

# ROTOTALK

Quarterly Newsletter of Society of Asian Rotomoulders

## Editorial Comment

The Attendee numbers and Positive Attendee Feedback at StAR's three "Rotomoulding Promotion Regional Meets" during this year have been a revelation. Sixty at Nashik on April 13, Seventy five at Coimbatore on August 18 and sixty five at Kolkata on September 8 were highly encouraging attendance figures for a new StAR rotomoulding promotion programme. Both non rotomoulding plastic processors and rotomoulders showed their appreciation of presentations on themes of "What is rotomoulding?" and "Better rotomoulding". Partnering locally strong umbrella plastic organizations in all three regional meets exemplified how synergy between plastic organizations can be harnessed to promote unique and useful plastic processes like rotomoulding.

## Dear Reader

The tri-annual Rotoplas of ARM, USA showcases the biggest international rotomoulding exposition and the one from 26th to 28th September in Chicago this year is set to herald a special season of global rotomoulding events. StAR on its part will be holding its fourteenth annual conference and trade show in India's historical capital city of Delhi. It will commence international rotomoulding events for the new year on a theme which is likely to generate considerable interest for Indian and global rotomoulding **GST – GLOBAL STATE OF TECHNOLOGY**.

The theme of the conference which is scheduled from 19 to 21 January 2018 is likely to play a crucial role in generating tone and tenor for the event which will be a boost for the technologically transformational stage in which the Indian rotomoulding industry is in. It will Identify key areas that are in greatest need of advanced knowledge sharing by selecting appropriate topics and speakers.

This task is in the process of being well accomplished at the StAR conference.

Realisation has dawned that the bigger objective can only be achieved together by the major players across the spectrum of the industry playing their part, with the participation of all the others.

The winds of change in the Indian industry have been evident for a while with international class gradually becoming the norm in production processes and quality standards.

Destination Delhi in January 2018 will be really worth the while of industry members all over India and across the world.

Ashish Baheti  
StAR President

S B Zaman  
StAR Exec Director

## StAR - IPF JOINT REGIONAL KOLKATA MEET – GOOD RESPONSE IN THE CITY OF JOY

StAR was holding a regional meet in the old imperial Indian capital city after a lapse of over five years, and with a difference. One of the oldest plastic organisations in the country, Indian Plastic Federation was partner in an event where sixty five attendees came in equal strength from rotomoulding and non rotomoulding plastic sectors.

The setting could not have been better for a meet to which attendees came from various parts of the country's eastern sector. The Floatel hotel built on a barge on the tidal Hoogly river provided an exotic setting for the Meet and for some of the attendees who stayed at the venue.

Present were the main office bearers of IPF like Vice President Amar Seth, Secretary Alok Tibrebal & others; main Kolkata based moulder companies like Patton, Raunaq, Oriplast, Balaji, Hilltake etc; principal supplier companies like Haldia, RIL, IOC, GAIL etc. Sponsor supplier companies – Prayag, Chem- Trend, NAROTO & GreenAge (plus S S polyfusion), and Champion of the meet Vectus played very proactive roles in the organizing and promotion of the Meet.

It was heartening to see a prospective new StAR member and young rotomoulder from Jamshedpur Resources showing keen interest and looking for the right networking to enter a segment like Marine products



StAR President A Baheti with  
IPF Vice President A Seth

A. Baheti with Speakers - Sponsors  
Nikhil of Prayag & Ravi of GreenAge

65 attendees - full house

Some old StAR members / partners like Oriplast, Patton, Haldia who did not renew membership in recent years made commitments to become active members again and come to the Delhi conference.

**Presentations made were:**

- **What is Rotomoulding; Advantages of the Process; and Products & Market Opportunities** By Ashish Baheti, StAR President - Vectus Industries
- **Rotofoaming & relevant products** By Nikhl Aggarwal, Prayag Polytech
- **IPF Role in Promoting Plastics** By Amar Seth, Vice President IPF
- **Quality Compounds for rotomoulding** By Ravi Kadiwar, GreenAge Industries
- **Mould releases for Specific Applications** By Linal Amalraj, Chem-Trend India
- **Machine selection – What /Why/ How** By Kiran Panchal, NAROTO
- **Permanent Graphics** By S Padmandhan, SS Polyfusion



**Speakers**

Nikhil Aggarwal

Kiran Panchal

Ravi Kadiwar

Linal Amalraj

S Padmanabhan

Post meeting cocktails on top deck

Floated-on a barge

## ROTOMOULDING PROMOTION JOINT MEET BY StAR AND IPI COIMBATORE CHAPTER

As a leading centre in the country for industrial engineering and technical education the south Indian city of Coimbatore was a natural choice as venue for the Joint StAR Regional Meet to promote rotomoulding.

