

REPORT ON ARM INTL SARD DELHI MEET

VENUE	: Mehfil 1, Hotel Grand Sartaj, Green Park, New Delhi
DATE/TIME	: June 30, 2007 3 P.M (Registration)
ATTENDANCE	: 32 Participants
SPONSOR	: NA ROTO, Ahmedabad

The Delhi Regional Meet had a major task on hand this time – to dispel a common perception that the northern part of our country trailed other regions in interest and enthusiasm for new knowledge and technologies that Meets and Conferences normally focus on.

Welcoming attendees SARD Chair A. Baheti was quick to note the difference this time. The turnout was not only double of what was seen at the Delhi Meet of the previous year, there were many more companies represented as was evident from the round of self introductions that preceded the presentations. In fact what followed immediately next was presentation of a very different kind. For his exceptional services as SARD-OC member, and deep involvement in the creation of the Division as member of the India Advisory Group **J. Kamat** of **RIL** who retired from SARD-OC earlier this year was presented an Appreciation award by **SARD Chairman, A. Baheti**. It was then the turn of A. Baheti himself to collect on behalf of **A. Ladha** of **Waterwell industries** the Appreciation award presented by **L.K. Singh, Past Chairman** of **SARD** for outstanding services rendered to the Division as member for consecutive years of the first SARD-OC

Mihir Banerji, RIL was the first Speaker to take the podium on the topic **Linear Polyethylene for Rotomoulding**. In a well integrated presentation that covered resins, resin selection, stabilization and the transforming of concepts into reality, there were particular aspects that were looked into in-depth. These aspects ranged from the way different grades worked inside moulds, to nuances of stabilization which depended on UV and IR. The rationale of grade selection was spelt out as depending upon Product, Product Design, Processing facilities, Use of product, and Product life. Polymer Characteristics, Processing behaviour, and Shear sensitivity of different grades were explained with appropriate charts and graphs. Deformation in high temperature and degradation based on expansion of heat were closely studied. Similarly the use of UV stabilizer was linked with the pattern of UV degradation which factored on where the product was exposed and how the product was exposed. The presentation discussed a range of products and applications which necessitated a pragmatic approach to transform concepts to reality. Local conditions and needs had to be addressed like in the case of bus seats for local and public transport.

L.K.Singh, Fixopan Group presented next on **Warpage of Rotomoulded Parts and Solutions**. The premise of the presentation was that while the problem was old, changes are inevitable and the mind is forever improving, developing, upgrading technology due to experience, and in rotomoulding specially due to recent trends and the changing demands. Ensuring good and even metal deposition in moulds is important and this efficiency is obtained by using turbo power in machines. Handling of complex parts becomes much easier when a machine is turbo powered. Solutions exist in the weight of machines being lower and the efficient round oven of machines ensures less rejects. Optimum blower and burner conditions ensures higher performance

The Next presentation **How to Play the Rotomoulding Game** by **Rory Jones, Plastecnica New Zealand** postulated that winning in rotomoulding is dependent on 3 factors : (1) the skill to design (2) fire(heating process) and (3) cool (cooling process)

The Presentation used three product case studies to illustrate the importance of Design. These were : Fuel tanks, Silo vents and Pump covers. Solutions were shown where the product got functionally better at a lesser price. Coming to fire, the heating process was responsible for two aspects of quality : the distribution of power in the mould, and the level of cure of the polymer. Cool, or the cooling process is a critical step in the rotation cycle; some of the quality issues dependent on this process being : blow holes, warpage, and under cure. While the basic goal of the process is to cool the plastic as quickly as possible, things get more complicated because of asymmetrical cooling, and bad pressure management. It has to be understood that PE is a poor conductor of heat. People at the floor level should have one variable for adjusting cycle times.

With attendees refreshed by a teabreak, **Yuvraj Ahuja, Frontier Polymers** resumed proceedings of the Meet with his presentation **Rotational moulding and Road Safety as well Other interesting Industrial Applications**. The presentation illustrated the scope for rotomoulding in road safety through pictures of traffic light systems, road dividers, bull noses and bollards. Entire poles were shown rotomoulded, as also light tops, road dividers/barriers which are beginning to be seen done by this process in our country. The emphasis now is that plastic can now be used instead metal and concrete to SAVE LIVES. A range of Road Safety Products were listed out as ripe for rotomoulding These are : Traffic lights , Road dividers /barriers /cones/drums, Tool junctions, Bollards, Signs and Street furniture. It was a lesson in both aesthetics and safety when the rotomoulded road safety items like barriers dividers etc. were juxtaposed against the same items in traditional material. Water filled bull noses or a multiple barrier system to absorb impact are great protection against fatalities when vehicles crash, as opposed to the use of concrete. Appropriate animation was used to depict advances in new grades of polymer which make a rotomoulded cone totally flexible and tear resistant.

