolding industry in the US since the early 70’s. He is a past president of ARM International and is inducted into the Rotomolding Hall of Fame. Since 2004, Ravi has been active & instrumental in the development & growth of the rotomolding industry in India. He is the Founding Chairman of the trade association in India called STAR - Society of Asian Rotomolders. He acts in an advisory capacity to companies globally, involved in rotational moulding industry. He holds MSME from UW-Madison, and MBA from RIT, Rochester, NY. His BSME is from BITS, Pilani, India.

In-Mold Labeling (What’s New)
Industramark – Solar –Nova

New Additives and Modifiers for Rotomolding
Thomas Steele, Cytec Industries Inc.
The development of new resins and the identification of innovative end-
use applications is driving growth in the rotomolding industry. Specialty additives and modifiers are playing an especially critical role in the development of these products. In this presentation, new additive solutions for rotomolding grade PP resins will be introduced.

10:25 AM

Innovations and Optimizations from South Africa
Gary Lategan, Roto Solutions

10:55 AM

Rotomolded Manholes for Sewage & Telecom
Miki Burmil, MB Engineering
This case study will discuss using plastic manholes to prevent leakage and protect the environment. Mr. Burmil will discuss the advantages of plastic manholes and the modular design system.

Miki Burmil is a mechanical engineer with more than 20 years of experience in rotomolding. He was a CEO and partner at Polisiv for nine years. He has been involved in preparing the new European standards for Plastic manholes, and chairman of the Israeli committee for preparing the plastic manholes standards.

11:15 AM

All Buts Stink: Creating a Culture of Accountability
Walter Bond
Does your organization have a culture of accountability? When something goes wrong, does everyone start pointing fingers and making excuses?

A large portion of the culture of accountability is driven by the executive team. If you want accountability, you must be accountable. This presentation will give examples of people who modeled accountability and made a difference.

Walter is a business expert, broadcaster, and former professional athlete who played for the Utah Jazz, Detroit Pistons and Dallas Mavericks. His personal credo, “No one can stop you but you,” encapsulates a message of hope, resiliency and positive change. As a highly acclaimed international speaker and entrepreneur, he delivers more than 100 life-changing presentations a year.

12:15 PM

Lunch

Workshops
(Presented Simultaneously on Monday Afternoon – Attendees will choose one during each time period.)

2:00 PM

What’s Your Problem?
Roy Crawford; Gary Lategan, Roto Solutions; and Sandy Scaccia, Norstar International

Choosing the Right Resin
Gary Cheney, LyondellBasell
Technical datasheets (TDS) from suppliers are typically the first screening mechanism used by molders in the selection of a resin for an application. The TDS contain a variety of physical property tests many with almost identical names but which provide vastly different information. This workshop will discuss the different tests performed and how to compare properties found on TDS to aide molders in the selection of the appropriate resin for an application.

Mr. Cheney has a BS in Materials Engineering from the University of Cincinnati. He is a Technical Specialist at LyondellBasell with over 15 years of experience in Technical Service and Development supporting a variety of application areas and leading the Polyethylene North America technical training efforts. During that time, he had the honor of working with and learning from Phil Dodge, Barry Aubrey and Steve Andrzejewski.

Total Process Control
Harry Covington, Ferry Industries; and Nick Henwood, 493K Limited
Ferry Industries has developed a totally integrated process control system that includes parts of Ferry’s existing Rotocure system, the Ferry IRT system and new generation of the Ferry Rotolog. All systems are integrated into one computer system on the machine and allow the user to select which system to use to control the cure process – standard time basis or internal air temperature basis or external mold temperature basis. This innovative system is provided with process documentation to give the molder data files and records on the machine production. For each cycle, weekly or monthly. The system is able to be operated and is easily adaptable to existing machines. Ferry will use a live computer to demonstrate the system to the audience.

How A Safety Plan Can Save You Money
Daven Claerbout, Dutchland Plastics; and Pat Long, Formed Plastics

3:00 PM

What’s Your Problem?
Choosing the Right Resin

Total Process Control
Multilayer Rotomolding of Crosslinkable Polyethylene and Nylon; Tips and Tricks to Achieve Success
Ron Cooke, ExxonMobil Chemical Company
The results from ExxonMobil Chemical development work conducted to meet fuel tank permeation regulations will be presented. The workshop will focus on methods that can be used by rotomolders during routine multilayer tank production. The workshop format will be a 20 minute presentation followed by an open forum for Q&A.