With StAR member Roots Multiclean leading from the front the Coimbatore Chapter of Indian Plastics Institute, the IPI – StAR partnership worked with great intensity to promote rotomoulding to other plastic processors and better rotomoulding to the rotomoulders present at the meet.

StAR Secretary J.Kirubaharan from Ideal Polytechnologies and StAR Board member Raphy John from Evolve Polymers played significant roles in ensuring a very successful meet. The presence of seventy five attendees consisting of IPI members who were mostly non roto plastic processors, and roto industry people including StAR members was by itself an index of the success.

The interest, the interactions and the keen-ness with which the presentations were followed provided a big thumbs up to the format of the meet.



**Presenting**

Raphy John - StAR Board member

Ravi Kadiwar - GreenAge

J.Kirubaharan - StAR Secretary

L - R : V Palainswamy (IPI-C Secretary ), U Chinnaswamy (IPI-C Past President), Q Balasubramaniam (IPI-C President & MD Roots Cast), J Kirubaharan, Secretary StAR

Rajeev Sharma - SS Polyfusion

S Srinivasan (Treasurer IPI - C & Roots Head Mfg)

75 plus attendees

Supplier member **GreenAge Ind** continued its strong supporter role with a second successive Meet sponsorship as well as an important presentation by its MD **Ravi Kadiwar**. Another supplier member **Chem - Trend** was also sponsor, as also support was received from **Indian Oil Corp Chennai** as Onsite Advertiser. New supplier member **S S Polyfusion (Brisol)** did a presentation and played a proactive role

MD Roots Cast / President IPI Coimbatore Chapter Q Balasubramanium & Past President IPI - C U. Chinnaswamy were there along with other IPI-C office bearers. Q Balasubramanium welcomed attendees on behalf of IPI and spoke on the role of IPI in plastics promotion

**Presentations made at the Meet consisted of :**

- **What is Rotomoulding ; Advantages of the process** By Raphy John, Evolve Polymers
- **Rotomoulded Products & Market opportunities** By J.Kirubaharan, Ideal polytechnologies
- **Role of IPI in Plastic Promotion** By V.Palainswamy Secretary IPI
- **Quality Compounds** By Ravi Kadiwar, GreenAge Industries
- **Indelible Graphics & Roto release** By Rajiv Sharma, SS Polyfusion
- **Role of StAR in Promoting Rotomoulding** By S B Zaman, StAR Executive Director

The discussions and networking over, cocktails and dinner which followed showed how much plastics people have to exchange with one another when they meet with a purpose.

**ADVANTAGES OF PP AS ROTOMOULDING MATERIAL**

Developed by PSD Rotoworx Pty Ltd, an Australian company a polypropylene compound (RMPP141) for rotational moulding meets the demanding requirements of underground manholes & infrastructure parts. Extensive testing conducted by Floteks in Turkey, confirmed to PSD Rotoworx their PP compound was what the industry needed for these applications.

Tests were conducted using less shot weight than was typically used when roto moulding LMDPE grades with favourable results for;

- Ring stiffness
- Vacuum pressure
- Lid deformation
- Impact strength.
- Long Term Creep

Being a polypropylene RMPP141 needs more heat and a little longer time in the oven than LMDPE's. . When moulded under the correct conditions, the RMPP141 black powder produced high quality manholes.

Floteks received an order for a project requiring a considerable number of manholes for installation in Turkey. They had no hesitation in using RMPP141 HR Black for this work.



PSD Rotoworx RMPP141 manhole



PSD Rotoworx RMPP141 for infrastructure

Celal Beysel, President of Floteks, commented, "This PP compound from PSD Rotoworx has a perfect combination of stiffness and cold temperature impact resistance, a hard to achieve specification for most PP grades. It moulds very well without sagging, and also gives the ability to downgauge versus LMDPE."

Installation in the field was a routine assignment and the manholes have now seen active service for over 12 months with no issues.

**Ted Humphreys**  
**PSD Rotoworx, Australia**  
**THumphreys@psdrotoworx.com**

Day – 1 **Seminars** - choice of concurrent sessions  
 Day 2 & 3 - Conference Presentations - 15 to 20 topics covered  
**Trade Show** (on all three days, during the breaks and other times when conference sessions are off)  
 Annual trade show during the conference has gained in popularity over the recent years with attendees

**Social Events**

Poolside ambience under the Delhi winter sky is a great setting for the Suppliers Networking Dinner Reception on the evening of the first day. The Gala Dinner on the second day promises a great evening of entertainment and festivities.

