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Dear Plastizens,

I subscribe to newsletters from TED, a global set of conferences whose main motive is to spread business ideas worth spreading. I would like to share with you a synopsis of the Simon Sinek video I saw. It is titled as- "How great leaders inspire action".

According to Simon Sinek, the fundamental difference between the "Apples" of the world and everyone else is that they start with "why"

What does that even mean? To explain this concept, Sinek has developed what he calls the "Golden Circle," image pictured right. The golden circle has three layers:

Why - This is the core belief of the business. It's why the business exists.

How - This is how the business fulfills that core belief.

What - This is what the company does to fulfill that core belief.

Sounds simple, but what Sinek found is that most companies do their marketing backwards. They start with their "what" and then move to "how" they do it. Most of these companies neglect to even mention why they do what they do. More alarmingly, many of them don't even know why they do what they do!

Not Apple. Apple starts with "why" It is the core of their marketing and the driving force behind their business operations. To help illustrate this point, imagine if Apple also started backwards by creating a marketing message that started with "what."

"We make great computers. They're user friendly, beautifully designed, and easy to use. Want to buy one?" While these facts are true, I'm not sold. We instead want to know why they are great and user friendly. Turns out Apple has figured this out over the years and knows better. Here's what a real marketing message from Apple might actually look like:

"With everything we do, we aim to challenge the status quo. We aim to think differently. Our products are user friendly, beautifully designed, and easy to use. We just happen to make great computers. Want to buy one?"

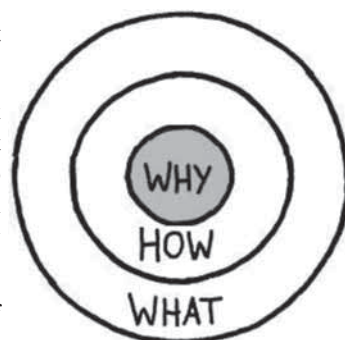
See how different that feels? Because Apple starts with "why" when defining their company, they are able to attract customers who share their fundamental beliefs. As Sinek puts it, "People don't buy what you do. They buy why you do it." Starting with "why" makes Apple more than just a computer company selling features, and that's why their products have flourished while their competitors' products with similar technology and capabilities have not reached the same height.

I hope you enjoyed the scripted synopsis of the video. Do watch it if you can spare some time. Meanwhile, happy reading ahead!

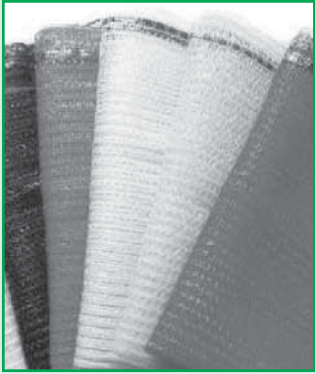
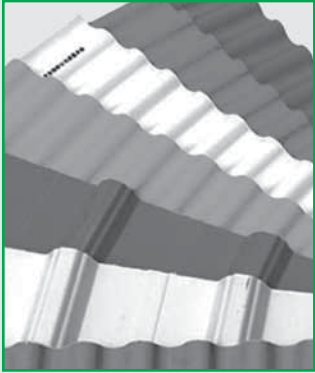
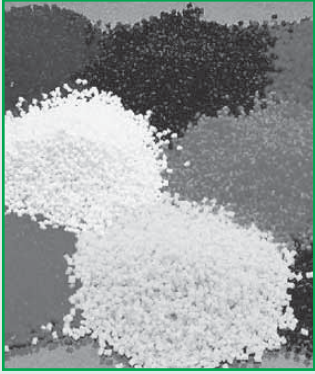
Warm Regards,



Manish Kr. Bhaia
Editor



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P RESIDENTIAL ADDRESS L



Dear Friends,

Today, plastics and polymers are present everywhere from lush green fields to clear blue skies. They're present right from the morning when we brush our teeth to the car or two wheeler we use. From the mobile phone or the laptop we touch to the iPod, iPad and the mobile watch. The PCBs in the electronic industries or the cables in the wired world are all made of plastic so it is impossible to imagine life without plastics. They've planes and cars lighter, and also help in keeping vegetables fresh. A heart valve is made of polymer and even blood is stored in a plastic pouch. Similarly you have disposable injection syringes that are also made of plastic. In other words – Plastic is everywhere.

The Indian plastics industry is growing due to changing lifestyles, changing packaging needs, and by the year 2020, at least 20 million tons of plastics will be consumed by India. This is about 10 Kg per capita today in 2015.

This comes with its own share of problems as well. A lot of waste is generated. To handle the issue of waste The Department of Environment and Forests, Government of India has framed the Plastic Waste (Management & Handling) Rules 2011. An appraisal of implementation of the rules has revealed that desired results have not been achieved by the prescribed authorities due to various reasons and a need has been felt to revisit these rules for the protection of public health and amend the said rules. A Draft Waste Management Rules, 2015 has been framed and various stakeholders have been requested to give inputs to the same.

Indian Plastics Federation after consultation with its members has decided to suggest various amendments to the proposed draft rules. The draft rules seems to be more concerned with light weight use-and-throw disposable plastics that is generally supplied to consumers by small vendors. This has certainly generated a lot of disposable waste that rag pickers also do not pick up. The draft proposes to increase the thickness of carry bags from 40 micron to 50 micron. The most unfortunate part is that though the act specifies thickness of carry bags at 40 micron, implementation of the same has totally failed. It is quite likely that the present proposed change will also end in failure. If the existing law is effectively implemented many of the proposed changes would not be required. And even is the same is amendment the new proposed law will also end in failure since they have not gone to the root of the problem.

To have an effective law it is necessary to encourage segregation at source and recycling. The number of recycling units having consent to operate issued by the PCBs is very low. Bulk of them is underground who cannot be traced since it is very difficult for very small units, all of which are in the unorganized sector, to get PCB approval. Though recycling units play an important role in the waste disposal process, there are no incentives for this sector. Incentives in the form of waiver of income tax, waiver of VAT, excise duty, concessional electrical energy charge, etc. will encourage people to set up such units.

We have given a memorandum addressed to the Hon'ble Minister, Environment & Forests and Climate Change, GoI on the proposed draft Waste Management Rules, 2015 during the stakeholders consultation meeting held on 18th June 2015 at Kolkata and hope they will take into consideration our suggestions.

