November 2015 Vol 11 No.5

ROTOTALK

Quarterly Newsletter of Society of Asian Rotomoulders

Editorial Comments

It has been a season of records for StAR. The biggest ever group from StAR for a conference outside India marked an impressive presence at ARMO2015 in Nottingham - 26 delegates, 4 exhibitors including a world class product , and 3 sponsors. On Oct 20 StAR's Ahmedabad Regional Meet & Seminar notched up the highest attendance ever of 87 attendees in a first ever Meet inside an institure campus– National Institute of Design (NID). The stage is now getting set for a successful StAR 2016 Annual Conference in Goa from feb 1 to 3.

Dear Reader,

An opportune moment for StAR and the Indian rotomoulding industry is set to arrive at the StAR conference in Goa in February 2016. The theme of the conference **Rotoscope Growth Opportunities in Resurgent India** will epitomise the new found strength in the Indian economy with consequent impetus for the rotomoulding industry.

The StAR presentation at ARMO2015 by Ravi Mehra had given cogent reasons for the promising new developments receiving sustenance from a well laid out foundation of traditional enterprise and innovation. The key message from the presentation was conveyed by Mangalyaan, India's successful Mars Mission. It combined Excellence with Affordability, by troubling the national exchequer less than what the producers faced in making the film Gravity.

Emerging from the Indian rotomoulding industry are products which can compete with the best in the world in quality and performance. Indian Government's policies and programmes are continuously opening up new opportunities for the infrastructure sector and thereby rotomoulding. Circumstances cannot be better for the industry to come together, from India & from overseas.

S B Zaman
StAR Exec Director

R P Shukla
StAR President

StAR AHMEDABAD MEET AT NATIONAL INSTITUTE OF DESIGN


NID Speakers

Rotomoulders in India are now paying more attention to engineering and design as high quality products are emerging from the country's rotomoulding industry. Aesthetics and ergonomics now find an important place in defining quality of a product

It was not surprising that the most recent StAR Regional Meet on Oct 20 2015 had Design as its principal theme, and most interestingly the premier National institute of Design (NID) in Ahmedabad was venue of the Meet. Set up with international collaboration in the early 1960s the institute has not only been declared "Institution of National Importance" in India, but is well recognized around the world.

The Regional Meet and Seminar in the NID auditorium was special in many ways. The highest number for any StAR Regional Meet, eighty seven attendees were present, almost equally divided between the institute's faculty and students, and industry representatives. A substantial number of local moulders were present. This was also the first time that a StAR Regional Meet was held inside the campus and with the collaboration of an institute.


StAR Speakers

The full day event opened with a half day Seminar which was structured to provide better understanding of the rotomoulding process for the budding designers. For the rotomoulders it was an opportunity to become more aware of the importance, intricacies and possibilities of design in their process.

The Director of NID Prof Vyas in a keynote speech made the point that the institute had the necessary talent, and experience of working with other industries, to make a tryst with rotomoulding.

Director Vyas gave two examples of this potential by citing the Indian Government mandates given to NID.

- As Co - ordinating body for all design work associated with Indian Railways, the fourth largest in the world.
- As the nodal agency for promoting Design Clinic Schemes in Medium & Small sectors (MSME).

Three faculty heads of the institute then spoke about the orientation of their respective departments for practical interface with different segments of the rotomoulding industry. The departments being:

- Product Design
- Games & Toys
- Furniture

As part of the seminar StAR Speakers appropriately spoke on What is Rotomoulding, and

Case studies of

87 attendees in auditorium

Design playing an important role in rotomoulding projects.

Interactions during the seminar explored the potential and preparedness of the use of design through the participation of NID and its students in the rotomoulding industry of the country.Different aspects of rotomoulding featured in the presentations by StAR Speakers, while NID Speakers spoke on their industry related activities like Design Clinic Scheme and India Mark.

