

ROTOTALK

Quarterly Newsletter of Society of Asian Rotomoulders

Editorial Comment

The StAR Annual Conference with a history of success since 2004 will have fascinating and historical Jaipur in Rajasthan as the venue of its thirteenth conference. As the only international rotomoulding conference on the global rotomoulding calendar in this part of the world the conference is getting set to live up to its THEME of PARTICIPATE PROSPECT & PROFIT!

Dear Reader

The indices of Indian economic development are finally heading north after a worrying recess before the present Union Government took over the reins of power in May 2014. The plethora of Programmes and policies wedded to the mantra of Development & Growth are fuelled by a pronounced agenda of economic reforms. Progress is indeed being seen on all growth Parameters. What has been most heart warming for our industry is the redoubtable thrust given to Infrastructure and sectors which bear the best openings for rotomoulded products. The circumstances could not have been better for the StAR Conference to be held from Jan 29 to 31, 2017 in Jaipur.

The rotomoulding community in India and the world is showing good interest. Sixty five have already registered as attendees and only four exhibitor booths are remaining.

See you in Jaipur

Ashish Baheti
StAR President

S B Zaman
StAR Executive Director

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How the 2017 Conference Programme is New & How it builds on what you have learnt from previous conferences

When Zaman visited a number of StAR member companies earlier this year he received many good suggestions and feedback regarding the upcoming annual conference in Jaipur. Firstly people really liked the idea of holding the conference in a different city like Jaipur. The topics & speakers have been selected based on these requests & suggestions as well as to provide what is new and appropriate for the industry in India at this time. Seminars: Two half day seminars, by Gary Lategan on "Ten take home ideas for the improvement of production

& factory operations", and by Martin Spencer on "New products: research, design and implementation". One full day joint seminar by Gareth McDowell & Nick Henwood on the "Four M's: Materials, Machines, Moulds and Manpower; including demonstrating a new bench top machine – very powerful". Les Druyf will speak about "service temperatures for various rotomoldable materials". Technical presentations over the next two days, day & half to be precise:

MATERIALS: Roger Goris [PSD Rotoworx] will present on a new rotomoldable polypropylene grade; Eric Mazier [Total petrochemicals]

will present on new grades for fuel tanks; and others e.g. Matrix ...

MACHINES: Further information and update on SRM – Solar Rotomolding Machines, which should be of tremendous interest in our market. To compete against the blow molded tanks production, Rotoline is offering a fully automated process that can produce multilayer tanks at 2 to 3 min. cycle time!

PROCESS: Ronny Ervik will appraise us

about “common quality traps in rotomoulding”. Martin

Spencer will present on “practical tips for effective cooling”. Gareth McDowell will present on “a look inside the mold on his new bench top machine”. Blaise Costabir will present on “OEE – overall equipment efficiency”.

Celal Beysel [Floteks] will talk about two latest developments on “more reliable non-destructive leak testing of fuel tanks” plus “automated welding for rotomolded products”.

A presentation by Sachin Waigaonkar from BITS [Pilani] Goa Institute will be presenting on testing services that they plan to offer the rotomolding industry – resin, powder and rotomolded products.

Ravi Mehra

Conference & StAR Chairman

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Networking at StAR conferences

The Day I walked in to the first conference organized by ARM India, in Mumbai the only people who I knew there were the sales team of Reliance Industry who by the way had informed me and invited me to this Conference and the Manufacturer of my Rotomolding machine. Last year I was attending the ARMO conference in Nottingham and it was like a yearly family reunion. A lot has happened between these two events. I warmed up to the idea of ARM in India and slowly but steadily got involved. I was impressed by the enthusiasm of Ravi Mehra and his tremendous effort in bringing the Indian Rotomolding Industry to a global platform.



Networking opportunities at StAR conferences

Apart from the great presentations during the annual SARD meets and now StAR meets I always enjoyed meeting Suppliers, Experts and other Rotomolders. There are ample opportunities during the 3 days event packed conference to get to know your Suppliers and Rotomolders and build some good lasting relations. Even today in this digitalized environment business still runs on trust and confidence and the best way to do that is to meet the people who you work with.

I have to thank StAR conferences for some amazing friendships that I have built in the last few years.

Swetang Dave°

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Changes in the face of Indian Rotomolding industry:

'Rotomolding' is a wonderful process where industrialists have always been attracted due to higher profit margin, design freedom (complex designs possible), seamless products (no weld line), Several layers with uniform wall-thickness, Stress-free, Insert moulding is key to win. Rotomoulding business is suitable for small size orders due to slow production cycle.