With best wishes,



Pradip Nayyar
President

From the Desk of Hony. Secretary



Dear Members,

The Federation held an Extra-Ordinary General meeting on 12th June 2015 at the Banquet Hall of The Calcutta Swimming Club, Kolkata to give final clearance towards raising the Annual and Life membership fees of the Federation. The increase in member's subscription fee has taken place after a gap of several years. Many of our members may feel the increase sharp. The Federation was left with no other alternative since the service cost per member has increased tremendously over the last several years. In the intervening years the Federation was balancing its deficits through interest on its fixed deposits that was generated from our earlier activities. The surplus that we had generated is now being utilized in our upcoming dream project "Knowledge Centre" coming up at Poly Park in Sankrail, Dist. Howrah. With the increase, your Federation will come at breakeven point in the day to day running of the office. We are confident that our members will appreciate the circumstances under which we have been constrained to raise our Annual and Life Membership subscription and come forward to support our decision.

Indplas' 15 is just five months away. The preparation work is going on at full swing. Discussions, negotiations and work orders are being issued to various vendors and contractors. The booking progress is also smooth and we are getting good response from Indian machine manufacturers. We are also getting good response from overseas countries and many exhibitors are coming with machine. I am happy to inform all members that we have appointed one agency "The Intercontinental Trade Promotion Agency" having offices in Germany, Italy and UK for marketing our Indplas' 15 exhibition in Europe and CIS countries. Since time is too short we do not expect much space booking from that region but it will at least put our footprints in Western countries and Indplas will be known and it will definitely pay result for getting exhibitors in 2018 exhibition. We have already booked or got verbal confirmation for around 3,500 sq. m. space out of a target of 6500 sq.mtr. We are hopeful that we shall be able to sell our exhibition 100% and create history in by organizing the largest Indplas exhibition in the history of IPF. Since space is being rapidly filled up we request members to kindly expedite booking their stalls before it is too late. I urge and request all plastic processors, small or big to come forward, participate and display to the world their quality products being manufactured in West Bengal. The plastic industry in Bengal is always labelled as not producing quality products in comparison to Western Indian products. It's high time to show our products and change the opinion. Further, we are getting visitors from neighbouring countries like Nepal, Bangladesh, Bhutan and Myanmar, who can be your prospective buyers. As in the past Indplas exhibitions, the major surplus from our Indplas' 15 is also going to be utilized in the construction of our Knowledge Centre.

Hence it is my earnest request as Chairman of Indplas' 15 Committee to all members of IPF to come forward, participate and support to make Indplas' 15 a grand success.

In the month of May 2015, eight members have joined. We welcome them all in the IPF family.

With best wishes

A handwritten signature in black ink, reading "Ashok Jajodia".

Ashok Jajodia
Hony. Secretary

EUROPEAN BIOPLASTICS INDUSTRY URGES FOR MORE FAVORABLE LEGAL FRAMEWORK TO ENHANCE BIO-ECONOMY

On June 8, European Bioplastics (EUBP) and the Austrian Energy Agency (AEA) hosted a seminal meeting in Vienna to discuss the prospects of the European bio-economy.

In his opening statement, Peter Traupmann, CEO of the AEA, highlighted the importance of bio-economy.

“Austria is committed to fighting climate change and to contributing to the transition from a fossil-based economy to an economy based on renewable resources. On behalf of the Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management, we are responsible for the management of the climate protection initiative ‘klimaaktiv’,” he said.

Within the klimaaktiv program, “nawaro markt”, climate-friendly technologies and the use of renewable resources are supported.

“The corresponding ‘Action Plan for the Material Use of Renewable Resources’ clearly reflects the growing importance and potential of the bio-economy and the bioplastics industry in particular,” Mr. Traupmann added.

The morning session focused on legislative developments in Europe and on policy initiatives in Austria and the Netherlands. Karin Weustink, Deputy Director Biobased Economy at the Ministry of Economic Affairs, Agriculture and Innovation of the Netherlands, presented the efforts of

the Dutch Government in creating a favorable regulatory framework for the bio-based economy.

The “Green Deal” sustainability certificates, for example, were pointed out as a successful instrument to promote the use of renewable feedstock, e.g. in the production of polymers.

“Europe needs to do more in order to stimulate and strengthen the bio-economy and to stay competitive in the future. We need the right legal framework that creates a level playing field for bio-based chemicals and products in order to attract and promote investments in bio-based research and production in Europe,” Ms Weustink commented.

Gerhard Mannsberger, Head of DG Forestry at the Austrian Ministry of Agriculture, Forestry, Environment and Water Management, also stressed the need for a harmonized EU policy to secure the supply of sustainably sourced renewable feedstock.

“A responsible use of our natural resources is one of the key pillars of the Austrian bio-economy. Our agriculture and forestry sector provides sustainably sourced renewable resources for premium bio-based applications and in doing so helps to strengthen the economic development of rural areas all over Austria,” he said.

During a panel discussion on the benefits, barriers, and prospects of the European bio-economy, panelists and participants emphasized the tremendous innovation potential of the bio-economy and the bioplastics industry being evident in numerous research projects, small scale production plants, and innovative products and applications.

The participants demanded a more favorable legal framework and corresponding policy measures promoting a level playing field for the bio-based industries, equal access

to renewable resources, as well as commonly agreed terminology and standards.

The afternoon sessions focused on bioplastics products and materials that are available on the market. Furthermore, technical properties, environmental advantages, and new design trends were discussed.

Hasso von Pogrell, Managing Director of European Bioplastics, urged EU as well as Member State policy makers, “Making our economies fit for the future requires us to collectively reduce our impact on the environment. Using renewable resources efficiently in use cascades or extending product life cycles through better recycling needs to become a reality soon. We have to make sure that we can harvest the fruits that have been cultivated through years of research - we need a clear framework to be able to successfully bring our bio-economy products to the market.”

Source : China Plastic & Rubber

WOOD AND NATURAL FIBER COMPOSITES FULL OF POTENTIAL, SAYS NOVA-INSTITUTE

350,000 tons of wood and natural fiber composites were produced in the European Union in 2012, according to a new nova-Institut GmbH report.