Presentations in the post lunch session covered interesting rotomoulding aspects like

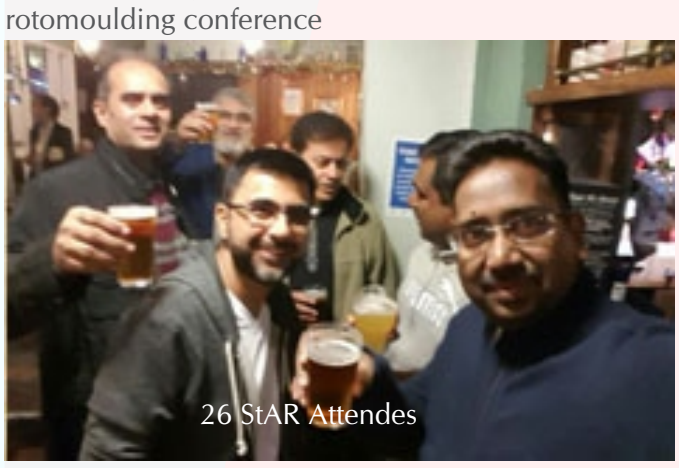
- Quality Compounding
- Latest in Foaming
- Contemporary Indian Machines and Moulds
- Rotomoulded Water tank market dynamics vis – a-vis entry of Blow Moulding.

Table top displays by StAR supplier members NAROTO and GreenAge Industries drew a lot of interest from NID students. The Two companies were Joint Sponsors of the Regional Meet and Seminar.

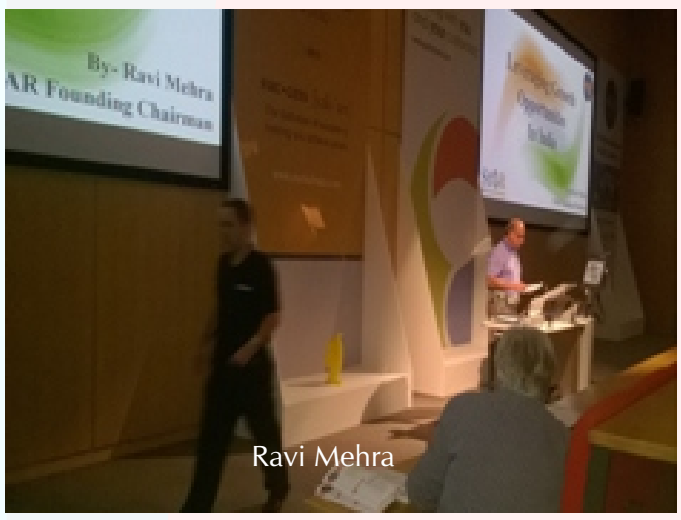

NID Student asks question

ARMO2015 In Nottingham–UK, Sep 13-15 2015 - PHOTO FEATURE

One of the biggest global audience for a rotomoulding conference



Biggest ever group to attend international rotomoulding conference outside StAR



3 Presentation by StAR Speakers

StAR Presentation by Ravi Mehra; Technical Presentations by Dhanu Patell of Reinhardt and Mohit Shukla of MPlast

Exhibitors From Around The World

Slick Booths and Products Display

Exhibitors From StAR

Erickshaw by OK Play

Reinhardt India Booth

StAR Exhibitor EEC-Egypt

MPlast India Booth

A table for StAR at the Matrix Dinner on September 13

GALA DINNER OCT 14

Robin Hood & his Sherhood Friends - A recurring Theme

A once upon a time church - now GALA Dinner venue

Unique ambience

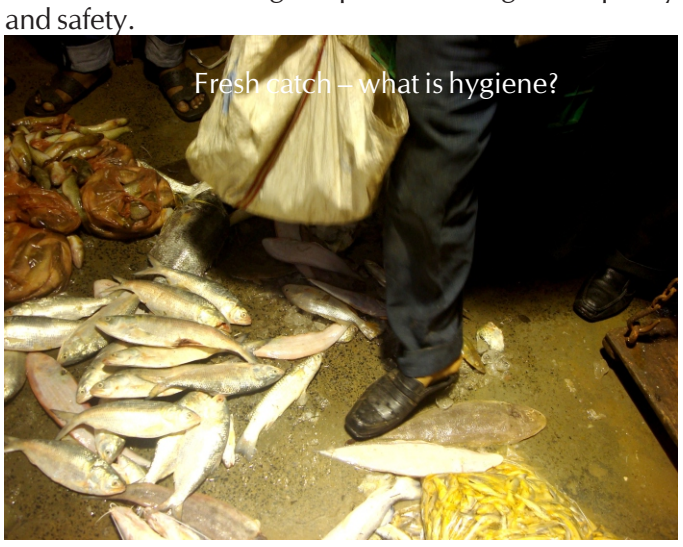
Guests at Dinner Hosted by StAR

StAR group & Friends of StAR from other countries at indian Restaurant Memsaab on September 15