Spouse activities, Customised Delhi sightseeing and Post conference tours in India's main tourism hub can also be made available per individual choices. To be part of this most exclusive conference experience please stay tuned to [www.starasia.org](http://www.starasia.org) or write to [sbzamanp@gmail.com](mailto:sbzamanp@gmail.com).

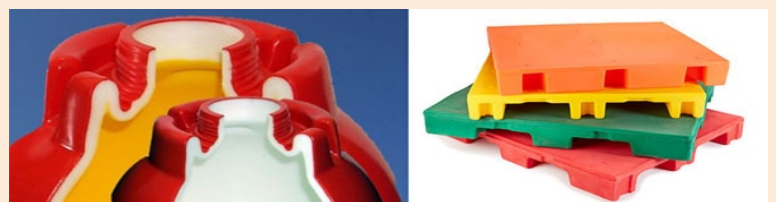


**UMAKANT'S TECHNICAL CORNER**

**Applications of Foam in Rotational moulding**

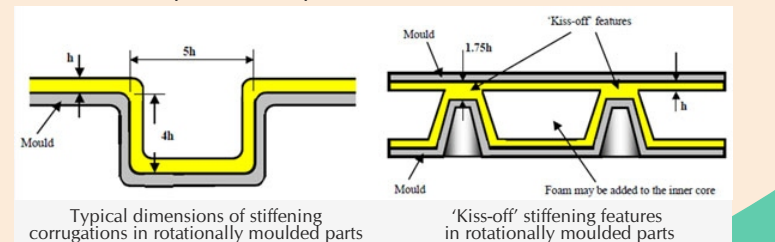
For Indian industry in general and rotomoulding in particular things are settling down after the murmurs due to demonetisation and GST implementation. Hopefully everybody now can focus on their market and new product development. Its a very interesting and transitional phase for rotational moulding. Lots of new opportunities are knocking at the door and at the same time, we are not prepared and equipped with the newer technologies. I think Foam technology is also one of these technologies. It has immense potential in rotational moulding and is yet to be fully utilised.

Overhead Foam tanks are very common now in the Indian market adding more value to rotomoulded tanks as compared to blow moulded tanks. The underground tank market has not yet realised the benefits of the foam tanks. Other applications like structural or load bearing products like pallets, platforms, custom moulded products, floats are in development stage.



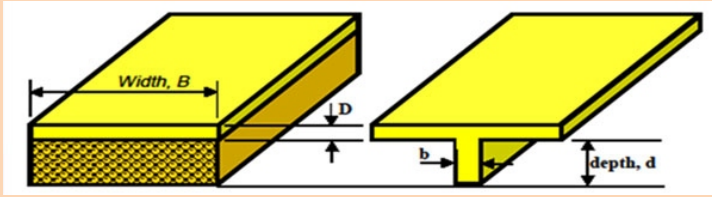
Foam in sandwiched form and in two layer construction can offer improvement in-

1. Structural stiffness Conventionally to improve structural stiffness in rotomoulded parts, hollow deep ribs and kiss off features are used. Both are more difficult to process than plain surface.

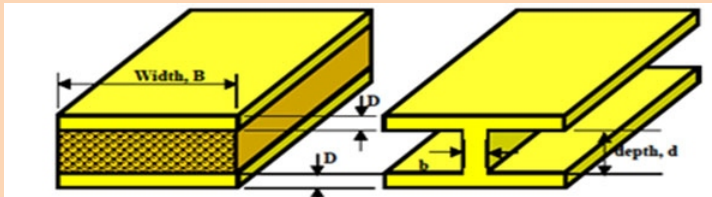


For structural stiffness, moment of area of cross-section which resists bending is the most important. The advantage to be gained by adding a foam layer may not be immediately apparent since the modulus of the foam is

very much less than that of the solid plastic. In fact use of foam i.e. lesser density actually reduces modulus and stiffness. But with the use of foam, sandwich structure formed improves the modulus as it improves moment of cross-section. Even more impressive gains can be made if the cross-section of the rotomoulded part is enhanced with an inner solid layer. Such sandwich sections are extremely efficient at resisting bending stresses and are very efficient in terms of the stiffness per unit weight that they provide. The skin thickness can be typically only about 1 mm thick to provide a very strong and stiff structural element.