The total volume of wood plastic composite (WPC) production in Europe was 260,000 tons in 2012, plus another 90,000 tons of natural fiber composites (NFC) for the automotive industry. These two materials covered between 10-15% of the total European composite market.

Typical production process in Europe is extrusion of a decking profile based on a polyvinyl chloride (PVC) or polyethylene (PE) matrix. The increasing

market penetration of WPC in decking has meant that WPC volumes have risen strongly and that today, Europe has reached a mature WPC market stage.

The study predicts growth especially in the German-speaking area on the back of a recovery in construction, especially in renovation, and a further increase of WPC share in the highly competitive decking market. Also, variations of WPC decking models, such as capped embossed full profiles or garden fencing are on the rise across Europe.

WPC is increasingly used for applications beyond the traditional ones such as decking or automotive parts, the report pointed out. For example, WPC is increasingly used to produce furniture, technical parts, consumer goods and household electronics, using injection molding and also other processes than extrusion. Also new production methods are being developed for extrusion of broad WPC boards.

The report also gives an overview of the latest market development in North America and Asia and an overview and forecast of the global WPC market situation, which has grown up to 2.5 million tons of production in 2012.

China has the strongest growth rates with a production volume of 900,000 tons in 2012 and is trying to catch up with the largest WPC production volume in the world, which takes place in North America and has grown to 1.1 million tons of WPC production in 2012.

The share of WPC decking in the total decking market is increasing again, after a period of housing crises and WPC quality problems that have led to a shakeout of the top WPC producers. The trend in WPC decking is towards producing more filled decking boards (overall market share in Europe is already about 47%) and especially imports from the US are more and more offered.

nova-Institut found that there is a growing portfolio of fiber-filled granulates offered both by producers and retailers; by now there are about 60 producers and retailers active on the market.

Accounting for improved technical properties, dropping prices and higher delivery volumes, the report predicted an increase from 10,000 tons in 2012 to 100,000 tons in 2020. Additional incentives could probably more than double the size of the market. Compared with WPC, NFC granulates are predicted to only gain in niche markets with specific needs.

The most dominant use of natural fiber composites by far can be found in interior parts of the automotive industry - other sectors such as consumer goods are still in a very early stage.

In automotive, natural fibers composites have a clear focus on interior trims for doors for high-value doors and dashboard. Wood-Plastic Composites are mainly used in rear shelves and trims for trunks and spare wheels as well as in interior trims for doors.

The highest market shares are made up for by wood (European origin), recycled cotton (from world market) and flax fibers (European origin). Compared to nova-Institut's last survey for the year 2005, the shares of kenaf (from Asia) and hemp fibres (European origin) show the biggest increase in percentage.

Process-wise, compression molding of WPC and NFC is an established and proven technique for the production of extensive, lightweight and high-class interior parts in mid-range and luxury cars. Process optimizations are in progress in order to reduce certain problems such as scraps and to recycle wastage.

In recent years new improved compression molded parts have shown impressive properties in weight

reduction, according to the report. This is one reason for the increasing interest in new car models. Today with the newest technology, an area weight of down to 1,500g/sqm can be reached with thermoplastics; thermosets are even aiming towards 800g/sqm. These are superior properties compared to pure plastics or glass fiber composites.

In the EU, 15.7 million passenger cars were produced in 2011; in addition, 2 millions of other motor vehicles (incl. trucks, transporter, motor bikes, etc.) were manufactured. Considering that 30,000 tons of natural fibers and another 30,000 tons of wood fibers were used in 15.7 million passenger cars, every passenger car in Europa averagely contains 1.9kg of natural fibers, respectively 1.9kg wood fibers, so in total that makes almost 4kg of these fibers per car.

From a technical point of view, much higher volumes are possible. Vehicles with considerably larger amounts of 20kg natural and wood fibers have been successfully produced in series for years.

nova-Institut said the market development depends also on the political framework: Any incentive for the use of natural and wood fibers in the European automotive industry could help to extend the existing amount of 30,000 ton/year for natural and wood fibers each. The vision could be an increase of up to five times, that means to 150,000 ton/year for each fiber type - the technologies are ready to use.

Bio-based plastics are also used for high-value applications in the automotive industry. Bio-based polyamides from castor oil are used in high-performance components, polylactic acid (PLA) is used in natural fiber-reinforced interior door paneling, soy-based foams in seat cushions and armrests and bio-based epoxy resins in composites.

Source : CPRJ Editorial Team

ASIAN ETHYLENE-NAPHTHA SPREAD AT ITS HIGHEST SINCE 2008

The spread between ethylene and naphtha prices in Asia reached their highest levels reported since 2008, according to Chem Orbis Price Wizard. Current naphtha prices in Asia are almost US\$400/ton below levels reported a year ago. This downtrend on naphtha costs is in line with the trend observed in crude oil prices on NYMEX. The OPEC meeting that was held on June 5 in Vienna, Austria resulted in a decision to continue with steady crude oil production, targeting 30 mln bpd as a ceiling, for another six months.

Likewise, spot ethylene prices in Asia have been mainly below last year's level during 2015, but since February, they have experienced a sharp and prolonged upward trend. After hitting a low for the year in February, spot ethylene prices now stand around US\$540/ton above levels reported in February. The heavy maintenance season in Asia that started around April and is expected to last until the June-July period was behind the increases on ethylene prices. Due to the sharper hike in ethylene prices, the spread between Asian ethylene and naphtha prices reached over US\$800/ton, according to ChemOrbis.

However, recently, Asia has started to see some plant restarts in the ethylene market. Samsung Total and BASF-YPC have restarted their crackers by H2-May while Idemitsu Kosan also restarted its 374,000 tpa ethylene cracker on June 5. Dushanzi Petrochemical is to restart its 1.2 mln tpa cracker in China by mid-June. Although there are still some plants off line in the region, they are expected to resume operations soon. Mitsubishi Chemical's cracker with 495,000 tpa ethylene capacity, shut H2-May, is slated to restart by the end of June. YNCC's

No 1 cracker is to resume operations by mid-June. The cracker was shut for maintenance by mid-May. Formosa Petrochemical shut its No.1 cracker with 700,000 tpa ethylene capacity on June 9 for 40 days maintenance, while Mitsui Chemical's 600,000 tpa Chiba cracker is to be shut between June 20 and July 19 for 39 days.