Ron Cooke has worked for ExxonMobil Chemical Canada for 23 years. He has held a number of technical roles at ExxonMobil Chemical’s polyethylene manufacturing facility and for the last 10 years been responsible for providing Applications Technical Service and Resin Development for ExxonMobil Chemical’s Rotational and Injection Molding Polyethylene business. In Rotational Molding, Ron provides support for both linear and cross-linkable polyethylene products.

4:15 PM

What’s Your Problem?
Multilayer Rotomolding of Crosslinkable PE and Nylon

Total Process Control
How A Safety Plan Can Save You Money

6:30 PM

Gala Reception

7:30 PM

Dinner, Awards Presentation and Entertainment
Tuesday, October 5, 2010

7:00 AM
Group Breakfast
Past Presidents’ Breakfast

8:00 AM
General Session Welcome

8:10 AM
European Innovations in Rotomolding
Nick Henwood, 493K Limited

8:35 AM
Rock and Roll: Past or Future of Rotomolding?
Martin Spencer, Rototek

This presentation will explain the principles of rotomolding with rock and roll ovens covering from basic principles aspects of heat distribution, powder distribution and tool motion. Rock and Roll machines offer the opportunity to take control of these principles. With relatively simple implementation of internal temperature control, internal cooling and pressurisation it is possible to produce technically complicated mouldings on rock and roll machines. Mr Spencer will argue that the principles of Rock and Roll are under utilised in our industry and offer tremendous opportunities for the future.

Martin Spencer is the Chairman of the British Plastics Federation Rotomoulding group and the Managing Director of Rototek. He trained as an electrical engineer but started work in Composites producing kayaks and boats for use in international competition. From there he formed a company to produce composite foam sandwich paddles which were sold worldwide. As the kayak market moved from composites to Rotational moulding Martin started to design for the process in 1981 and work in the process from 1985. In 1993 he along with several other engineers formed Rototek to provide a technical rotational trade moulding service.

9:10 AM
Case Study: Rotomolded Naval Patrol Boats – Flex Rider
Stanley Widmer, Stanley Widmer Associates

This session will present a case study for naval patrol boat that was funded by the US Congress’s request for a safer boat that would save lives and reduce injuries. One of the main features of the Flex Rider is the flexing hull that reduced the G-load, a regular problem with most present hull designs. This design will be used for large patrol boats, tri-hull landing crafts and consumer model. The cast tooling in a modular approach lends itself to having inboard or outboard engines. Open decks or half cabins are also available with this modular approach.

Stanley Widmer is a disabled veteran, small business owner and defense contractor. He built his first hydro at the age of 14 using wood construction. He majored in Industrial Design at Layton College. His first job was with the Mercury Outboard Engine Research Center in Oshkosh WI. In 1963 he began working for Graco as a project engineer and head of industrial design. In 1972 he started his own Industrial Design Engineering Company.

9:40 AM
2009 Product of the Year Case Study
Reijo Strom, Motoral Co.

Motoral Co was the winner of the product competition in the Innovative State-of-the-Art and Product of the Year categories at the ARM 2009 Fall Meeting in Minnesota. The triumphant product is the NoiseGuard, a noise reduction solution for mobile surface crawler drill rigs. The revolving drill boom is completely covered with rotomolded double wall elements which effectively absorb the harsh metallic sounds during drilling operations.

The presentation includes a brief walkthrough of the “record long” R&D history of the NoiseGuard project which began all the way back in 1998. The walkthrough is followed by a video of drill rig in action on a highway construction site.

Reijo is the owner and CEO of Motoral Co Motoplast rotational moulding division. He started his moulding business in 1978 and been actively involved in the industry ever since. Reijo has served on the ARM International Board of Directors in two 3-year terms. He has been an avid spokesperson for rotational molding at different seminars around Nordic countries giving numerous presentations about the process.

10:30 AM
Cost cutting approaches for your operation
Nick Henwood, 493K Limited

This presentation examines, in detail, how the analysis and optimisation of cycle time using real time measurement of gas consumption and inner mould temperatures can be used to reduce the overall energy consumption of the process, make step changes in process control, dramatically improve manufacturing efficiency. In the near future, such developments will become increasingly necessary as rotomolding competes with processes such as injection molding, blow molding and thermoforming.