(a) Solid/foam cross-section (b) Equivalent solid cross-section



(a) Solid/foam/solid cross-section (b) Equivalent solid cross-section

Courtesy : Roy Crawford book

This can result in upto 45% saving of raw material to achieve same stiffness only with solid thickness. This is very useful in applications like pallets. Even in the under ground structures it is more economical to mould the products with foam sandwiched instead of complicated ribs. Ribs always give variation in shrinkages leading to warpages which is difficult to control. Also it adds corner areas with high stress concentration.

2. Insulation – Heat and acoustic PE foam has good heat insulation properties which is very useful in many industrial applications of hot and cold conditions. For fish tubs and other storage containers requiring limited insulation it can be a good option. Foam layer can also act as acoustic insulation in generator canopies, custom moulded products etc. When I am talking about pallets and fish tubs, everybody will be interested in advantages compared with PU foam-

- No post moulding operation or fixturing required.
- No delamination problems, which helps to improve load bearing capacity of product
- Costlier process and equipments required for PU foam filling
- 100 % Recyclable products.

But on the other side, PE foam insulation properties are not as good as PU Insulation. With the current scenario, lack of availability of hopper loader technology for charging second shot is limiting the applications. In the foreseeable future you will see lots of innovative rotomoulded products with PE Foam.

Umakant Savadekar  
Phychem Technologies  
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## FLOW PROMOTERS CAN PROVIDE PERFECT FINISH TO THREADED PARTS

Flow Promoter is an ancillary product that can make a very positive impact on the aesthetics of any rotationally moulded part. In the early stages of the rotomoulding process, the falling resin sometimes has difficulty in reaching and remaining in the places where it is most needed. This can lead to a really poor appearance of your part, up to the point where pinholes (or sometimes even large holes) can form in the part surface. Flow Promoter provides the help that is needed in attracting the moulding resin to these potentially "starved" areas, thus ensuring that the moulded part takes on an even, stain-free surface. Flow Promoter acts complementary to the release agent. With Flow Promoter, what a customer gets is:

- Complete powder coverage of mould surface in most difficult areas giving blemish free parts with minimal pinholing

Without Flow Promoter



With Flow Promoter



- Excellent part replication due to better moulding of threads, insert encapsulation, complete edges and better formation
- Chem - trend which has a global reputation in producing high performance release agents has brought its Flow Promoter into Rotomoulding Industry.

S Linal Amalraj  
Chem – Trend India  
SLinalAmalraj@chemtrend.com

## UNDERWATER PELLETIZING SYSTEMS

The Underwater Pelletizer: is designed to process spherical pellets for raw materials, compounds, masterbatches, engineering plastics, wood and nature filler-filled polymer composites, thermoplastics elastomers, hot-melt adhesives and gum bases at capacities that can reach 36,000 kg an hour. Improved volumetric efficiency and pressure capabilities that allow it to be operated at reduced rpms, shear rates and temperatures, resulting in reduced residence time and energy consumption with improved production rates, polymer quality and pump life cycle.

The WSG dry-cut strand pelletizing system produces the highest quality of cylindrical pellets or microgranular compounds particularly suitable for further processing. Variable system configurations allow for optimal matching with your specific production requirements and also provide the utmost flexibility in terms of product changeover.



A pulverizer, consisting of a mill chamber with patented disposable disc, drive, feeder and control, demonstrates the advantages of good pulverizing systems. Maag systems are designed to be a one-stop solution for its users as all of the components are produced by Maag companies.

## STAR HEARTILY WELCOMES ITS NEW MEMBERS

Company	Category	Primary Contact
Dover India, Vadodara	Supplier	Amit Sundarkar
SS Polyfusion, Durgapur	Supplier	Rajeev Sharma
Jamshedpur Resources , Jamshedpur	Supplier	Ravi Kejriwal

## FORTHCOMING EVENTS

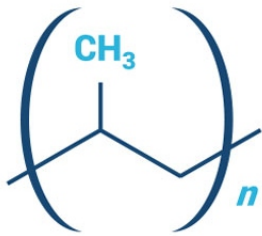
EVENTS	DATE	VENUE
ANIPAC 50TH CONVENCION	Sep 21 – 24, 2017	Morelia, Michoacan, Mexico
ROTOPLAS 2017	Sep 26 – 28, 2017	Donald Stephens Convention Center Chicago/Rosemont, IL, USA
PLASTIMAGEN	Nov 7 – 10, 2017	Centro Citanamax Mexico City, Mexico
StAR 2018 Annual Conference & Trade show	Jan 19 – 21, 2018	Crowne Plaza Okhla, New Delhi, India

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- › Great balance of **stiffness and impact**
- › Improved **chemical resistance**
- › High **heat resistant properties**
- › Excellent **scratch resistance**
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