Source : Plastics News

INSTITUTE HONORS PIPE PROJECTS FOR SAVING WATER, ENERGY

When leaks and breaks kept plaguing a 39-inch prestressed concrete cylinder pipe (PCCP) transmitting water along a narrow section of road in League City, Texas, local officials determined the best fix would be to give it a structural overhaul with a high density polyethylene (HDPE) liner fabricated by Isco Industries.

The Louisville, Ky.-based company's product was installed with a trenchless method called Swagelining, which landed the pipe rehabilitation project on this year's award list of the Plastic Pipe Institute (PPI).

Swagelining has been used in Europe but is considered an emerging trenchless technology in North America. The method calls for using a liner that has a slightly larger outside diameter than the pipe to be renewed. The liner is pulled through a single reduction die to temporarily reduce its diameter before it enters the host pipe. Once inserted, the liner reverts to its original size, expanding until it is stopped by the walls of the host pipe for a very tight fit.

About 1.2 miles of PCCP was lined with HDPE pipe for the city and the Gulf Coast Water Authority. The project involved four pulls ranging from 1,250 feet to 2,100 feet in length.

The limited number of fused sections should eliminate the potential for future leaks, according to the PPI, which recognized the project in its municipal and industrial division.

Other PPI member companies and individuals given awards for industry contributions and professional achievement include:

- Rehau of Leesburg, Va., for maximizing heating and air conditioning efficiency at a school in Brampton, Ontario, with a cross-linked polyethylene (PEX) pipe network installed in the floors of the facility. The radiant slab heating and cooling system consisted of 104,700 feet of pipe installed in a counter-flow spiral pattern to provide even surface temperatures. The school also reduced noise and increased space by eliminating bulky convectors and ductwork.
- Uponor of Apple Valley, Minn., also for a PEX pipe in-slab radiant heating and cooling system. More than 14 miles of PEX tubing was installed on three floors of the student union at San Diego State University, consuming 40 percent less energy than other systems. That helped the construction project meet platinum requirements for Leadership in Energy and Environmental Design, which is administered by the U.S. Green Building Council.
- South wire Co., of Carrollton, Ga., for a cable-in-conduit project that connects more than 19,000 solar panels at Ameren's O'Fallon Renewable Energy Center. The flexible HDPE cable helped speed installation by eliminating the need for a complex arrangement of elbows, sweeps and connectors compared to traditional pipe and wire installations.
- Prinsco Inc. of Willmar, Minn. for a corrugated HDPE pipe water

management system at ConAgra Foods dry food distribution center. The project engineer specified concrete pipe but a contractor proposed design changes to cut costs by 8 percent.

- Arkema Inc. of King of Prussia, Pa., for a landfill gas project that uses a 3-mile nylon 11 piping system. The project connects landfill gas to the local gas distribution system operated by Douglas County in Omaha, Neb. Steel had been considered but nylon proved to be more economical. Georg Fischer Central Plastics LLC of Shawnee, Okla., supplied the fittings and transitions.
- Yonas Kebede of Formosa Plastics, Livingston, N.J.; Michael Pluimer of Crossroads Engineering Services, Breezy Point, Minn.; and White Jee of Sasol USA, Houston, Texas, for contributing their time and expertise to the advancement and technical documentation of thermoplastic pipe.

Source : Plastics News

WHAT DOES PLASTIC TASTE LIKE?

An interesting conversation popped up on the Tech Talk - Society of Plastics Engineers social media site. It seems that Dr. Thomas Haas, owner of Polymetrics LLC, a testing, consulting and forensic services provider to the plastics industry, has discovered a problem with many commercial coffeemakers that use plastic parts.

People have been complaining of things like, “the coffee/water smells/tastes sort of like plastic . . . not a pleasant thing.”

“There was a HORRIBLE plastic smell and taste to the coffee.”

“Plastic coffeemakers like these could be hazardous to your health . . . many drinkers have noticed an odd plastic taste in their coffee.”

Hmmm. I’ve never actually tasted

plastic before, even when I worked at an injection molding company. Tasting our plastic parts was never part of the quality control process, so I’m not sure I could identify the taste of plastic.

“I’m sick of my coffee tasting like polyurethane (sic) . . . through (sic) it takes the new plastic taste out, probably the acidity, but any suggestions?”

Actually, I believe that “polyurethane” is a type of plastic used only in Europe. I’m not sure that we use “polyurethane” in the United States. Check with the Euro zone and see if they have identified this plastic in coffeemakers made there.

“Each time I take a sip of my coffee it taste (sic) like chemicals, like the plastic has melted its way into what I’m now drinking.”

Just how hot does your coffeemaker make your coffee? Since most plastics melt at temperatures far beyond the temperature of a hot cup of coffee, I’m not sure that your coffee could melt the plastic. And if your coffee is hot enough to melt plastic, you’d better hope that you never spill it in your lap!

Dr. Haas was actually offered some potential culprits for the supposed problem: “It is the organoleptic properties of the construction of the [resin/colorants/additives] being used. . . and the overall methods of molding and assembly.”

However, leave it to my old friend, Allan Griff, to come up with the best answer: “Most of the complaints are Bolonium.” (I love these new scientific words that he comes up with!)

If the type of plastic that is used in the coffeemaker were leaching out a strange “chemical” or “plastic” taste, Griff suggested that the manufacturer of the coffeemakers “should have tested and known this, so it’s a misapplication of that grade and polymer.”

I might suggest that these people check out the country of origin of the

coffeemaker to ensure that the materials used meet U.S. regulatory standards. I’d say stick to Made in USA as the best bet for these types of products.

I’d also suggest that, if your coffee tastes like plastic, you are not drinking strong enough coffee. Throw in an extra spoonful of coffee.

While all of this is being debated on www.thechain.4spe.org (registration required), I think I’ll go take a bite out of my Mr. Coffee machine and see if I can identify the taste. I’ll let you know what I detect.

Source : Plastics Today

NEW TECHNIQUE COULD SLASH ENERGY USED TO PRODUCE MANY PLASTICS

A new material developed at the University of Colorado Boulder could radically reduce the energy needed to produce a wide variety of plastic products, from grocery bags and cling wrap to replacement hips and bulletproof vests.

A new material developed at the University of Colorado Boulder could radically reduce the energy needed to produce a wide variety of plastic products, from grocery bags and cling wrap to replacement hips and bulletproof vests.