10:50 AM
Rotation Speeds & Ratios
Dru Laws, Rotonics Manufacturing Inc.

11:15 AM
PE Dust Explosion Hazards
Jon Ratzlaff, Chevron Phillips Chemical Company

11:45 AM
Industrial Design – Outside the Box
Walter Ginn, Ginndesign LLC.

12:10 PM
Closing Remarks

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BPF seminar reveals versatility of Rotational Moulding process

The British Plastics Federation’s (BPF) Rotational Moulding Group's seminar, Design Innovation in Rotational Moulding held at PDM 2010 on May 19th presented a case for the versatile nature of the Rotational Moulding process to its diverse group of attendees.

The event, which brought together a coterie of attendees from multi-disciplinary backgrounds comprising of designers, moulders, tool makers and students acted as a forum for discussion and information sharing around key developments in Rotational Moulding Innovation. Highlights of the seminar included a detailed brief on the process of Rotational Moulding, the variety of materials available and their advantages – all of which were key areas of interest to attendees.

Delegates heard that not only 1268 KTS of Polyethylene is consumed in the global rotomoulding market but some 32 materials and variants can be rotationally moulded. Among the mind boggling array of applications discussed were furniture, kayaks, automotive fuel tanks, statues, sport goods and hospital cabinets.

Knowledgeable industry speakers were also recruited and gave presentations on current issues such as the availability of raw materials, use of Recyclate and End of Life Application and shared their expertise on various aspects of Rotational Moulding Design and Innovation with the group.

In his presentation, Speaker and Group Chairman Martin Spencer, Managing Director of Rototek, highlighted the benefits of good design and the great scope of the rotomoulding process.

“The rotomoulding process offers great opportunities for collaboration between designers, moulders and end users to create product impossible with any other process,” said Spencer.

The Seminar is by far one of the biggest success stories of the Rotational Moulding Group this year, and has proved to be a valuable channel by which to promote and encourage innovation in the sector and open the process of Rotational Moulding to a wider audience.

If you require information about the Rotational Moulding Group or BPF membership, please contact djoshi@bpf.co.uk or call 0207 457 5037.

ENDS

For all media enquiries, BPF logos and images, please contact Rita Ogole, Senior Public Affairs Executive on 0207 457 5043 or email rogole@bpf.co.uk

Notes for editors:

British Plastics Federation (BPF) is the UK trade association for the plastics industry – representing the whole supply chain including polymer producers, distributors, additives suppliers, machinery manufacturers, processors and recyclers.
Central & Eastern European Association of Rotational Moulders (CEE ARM)

At the end of May, the PLASTPOL trade fair, the biggest event of its kind for the international plastics processing businesses in Central and Eastern Europe, was held in Kielce, Poland.

For several years now PLASTPOL has held a leading position in the rankings of the Polish Trade Fair Corporation, with the biggest numbers of foreign exhibitors. This year’s trade fair attracted 600 companies from around the world. The exposition included nearly all items related to plastics processing, starting with the early stages of plastics production and finishing with utilisation and recycling. Visitors were able to see plastics processing machines, equipment, moulds and tools used in the industry, components, as well IT applications for plastics processing.

Organisations affiliated with the ARMO, too, made their mark at the PLASTPOL trade fair. CEE ARM (Central and Eastern European Association of Rotational Moulders) had a conference room for its guests and affiliates, while BPF (British Plastics Federation) had its own stand. The French company SAT and ICO POLYMERS also presented their products and services. Even though there were few exhibitors representing the rotational moulding technology and scant rotomoulders exhibiting at this year’s fair, PLASTPOL was visited by numerous industry representatives. Among the trade fair’s visitors there were also representatives of companies affiliated with CEE ARM. CEE ARM is taking this early opportunity to invite you to participate in a seminar on rotational moulding technology, which is planned at the next year’s trade fair – PLASTPOL 2011.
We manufacture products and develop technologies that improve the quality of life for people around the world. Our products are the basic building blocks used to manufacture countless everyday goods such as personal care products, fresh food packaging, lightweight plastics, high-strength construction materials, automotive components, biofuels, durable textiles, medical applications and many others. With the help of LyondellBasell materials, thousands of products are made safer, stronger, more affordable and more reliable.

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We also believe it is important to enhance the local communities where we operate. We recognize that the safe manufacture and use of our products require our dedicated care and expertise.

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