Rotomoulded water tank

Indian economy is booming & we are witnessing many revolutions like Digital revolution (latest), Farm-to-Retail revolution, Green revolution, Dairy revolution, Industrialization. India has large numbers of skilled younger manpower that is added advantage for growth of Indian economy. In last decade Retail sector, Infrastructure sector, Life style sector, Road safety sector, Material handling sector and Automotive sector have grown at a rapid pace. To cope up with growth of these sectors there is a big spurt in demand of Rotomoulded Products in India. Many rotomoulders witnessed multiple growth in Custom moulding sector and their turnover / profit increased multiple times.



Custom moulded products

They added high output better technology efficient machines, developed quality products, developed skilled manpower added multiple processing units.

Indian Rotomoulding sector witnessed a huge shift from Tank sector to Non-Tank sector in the last decade. In 2006 the ratio of Tanks: Non-tank was 90:10 and now it is 70:30. The shift takes place because apart from High margins in Non-Tank (Custom moulding) products many other key attributes like organised sector customers, secure payments from end-users, Less competition. Value-added Non-tank (custom moulding) products need attributes like commitment to Quality, Best service, On Time delivery and Total system production (Total solution).

Indian Rotomoulding market witnessed emergence and growth of better margin products like Road barriers for NHAI /Airports /Metro, Waste bins for Municipal corporations / 'Swatchh Bharat Abhiyan', School furniture for 'Sarva Shiksha Abhiyan', Manholes for Sewerage treatment, Fuel tanks for commercial vehicles like Ashok Leyland, Volvo, New Holland, JCB, etc.

On material front Custommoulding products need highperformance material in comparison to Tanks. To address their needs now many variety of Rotomoulding materials are available in Indian market like Traditional LLDPE grades (in Butene, Hexene and Octene comonomer), 3rd generation Metallocene LLDPE grades, XLPE, pre-coloured powders, etc. Now Indian rotomoulders have variety of resin suitable for specialty applications. Better resin selection gives value additions to product like better ECSR, Tensile, Stiffness, Impact properties. Additives industry has also given moral boost to Roto sector by better quality of Carbon black masterbatch, UV stabilizers, Anti-Oxidants, Antistats, etc. For underground applications high density LL grades, for Auto fuel tanks XLPE / Metallocene grades, for toys pre-colored UV stabilised LL powders are most popular in India.

Society of Asian Rotomolders (StAR) and its annual conferences played a vital role in growth of the rotomoulding industry in India. StAR as a platform has acted as a platform for technology transfer between developing SAARC nations and developed European countries, Australia, Turkey, Israel, USA, etc.

By Manoj Patria,
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40th Anniversary of ARM-Association of Rotomoulders

I recently had the privilege to attend the ARM annual conference in the festive city of New Orleans, Sep 24 to 27. Being a past president of ARM and in the hall of fame, this was a celebratory event not to be missed. There were a total of ~ 350 attendees mostly from USA but many from other parts of the world. Being in New Orleans it added to the fun & warmth to the overall activities & networking.

Not being a Rotoplas year, the trade show was still very bright & spacious with 45 booths, one even from China, but none from India!



The overall program was quite interesting & appropriate for the ARM membership. You may wish to see / know about the whole program at:

<https://www.rotomolding.org/events/Annual2016downloads.aspx>

Couple of presentations regarding "what's new in the rotomoulding machines development" I thought should be of great interest to the StAR membership are:

SOLAR PLASTIC ROTOMOULDING – SRM:

Karl von Kries should a very interesting video & presentation as an update from what we all saw at the 2013 Goa conference. This is a "Low-Cost, Off-Grid Plastic Rotomoulding System that has a Zero Carbon foot print"! It is a completely solar powered machine that can be transported to desired market location and operated with the availability of any infrastructure or services.

<https://www.lightmanufacturingsystems.com/video/videos-autoplay/><https://youtu.be/B12zjHk2D-c>



"TNC - New Machine Systems from ROTOLINE of Brazil: This fully automated machine molds multilayer tanks from 250 to 1200 liters; and can produce up to 12,300 multilayer tanks per month. Could this be a strong response to the blow molded tanks!?"