Approximately 80 million metric tons of polyethylene is produced globally each year, making it the most common plastic in the world. An essential building block for manufacturing polyethylene is ethylene, which must be separated from a nearly identical chemical, ethane, before it can be captured and used.

The similarities between ethylene and ethane have made the purification process difficult and costly. Today, an

extremely energy-intensive distillation technique is typically used.

In a new study recently published in the journal *Angewandte Chemie International Edition*, a team of CU-Boulder researchers demonstrates that a new material made of molecules containing silver ions could vastly reduce the amount of energy needed to separate ethylene and ethane.

“This silver ion can be thought of as working like a hand,” said Matthew Cowan, a CU-Boulder postdoctoral researcher and lead author of the paper. “This ‘hand’ can tell the difference between ethylene and ethane and it ‘grabs’ the ethylene out of the mixture. When all the ethylene has been grabbed, the ethane is removed and the hand releases the ethylene.”

The new material—which has 13 times more separating power than previous materials used to separate ethylene and ethane—requires much less energy than the traditional distillation technique. In the United States alone, it now takes more than 46 million megawatt-hours of electricity a year to produce ethylene, about the same amount of energy produced by seven average-sized nuclear power plants.

Despite their potential for saving energy, silver ions can be more sensitive to contaminants, a problem that would have to be addressed before the technique could be commercially viable. The gas mixtures of ethylene and ethane are a byproduct from petroleum refineries, and they can contain impurities that could deactivate the silver ion “hands.” But researchers are hopeful that the molecule they are packaging the silver ions into may be able to protect them from contaminants.

Other co-authors of the paper are William McDanel, Hans Funke, Yuki Kohno, Douglas Gin and Richard Noble, all of the Department of Chemical and Biological Engineering in CU-Boulder’s

College of Engineering and Applied Science.

Funding for the research was provided in part by the Membrane Applied Science and Technology Center.

Source : University of Colorado, Boulder

POLYMER GROWS A DIFFERENT WAY

A new technique for building supramolecular polymers enables close control of chain length and chirality.

A novel method for creating polymers promises a number of important advantages, believe researchers at the RIKEN Center for Emergent Matter Science, Saitama, Japan. They have developed a technique for building supramolecular polymers that enables close control of chain length and chirality. Moreover, disassembly of the chains is easy, fostering recycling.

In supramolecular polymers, monomers are connected by hydrogen bonds and other weak interactions rather than through chemical reactions. The Japanese researchers discovered how to add monomers to only one end of the chain, so-called chain-growth polymerization, in contrast to conventional step-growth polymerization. The polymerization takes place at ambient temperature and atmospheric pressure and without the need for specialized equipment.

Chain Growth

In the technique, a mixture of initiator and monomer are added to a solvent; polymerization won’t occur if the initiator isn’t present. The initiator restricts monomer attachment to one end of the chain. Adjusting the proportion of initiator and monomer enables precise control of chain length — a monomer-to-initiator ratio of 1,000:1 allows creation of polymers containing 1,000 monomers. In addition, by selecting an initiator with specific chirality to the solvent, the method yields polymers with that chirality. More details appear in a recent article in the journal *Science*.

“What is exciting is that, based on lessons from polymer chemistry, we were able to build these macromolecular polymers in a chain-growth rather than step-growth fashion. This has made it possible to control the length of chains, the sequence of molecules, and even the stereochemical structure...,” says Daigo Miyajima, a member of the research team and co-lead author of the article.

“The next step is to seek... promising supramolecular polymers for applications through the optimization of chain length, sequence and molecular design of polymers. Scaling-up follows after that step,” he adds. “We have already started to investigate the physical properties of obtained supramolecular polymers. We expect we can develop a few promising candidates within a few years.”

One of the unique characteristics of supramolecular polymers is that their shapes are akin to nanofibers and this structure can be useful for device fabrication at nanoscale, explains Miyajima.

“Supramolecular structures can have semiconducting properties if properly designed, so this method could be used to reduce the size of transistors. In addition, we found that the polymers can be easily disassembled, with almost 100% yield, so materials produced through this method will be completely recyclable,” he notes.

Despite the easy disassembly of the polymers, their applications aren’t limited to those with short lives, Miyajima says.

Covalently attaching initiators to the surface of an inorganic substrate can enable adding supramolecular polymers to the surface, which may lead to novel applications, he adds.

The current method only works properly if monomers can form intramolecular H-bonds. A key challenge, according to Miyajima, is developing a more general strategy applicable to all supramolecular polymers.

Source : Chemical Processing.com

PLASTIC PARTS FOR INTERNAL COMBUSTION ENGINES

Efforts to produce lighter vehicles necessarily include engine parts, such as the cylinder casing, which could shed up to 20 percent of its weight if it were made of fiber-reinforced plastic rather than aluminum – without added costs. Such injection-molded parts are even suitable for mass production.

It's self-evident that cars must become lighter in order to reduce fuel consumption. For most car designers this principally means body parts, but the powertrain system, which includes the engine, also accounts for a large proportion of the vehicle's weight. Until now, carmakers have relied on aluminum to reduce the weight of engine components such as the cylinder block. In the future, car manufacturers will be able to achieve further weight savings by designing cylinder blocks in which certain parts are made of fiber-reinforced plastics. An experimental engine developed by the Fraunhofer project group for new drive systems (NAS), which forms part of the Fraunhofer Institute for Chemical Technology ICT, in collaboration with SBHPP, the high-performance plastics business unit of Sumitomo Bakelite Co. Ltd., Japan, demonstrates this principle. "We used a fiber-reinforced composite material to build a cylinder casing for a one-cylinder research engine," reports Dr. Lars-Fredrik Berg, who is the project leader and manager of the research area Lightweight Powertrain Design at the Fraunhofer Project Group for new drive systems. "The cylinder casing weighs around 20 percent less than the equivalent aluminum component, and costs the same." It seems an obvious solution, but getting there involved numerous technical challenges, because the materials used have to be able to

withstand extreme temperatures, high pressure and vibrations without suffering damage. That plastics possessed these qualities was recognized back in the 1980s, but at that time it was only possible to produce this types of parts in a small volume and by investing a lot of effort in the form of manual labour – a no-go for the automotive industry, in which cylinder blocks are mass-produced in millions of units.