FOOD SAFETY & QUALITY

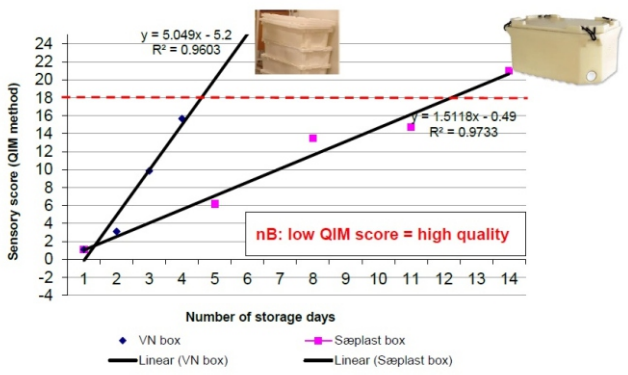
When we hear the word rotomoulding, our minds still sticks to the image of black / blue water tanks on the roof tops of buildings. But suddenly hogging the limelight is – "Food safety and quality". of fresh produce, which we take for granted – but so important as it is related to food which lands up on our table.Taking the case of marine products - once caught, marine food products are highly perishable. Marine foods are required to be quickly chilled to retain their quality and avoid degradation while for export they typically need to be quickly frozen after initial processing and kept frozen until purchased by the consumer.

What happens when these products are harvested from farms and transported to market or within processing centers or from market to local dealers – that is the story where we need to dig deep for ensuring food quality and safety.



Currently, rotomoulded tubs are trying to play their part by providing the optimum temperature during transport and storage; so that the product maintains its quality throughout. Rotomoulded tub's like that of Seaplast should be robust insulated double-walled design yielding longer life and reduced long term costs. Also, ergonomically designed one piece construction facilitates easy cleaning and sanitation thus saving water costs, sewerage costs, labour and time to clean the bins properly. PE is also resistant to the absorption of liquids, thus providing durability, optimizing hygiene and mitigating harmful bacteria migrating to food.

Let's try to understand this with help of the graph below –



Quality changes of cod in a single wall box("VN box")and an insulated Saeplast tub.

Then again, comes the consideration of cost, where the argument comes in favour of single walled crates/ non-insulated boxes, if just looked from narrow prism of purchase costs. Even though the purchase costs are low for such products, we must look at the cost of ownership if just looked from narrow prism of purchase costs. Even though the purchase costs are low for such products, we must look at the cost of ownership – that would include the amount of ice which needs to be mixed with fish/prawns to keep up its quality, then further would be durability and hygiene where Saeplast rotomoulded insulated tubs would score much better better especially for such low temperature applications

If Indian marine industry has to compete with international players there remains gargantuan task of educating the entrepreneurs and end customers. As observed in interaction with entrepreneurs and people engaged in this sector, the awareness regarding usage of food grade raw material for plastic containers, knowledge of optimal environment for marine product transport and storage is very low in India. While for Sae plast, this remains the core of business.

Not only is this beneficial to enhance quality, but also the remedy to India's dubious distinction of being one of the world's biggest food waster

1. As our former agriculture minister, has noted - food worth $8.3 billion, or nearly 40% of the total value of annual production, is wasted.
2. Right now the Indian marine industry is set for a big leap as also outlined as "blue revolution", if we focus not only on catch and harvesting of product but also on transport, storage and processing as also being urged by ASSOCHAM for updating food safety protocols to meet global quality specifications, thereby mitigating export rejections and ensuring regular trade and livelihood for fishermen. Since, Indian economy is still the bright spot in global economic situation and our middle class is going to increase, I would go for the combination of thoughts of our honourable PM and RBI governor – "Make in India" and "Made for India." Being in this business for long and invested for research in this field, expertise of Sae plast is there to improvise on current practices and close the gap. Insulated challenges the Indian seafood industry is facing, as it has done in Europe and the US.