Industrial/Agricultural containers scope for rotomoulding that were depicted pictorially were : Chemical storage tanks, Diesel storage tanks, Cattle feeders, Silos, Cattle shelters, Material handling bins, Pesticide containers, Bulk handling containers (IBCs) and Milk cans.

With Design now being part of most SARD presentation packages, **Ratna Chatterjee, Design Consultant** presented next on **Rotomoulding and the Automotive Industry - a Design perspective**. Addressing the moulders the presentation stated that while there was lots of scope in the auto industry, it is important to know what is expected in terms of engineering capabilities from moulders. The key function areas were listed out as beginning with customer request and moving through : styling & industrial design, product/component design, mechanical engineering, tool & die design, and prototyping. Each of these functions was illustrated in some detail. These then led to implementation and series production. The presenter then led through a range of project samples ranging from 3 wheeler cargo vehicles to special application tractors, to steering shrouds, to helmets among others. What drew a lot of interest was the scope for rotational moulding which included various categories of automotives. It was stated that the automotive engineer's obsession with cost reduction was pushing a technology like rotational moulding to the forefront. After-market accessories had plenty of scope for rotomoulding

Vinod Lall, SCJ Plastics presented next on **The importance of Masterbatches**. Citing the use of colour in cable for identification purpose colour pigmentation was given its due emphasis. It was however pointed out that just colour is not enough it is the application that is more important and the kinds of masterbatches are specific to applications. Masterbatches were defined as polymer based products that were heavily loaded with colour or additives. The types of masterbatches were then specified as :colour masterbatches , and additive masterbatches. Apart from the identification purpose already stated the utility of colour masterbatches comprise of : appeal or attraction, special effect like night glow, dust free environment, excellent dispersion, and compatibility with polymers. The methods of production of masterbatches were explained for a better understanding of the importance of masterbatches. Additive masterbatches were presented as an exclusive area of specialty chemicals. The interesting range of applications for masterbatches which included rotomoulding was then spelt out.

Moulds for Rotomoulding was the topic of the next presentation by **R.P.Shukla, MPlast**. The collaboration which his company has entered into with the world's no 1 manufacturer of Cast Aluminium Moulds impelled the presenter to provide a complete backdrop to mouldmaking. The technical finesse of cast aluminium mouldmaking stood out as the bedrock for hitherto unforeseen levels of sophistry in rotomoulding applications that would now be possible in our industry. The structure of the presentation which covered the various types of moulds along with their advantages and disadvantages for making different parts threw light on the right kind of mould use. This also brought out the vast superiority of cast aluminium moulds when it came to excellence in thermal conductivity, high quality moulded parts, design freedom, very uniform heating and cooling, economic replication of moulds, and the ease of modification /repair. The technique of good casting and the properties available from such casting to make a super finished part provided an object lesson in providing a modern and futuristic dimension to the rotomoulding industry of the region.

SARD Manager, S.B.Zaman while making the **ARMI-SARD presentation** marked out a calendar which will take the member friendliness of SARD to a new high. Prorated membership from July1 '07, the IV Annual ARMI- SARD Conference in the prime Indian destination of Goa on Jan 31, Feb 1 &2,'08 apart from Regional Meets in SARD and events in USA were all part of this special orientation. The Meet ended with **Cocktails & Dinner**, but not before a special round of thanks by A.Baheti to the **Sponsor , NA ROTO** of Ahmedabad



Delhi Meet Attendees



J.Kamat receives SARD-OC Appreciation Award



Speaker Mihir Banerji



Speaker L.K.Singh



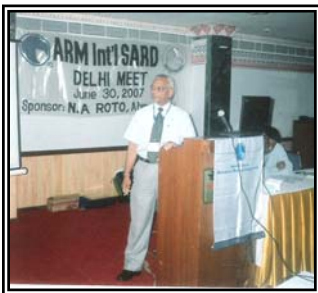
Speaker Rory Jones



Speaker Yuvraj Ahuja



Speaker Ratna Chatterjee



Speaker Vinod Lall



Speaker Rajendra P. Shukla



ARM Presentation by S.B.Zaman



Tea break