So what did the researchers do to ensure that their engine would be sufficiently robust? "First we looked at the engine design and identified the areas subject to high thermal and mechanical loads. Here we use metal inserts to strengthen their wear resistance," explains Berg. One example is the cylinder liner, inside which the piston moves up and down millions of times during the life of the vehicle. The researchers also modified the geometry of these parts to ensure that the plastic is exposed to as little heat as possible.

Glass-fiber-reinforced phenolic resin

The characteristics of the plastic material also play an important role. It needs to be sufficiently hard and rigid, and resistant to oil, gasoline and glycol in the cooling water. It must also demonstrate good adherence to the metal inserts and not have a higher thermal expansion coefficient than the metal – otherwise the inserts would separate from the substrate. Berg's team uses a glass-fiber-reinforced phenolic composite developed by SBHPP, which fulfills all of these requirements and comprises 55 percent fibers and 45 percent resin. A lighter-weight but more expensive alternative is to use a carbon-fiber-reinforced composite – the choice depends on whether the carmaker wishes to optimize the engine in terms of costs or in terms of weight.

The researchers produce these components from granulated thermoset plastics using an injection molding process. The melted composite material,

in which the glass fibers are already mixed with the resin, hardens in the mold into which it was injected. The scientists analyzed the process using computer simulations to determine the best method of injecting the material in order to optimize the performance of the finished product. The process is compatible with mass production scenarios and the manufacturing costs are significantly lower than those for aluminum engine parts, not least because it eliminates numerous finishing operations.

A prototype of this engine will be presented at this year's Hannover Messe, which takes place on April 13-17 (exhibit in Hall 2, Booth C16). Test runs of the new engine have been completed successfully. "We have proved that it is capable of the same performance as conventionally built engines," says Berg. Moreover, it promises to offer further advantages such as lower running noise as against engines relying exclusively on metal parts. Initial data also indicates that the amount of heat radiated to the environment is lower than that generated by aluminum-based engines. The scientists intend to take their research further by developing a multi-cylinder plastics-based engine, including the crankshaft bearings.

Source : Popular Plastics & Packaging

GLOBAL SYNTHETIC AND BIO-BASED POLYPROPYLENE MARKET TO GROW AT A CAGR OF 8.2% FROM 2015

Global synthetic and bio-based Polypropylene market size is expected to grow to US\$170 bln by 2022 from US\$91.59 bln in 2014, growing at a CAGR of 8.2% from 2015 to 2022, according to the latest report published by Grand View Research rapid development of

Contd..... pg.17

GLIMPSES

Convenor Report for Chinaplas'2015

I Puneet Tantia along with Swastik Agarwal was entrusted with the responsibility for organizing the trip to Chinaplas'15 held in Guangzhou, P.R. China from 20th to 23rd May, 2015 by the Executive Committee. The trip was organized successfully.

In this trip we got a good response from IPF members & associates and we were able to arrange group of 54 delegates for the same.

The tour was organized in association with Carewell Travels & Tour Pvt Ltd who managed the Land arrangements and flights tickets were booked through Nimbus Tours & Travels Pvt Ltd. First time the tour was organized without any Guide from India and with the team work and support of the delegates. The trip was successfully organized keeping in mind the comfort of each and every delegate.

We started our Journey from Kolkata on 19th May, 2015, reached Guangzhou and attended the exhibition from 20th to 22nd May 2015, where all the members of our delegation were

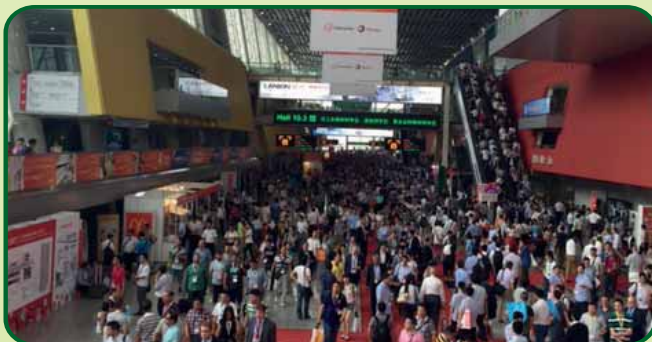
pre-registered as VIP delegates and were received with a warm welcome by the organizers of Chinaplas M/s Adsale. On returning we had a two day Leisure Trip to Pattaya & Bangkok and returned to Kolkata on 24th Night.

The exhibition was well organized with 128264 persons visiting the exhibition out of which 35090 were overseas visitors. Exhibitors from all around the world have participated in the exhibition and all our delegates had a very successful trip. Next year Chinaplas has been announced in Shanghai and no Chinaplas Exhibition will be held in Guangzhou in future as informed by the organizers.

All the delegates appreciated the efforts of the organizers and were happy with the tour arrangements.

Puneet Tantia
Convenor
Chinaplas 2015

Swastik Agarwal
Co-Convenor
Chinaplas 2015



IPF PARTICIPATION AT WORKSHOP ON MANAGEMENT OF DISPOSABLE PLASTICS

A workshop on "Management of Disposable Plastics: Towards a Sustainable Strategy" under the UK-KMC MoU on Low Carbon and Climate-Resilient Kolkata" was held on 9th June 2015 at the Department of Environment, GoWB, Poura Bhavan (Salt Lake Municipality), Kolkata. Experts from different sectors of waste management shared their views on the subject. The programme was chaired by Dr. Kalyan Rudra, Chairman, WBPCB. Others present included Shri Chandan Sinha, IAS, Principal Secretary, Department of Environment, GoWB. Shri Pradip Nayyar, President IPF made a presentation on "Real Issues, True Solutions & Challenges" at the workshop on behalf of IPF.



EXTRA-ORDINARY GENERAL MEETING OF IPF

An Extra-Ordinary General Meeting was held on 12th June 2015 at Calcutta Swimming Club, Kolkata for approval of members for increasing Annual & Life Membership subscription towards IPF membership. This increase of membership fees has come after a gap of several years. The hike in membership fees will help reduce the gap between receipts and expenses towards IPF membership. The increase has been very reasonable considering the increase in service cost in the last several years. The meeting was a great success with good participation of members.



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bio-based polypropylene is expected to augment market growth.