Please visit:

<http://www.rotoline.com/en/rotomolding/machines/-f224bbbc-fce5-4c37-b277-d2b7b57d1815>

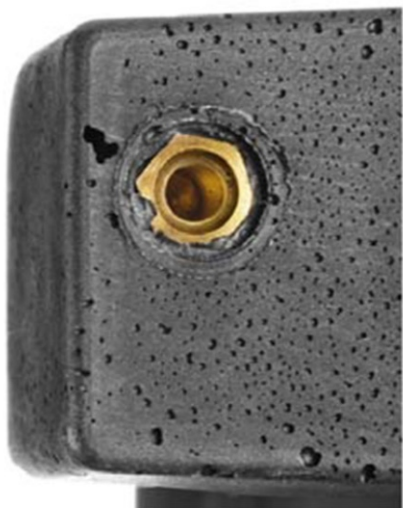


UMAKANT'S TECHNICAL CORNER Surface Pin holes (Pitting)

For rotational moulders this is a very common and day to day problem. Every body is trying hard to get rid of.. ...very few can get 100% pin holes free part. I am just going to put key facts behind it through my personal experiences and shared knowledge.

Here I am talking only about surface pin holes (Pitting) not bubbles in the thickness of the part, or else why only rotomoulders struggle with this problem and not injection moulders? The simple reason is we are not using any pressure in the process like others.

We have to rely on the sintering, laying up layers of powder on hot mould surface and heat to simply melt into each other. So its very clear that powder, mould surface and cure are key issues-



1. Powder: Surface pinholes are caused by air entrapped in between powder particles present on the surface. If powder particles have irregular, long, thin protrusions and are coarse in size this will give rise to low packing density and more bubbles. I have found that a powder with a particle size distribution (PSD) skewed toward the coarse end is more prone to result in pin holes as compared to one with a correct PSD i.e. having enough fines available. Correct PSD can be debatable, there is no exact correct PSD. Every one has to judge through trials and testing. Experienced people say it as 5-8 % fines passing through 100 mesh screen. Finer particles in powder reduces the surface pin holes by sticking to mould earlier which improves heat transfer also. For tank manufacturers in India, it's a big problem as they are manufacturing multilayer tanks with very little outer layer thickness; so fines available in the outer layer are very little.

2. Mould surface and mould release: As a surface issue, surface tension plays a major role. Mould surface has to be clean and free of dirt, moisture or any matter that can cause vapours. As far as mould release is concerned, with incorrect choice of release, an operator who wants a part that is super easy to demould may add too much release which can be a cause of pinholes. Gently rub back some of the release with a Scotchbrite pad or piece of cloth or treat with a lower slip release in the problem area to overcome. Good mould release certainly helps to get less pin holes on the surface.

3. Cure: This is the simplest one to fix. An under cured part can generally have pinholes due to not enough energy being input into the system to allow them to be absorbed into the polymer.

4. Resin selection: Higher MFI materials certainly help to reduce the pin holes as well as Gloss of the outer surface. But again, please remember that pin holes seem to be simple but at the same time they are very complex. So only high MFI material cannot solve the issue

5. Part design: Examples of such design

features are
threads, tight corners,
embossed name plates, integral hinges
and metal inserts where you can see the pin hole
problems. These are only some of the major reasons; the
list can be very long. But in a nutshell good quality powder
with proper mould release can solve the surface pin hole problem...
..Try, Best of Luck.

umakant@phychem.com
Phychem Technologies Pvt. Ltd.

StAR Heartily Welcomes its New Members

Company	Category	Primary Contact
Shri Sugan Traders, New Delhi	Supplier	Abhishek Bindal
Meerqat Polymers Co LLC, Qatar	Moulder	Deepesh NK

ROTOMOULDING CALENDAR

EVENTS	DATE	VENUE
StAR 2017 Annual Rotomoulding Conference	Jan 29 – 31 st , 2017	Jaipur, India
Rotation Conference	Mar 8 - 9, 2017	South Africa
Rototour China	Mar 17 - 28, 2017	Beijing, Shanghai, Guangzhou, Zhukai - China
ARM & ARMA Joint Executive Forum	Mar 26 - 28, 2017	Royal Gahanna Resort, Maui, HI, USA
ROTOMOULD 2017	Jun 25 – 27, 2017	Melbourne, Australia
ROTOPLAS 2017	Sep 26 – 28, 2017	Donald Stephens Convent Center Chicago/Rosemont, IL, USA

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