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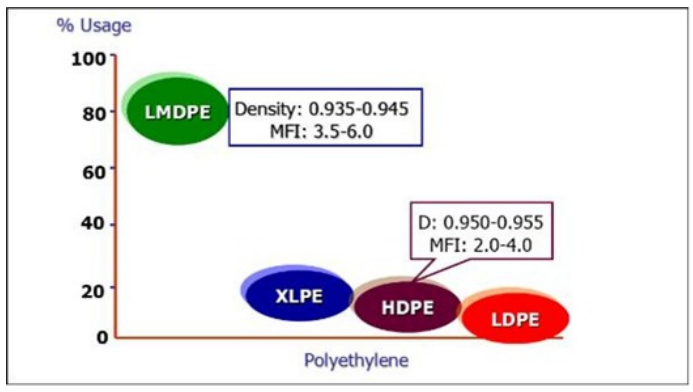
MATERIAL CHOICE AND ADDITIVES IN ROTOMOULDING

Rotational moulders are currently using several different materials for rotational moulding. However most of the products made by the process use polyethylenes in powder or pellet form. In different parts of the world this material is supplied in either a pellet form which is then ground into powder colored and prepared to specification by the rotational molder or the powder is supplied to the molder ready for manufacture. Apart from a huge range of colors powder may also include a flame retardant UV resistance or a range of other specific formulations.

More than 80% of all the material used is from the Polyethylene family: Cross-linked Polyethylene (PEX), Low-density Polyethylene (LDPE), Linear low-density Polyethylene (LLDPE), High-density Polyethylene (HDPE), and regrind. Other compounds are PVC plastisols, Nylons, and Polypropylene.

Material –Properties wish list				
Resin / Properties	PE	PP	PA	PC
High Temperature Resistance	×	✓	✓	✓
High Stiffness	×	✓	✓	✓
Good Impact properties	✓	×	✓	✓
Paintable	×	×	✓	✓
Easy to Mould	✓	✓	✓	×
Chemical Resistance	✓	✓	✓	×
Cost per kg	✓	✓	×	×

POLYETHYLENE USAGE



Polyethylene Selection Criterion:

3rd generation PEs are linear in structure.

- To enhance properties, co-monomers are injected with ethylene.
- Higher the derivatives of co-monomer, improvement in mechanical properties.
- Commercial grades are modified either with Butene (C4) or Hexene(C6) or Octene (C8). Globally (C4) & (C6) MDPE more in use.

Polyehylene Resin & Grade Selection:

Grade selection depends on product, product design , processing facilities, Use of the product and Product Life. More complicated the design more difficult to select a grade. Like in automotive you need more Izod-stiffness balance with high abrasion resistance, For Underground products you need more flexural modulus and better rigidity, For outdoor playground toys you need higher stiffness, lower static charges, higher UV stabilities and better aesthetic.

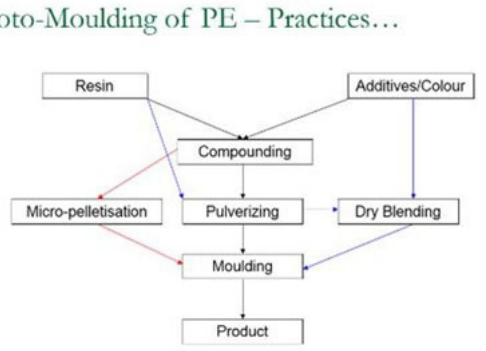
Polypropylene Resin for Rotomolding:

Rotomolding is generating some interest on this material. PP has Continuous service temperature is higher than PE.PP has more Rigidity than PE. PP has higher ESCR values. In PP Adequately stabilized, 10-20 MFI grades are used. Certain niche sectors will be taken over by PP like Toys, Automotive , Chemical tanks and Furniture's.

Additives For Rotomoulding:

Major additives / compounds used in rotomolding sector are:

- Foaming agent
- Fungicides
- UV stabilizers
- Antioxidant
- Mould releasing agent
- How to process material in rotomolding:



"Quality speaks for itself and is the most affordable in the long run"