Growth of key end-use industries such as packaging and automotive in Asia Pacific is expected to drive the global polypropylene market the forecast period. In addition, increasing construction spending particularly in emerging markets of China, India and Indonesia is also expected to have a positive influence on the market growth. Volatile propylene prices on account of constantly fluctuating crude oil prices are expected to remain a key challenge for market participants. Stringent environmental regulations regarding production and disposal of polypropylene is also expected to degrade the market growth over the forecast period. In order to overcome these issues, major participants have shifted their focus towards development of sustainable polypropylene.

Injection molding emerged as the leading application segment and accounted for 46.1% of total market volume in 2014. Shift towards replacement of steel automotive industry in order to improve fuel efficiency of automobiles is expected to remain a key driving factor for this segment over the forecast period. Films are expected to witness the highest growth rate of 5.7% from 2015 to 2022. Growing demand for BOPP films for myriad of applications is expected to drive this segment over the forecast period. Further key findings from the study suggest:

- Global polypropylene market demand was 58.45 mln tons in 2014 and is expected to reach 87.35 mln tons by 2022, growing at a CAGR of 5.2% from 2015 to 2022.
- Asia Pacific continued its dominance in the global PP market accounted for 44.8% of total consumption in 2014. Asia Pacific is also expected to witness the highest growth of 5.8% from 2015 to 2022. Growth of automotive

and construction industries in India, China and Indonesia is expected to drive the regional growth over the forecast period.

- Bio-based polypropylene demand is more dominant in emerged markets of North America and Europe. These markets are characterized by stringent regulations and aware consumers regarding the environmental hazards caused due petrochemical based polypropylene.

Polypropylene industry is characterized by low white space, high price sensitivity and numerous producers. The market is dominated by top multinational corporations which have presence across the value chain. Key industry participants are investing heavily in R&D initiatives and engaging in mergers & acquisitions with an aim to improve their product portfolio and increase production capacity. Some major industry participants include Braskem, Chevron Phillips Chemical Company, Japan Polypropylene Corporation, Reliance Industries Limited, BASF, Sinopec, Borealis AG, ExxonMobil, DuPont, LyondellBasell Industries, SABIC, Bayer Material Science, Fulton Pacific, INEOS, Total S.A, Washington Penn Plastic Company Inc., PetroChina Company Limited and Qatar Petrochemical Company.

Source: Plastics News

EMPLOYEES OWNERSHIP CAN BE A GOOD OPTION FOR PLASTIC PROCESSORS

CHICAGO — Selling out to private equity or even a competing firm is not the only way to take some cash out a plastics company.

Employee Stock Ownership Plans, or ESOPs, are a viable and sometimes overlooked path that provides an exit strategy, tax advantages and shareholder liquidity, according to Eitan Milstein, managing director of CSG Partners.

Milstein's firm specializes in ESOPs, mergers and acquisitions and capital advisory services.

Milstein told attendees of the Plastics Financial Summit, organized by Plastics News on June 3 in Chicago, that more than 11,500 companies in the United States have used ESOPs.

In the plastics business, they include PTA Plastics of Oxford, Conn.; New Age Industries Inc. of Southampton, Pa.; and Grand River Rubber & Plastics Co. of Ashtabula, Ohio, he reported.

"It's something to look at when you are considering a sale and figuring out what you want to do with yourself and the rest of your life," Milstein said.

But why?

"It allows you to get liquidity as a shareholder. It's a very wise succession exercise because it allows you to groom, educate, bring in talent if you like, if you want to keep the company going," he said.

ESOPs, over time, have become less mysterious and more commonplace. Milstein remembers a time when they were not readily understood by many bankers, lawyers and accountants.

"The banks have woken up to the fact that ESOP is a very, very efficient tool. Just about any financial institution now has a small group dedicated to looking for ESOP funding opportunities," he said.

ESOPs essentially allow company owners to sell a portion or all of their firms to employees while still maintaining control of the operation.

"What's so good about ESOP? It allows you to get some chips off the table and

you can get it in a tax efficient manner,” Milstein said.

ESOP laws, Milstein said, provide tax advantages compared with an outright sale of the firm to another entity and provides incentives for employees to work harder to make sure the company succeeds.

“What you’ve done is you’ve converted an employee to an owner. We know that owners work much harder than employees,” he said.

ESOPs also help companies attract and retain talent by providing them with an ownership stake in the firm, Milstein said.

The managing director likes the idea of owners keeping at least a portion of their firms to allow them to continue sharing in the upside profit, instead of simply receiving a paycheck, in the years after an ESOP takes hold.

Owners simply cannot decide to create an ESOP and charge whatever they want for the company, however, he said.

The creation of an ESOP is a negotiated transaction with outside representation for employees aimed at creating a fair market value for the firm. That gives the owner a fair price and gives employees protection, Milstein said.

“You need to be able to demonstrate and prove it was a negotiated transaction. The employees will be represented by a trustee,” Milstein said.

There are a lot of moving parts to creation of an ESOP, Milstein outlined at the conference.

But, he said, “It works exceedingly well.”

Source : Plastics News

CHINA CONTINUES TO EXERT PRESSURE ON TURKEY’S PP, PE MARKETS

Import PP and PE prices have been steadily moving down for almost a month in China, according to ChemOrbis. This factor is exerting downward pressure on Turkey based on netback calculations, although Mid-Eastern suppliers are not rushing to lower their offers to the country with support from their limited availability and record high prices in Europe.

Turkey’s import PP and PE markets have retreated somewhat since early June for various origins despite initial targets of rollovers. Nevertheless, players still think that the market has more room to come given the lack of demand and the record-high dollar/lira parity contributing to the downward pressure from China.

“When taking the recent import PP prices in China into account, Indian and Middle Eastern origins should theoretically be US\$50-60/ton below the current offers in Turkey. While we are already working with less than 50% capacity in the midst of lackluster orders from end product markets, there is no need for a rush to secure cargoes,” said several PP buyers.

Many PP buyers also report holding sufficient stocks to last until the end of Ramadan, which will be followed by summer holidays. “Given the current political instability and thin orders, we are not planning to replenish stocks in the near term,” said a carpet maker.

In the case of PE, the downward pressure on HDPEkim and LLDPE film is more evident based on the netback to China. “There is a premium of more than US\$100/ton on the current offer levels in Turkey,” said a packaging buyer. As can be seen from the graph below, current import PE prices in Turkey are carrying

a larger than normal premium relative to China.