Manoj Patria
Relaince Industries
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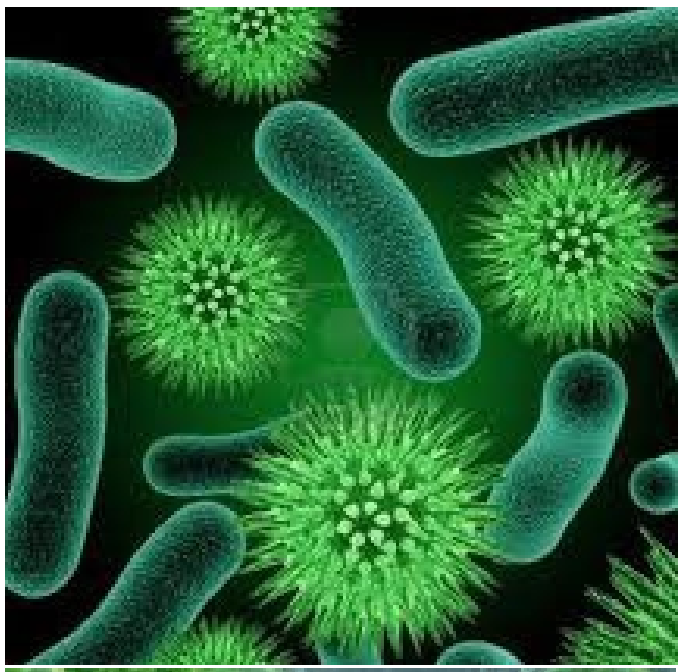
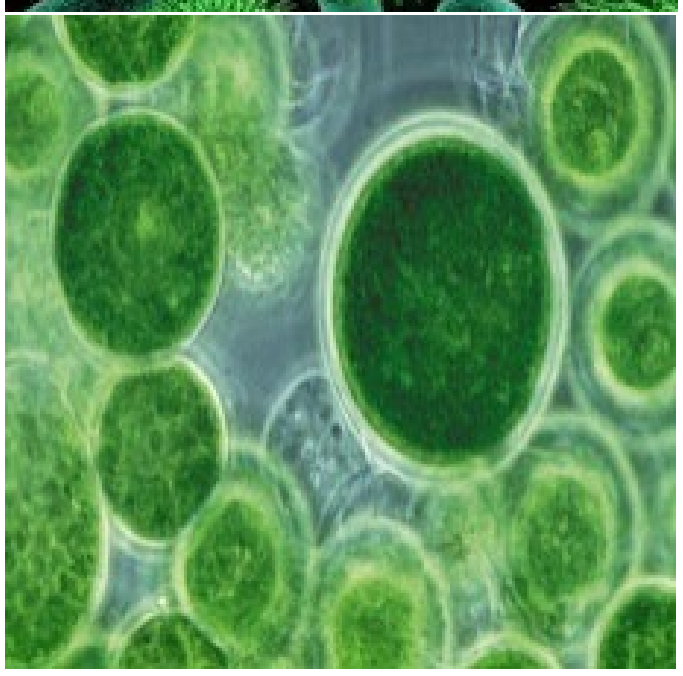
UMAKANT's TECHNICAL CORNER

UNRAVELLING ANTIMICROBIALS IN ROTOMOULDING

Plastics are solid polymers and contain a lot of additives. The presence of additives used in plastic and in combined with the moisture make them prone to microbial attack leading to degradation, discoloration and formation of destructive bio film and malodor.





Bacteria growth takes place at rapid pace in presence of moisture, causes odor.Algae gives green spots on surface,requires light to grow.

Types of Microbials

1.Silver based anti-microbial for life long performance.

2.Other common arsenic-based materials for short term use (Economic, Non food grade) e.g. packaging

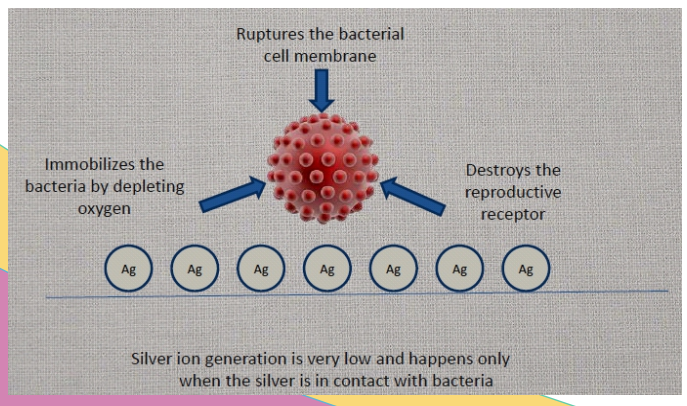
Naturaly for lifelong performance, Silver based antimicrobial is the best for rotational molding applications.

Silver based antimicrobial polymer compounds specially developed for rotational molding applications has permanent antimicrobial properties.

It impedes the growth of bacteria on treated surfaces of products, greatly reducing stains, odors and keeps hygiene.

How does it work ?

The silver ions within special carrier, which disperse uniformly throughout the polymer matrix. These silver ions create a large "internal" specific surface within the polymer and this creates an extremely high efficiency antimicrobial action. These silver ions are not depleted easily during the inhibition process, thus the antimicrobial effect of MicrogoneTM is not diminished



These silver ions when come into contact with bacteria acts in three ways-

The silver ions are not depleted easily during inhibition process, and sufficient amount of silver ion is present in the plastic over a period of time thus, antimicrobial effect is lifetime.

Silent features of silver based antimicrobial :-

1.High Performance: -Excellent antimicrobial efficacy and resistance to algae growth.

2.Safe : Non migrating

Its safe for food packaging, tested as per EU10/2011 and USFDA /75,300 hence safe for water storage tanks, food containers etc.

3.Sustainable : Low silver loading

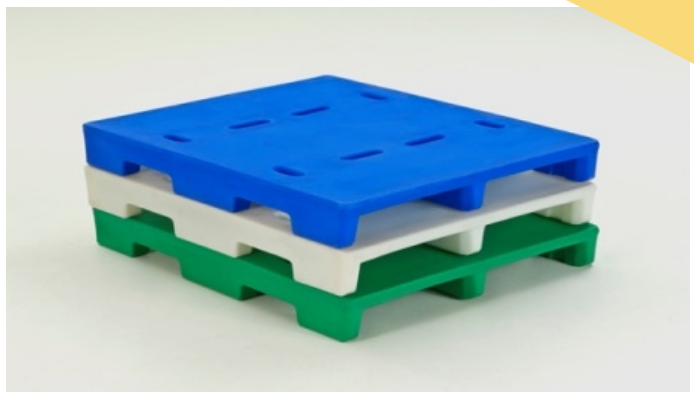
- Slow and low silver ion emission
- Bound to plastics through silicone silica matrix
- Non hazardous substances
- Non migration of silver from plastic, hence safe for the environment.
- Silver is inorganic, it does not decompose and release harmful chemicals to the environment during its processing and during the use of the polymer.

Applications :

Rotomolded articles requiring hygienic surfaces inside or outside like :-

1.Water storage tanks

2.Material handling trollies, storage bins ,pallets



3.Portable toilets, basins etc.

Uniquely designed antimicrobial plastic compound can guarantee antimicrobial protection in plastic items. The world antimicrobial plastics markets are currently in the development stage with healthcare segments such as utilities and medical devices continuing to be forerunners in the adoption of these products. As Consumers are investing in all aspects of hygiene, wellbeing and seeking out products that enhance health, comfort and inner confidence.. Use and demand of antimicrobial is on growth path .

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MORE CUSTOM & PROPRIETARY MOULDING IS BETTER FOR GROWTH – US STUDY

Analysis of data in Plastics News Annual Ranking of North America Rotomoulders has lessons for Indian rotomoulding.

Higher percentage of Custom & Proprietary moulding in the industry provides more impetus to growth. Custom & Proprietary moulding require a rotomoulder to take more initiative and be more innovative than doing run of the mill work. It is worth investing time, money and effort in these kinds of rotomoulding because of comparatively higher returns from them.

The latest Plastics News Ranking data shows that overall sales in the North American roto industry grew by 1.3% over that of the previous year. However in the case of Custom moulding the growth was about 1.5% and that for Proprietory moulding the growth was around 5%.

With low technology, stress from a disproportionately high percentage of moulders in the general segment, and the strain of Blow moulding making inroads, margins are disappearing and the struggle for survical is increasing for for Indian water tank manufacturers.

Although it may involve a paradigm shift in terms of Quality standards, Product development and Production norms, Custom and Proprietory moulding appear to be the likely answer for higher & durable profitability.

WELCOME NEW MEMBER

COMPANY	CATEGORY	PRIMARY CONTACT
Shiva Polycompounds Ahmadabad	Supplier	Roshan Sabnani

FORTHCOMING EVENTS

DATE	VENUE	EVENT
Feb 1-3, 2016	Goa	StAR 2016 Annual Conference
Feb 9-10, 2016	Borås, Sweden	9th Nordic ARM Conference
Mar 9-10, 2016	Gauteng, South Africa	Rotation 2016
Jun 19-21, 2016	Gold coast, Australia	Rotomould ARMO 2016 Conference