“However, a major Saudi supplier, who rolled over its June prices, is still not willing to concede to any discounts for this month given its tight availability. They told us that their June orders have already been booked,” added the buyer. The tightness concerns that have been in place for more than four months in Europe, which pushed spot PE prices to record highs in that region, have helped to curb the downward pressure exerted by China on Turkey, according to ChemOrbis.

Yet, sources from other Middle Eastern PE producers admitted facing resistance from buyers, arguing that the downward pressure on the market will make itself felt on prices for July shipments.

Source : Plastics News

STYRENE-FREE PETG FOAM INTRODUCED FOR RIGID MEDICAL PACKAGING

Described as a durable, cleaner and lighter alternative to high-impact polystyrene (HIPS), a PETG foam made with Eastalite copolyester from Eastman Chemical Co. (Kingsport, TN) has been introduced by Pacur LLC (Oshkosh, WI) for medical packaging applications. Eastman developed the formulation, with Pacur contributing its sheet extrusion expertise. The collaboration, which also includes thermoformer Tek Pak (Batavia, IL), was a focal point at the Eastman booth (2180) at MD&M East and PLASTECH East in New York this week.

The skin of the Pacur PETG foam is made from Eastar copolyester 6763, while the core is made with Eastalite copolyester. The skin layers allow the same heat seal and product contact

surfaces that have a long history of use in the medical industry, but the foamed core gives the packaging a lighter weight and provides a cushioning effect. The unique structure lends the opaque material impact resistance. When thermoformed into packages, the multilayer sheeting offers a physical barrier to microbes and product protection over the desired shelf life for medical devices.

The material is 40% lighter than alternative clear materials and 20% lighter than polystyrene, says James Banko, Vice President, Sales, at Pacur. It also has significant processing benefits, he adds. "It cuts much better than polystyrene, and is cleaner in terms of angel hairs and particulates. This is very important in medical packaging, of course, where cleanliness is of paramount concern," says Banko. "And you won't see any fracturing when it's removed from the mold. The lightweighting and ease of processing of the material lead to an overall system cost saving," adds Banko.

Tony Beyer, President of Tek Pak, was impressed by the material's performance as he ran tests on prototypes. "We analyzed all of the difficulties a processor might run into, and I was honestly surprised by how fast it ran—faster than an equivalent polystyrene material. It stripped off the mold properly, did not tear and the foam required less heat, so there was less heat to take out. Getting out the heat is a problem—you know, that's where the money is," Beyer told *PlasticsToday*.

Containers formed from Eastalite copolyester extruded sheet can be designed with deep undercuts and durable living hinges, and exhibit less stress whitening than packaging molded from HIPS, according to Eastman. Eastalite also can provide greater tear strength while retaining color stability and functional integrity following sterilization by ethylene oxide or gamma irradiation.

"When you're dealing with a risk-averse industry such as medical, getting unbiased feedback from companies

such as Pacur and Tek Pak is huge for us," Eastman's Aneta Clark, who is responsible for market development in the medical arena, told *PlasticsToday*.

Eastalite copolyester is made without materials of concern, including butadiene, bisphenol A, bisphenol S, ortho-phthalates or halogens such as chlorine or bromine. The material is compliant with select ISO 10993 requirements for medical device biocompatibility and applicable parts of ISO 11607.

Source : Plastics Today

DIP MOLDING AND COATING: A VERSATILE, FLEXIBLE PLASTICS PROCESS YOU MAY NEVER HAVE HEARD

Dip molding and coating is a plastics process that, while used commonly on many types of products that include everything from medical devices to hand tools to gasoline pump handles, remains largely unknown to many plastics engineers and product designers. Yet, dip molding and coating using a variety of liquid polymers offers many advantages and, in certain applications, can even be an excellent alternative to the injection molding and extrusion processes. There are a number of advantages to dip molding and coating that makes these processes both cost-effective and time-efficient. The molds, called "mandrels," are typically needed for the dip molding process or for custom applications, and are made from either aluminum or steel. These mandrels can be made in a matter of hours, making them extremely cost-effective compared to the tooling required for other plastic processes. That means that samples can be provided in days, and production started in just a few weeks.

Depending on the number of mandrels

needed for the project (based on the volumes required), capital costs are typically under \$2500. In the dipmolding process, the mandrels are heated and then "dipped" into the liquid polymer, natural and synthetic rubber, and even latex for certain applications. The material attaches to the mandrel, with the thickness of the product determined by the "dwell time" or the length of time the mandrel remains in the liquid polymer. The mandrels are then placed in an oven using heat to cross-link or "cure" the liquid polymer into a solid state. This "cure time" can vary by part.

In the dip coating process a specific product (such as pliers handles) are heated and dipped into the liquid polymer, which adheres to the metal. In both dip molding and coating, the parts are then re-heated after dipping to cure the material on the mandrel or the part. The parts are cooled, and the material is stripped from the mandrel or, as in the case of hand tools or other products requiring a soft-touch application, left in place on the product. The more mandrels or parts used at one time, the lower the cost.

Additionally, dip molding or coating creates perceived added value to the product. Liquid polymers come in a wide variety of colors, and can be printed with corporate logos and other decorations to meet your marketing promotional requirements.

Another benefit is that whether you have a low-volume requirement or a high-volume production project, dip molding and dip coating can offer both time and cost savings. It can also be an alternative to the injection molding process in applications where part geometry is not too complex and material with a high rigidity level is not an absolute necessity.

One company specializing in dip molding and coating is Molded Devices Incorporated (MDI), which works closely with a variety of OEMs across many industries such as medical,

aerospace and defense, automotive, construction, and industrial. Dip molding and dip coating applications include the production of various sized medical balloons, endoscope components, and cannulas with highly customized material formulations and precise dimensional tolerances; protection for high-end glass and metal components against chipping, scratching, corrosion, static in PCB components, and many more highly customized applications.

For example, a customer came to MDI with a grommet requirement spec'd in a thermoplastic elastomer (Santoprene) that would be produced by the injection molding process. However, the program for this component didn't have the volumes needed to justify the injection mold required to do the job (the estimated annual units on this particular part was <10,000 pieces). MDI was able to manufacture this component utilizing a proprietary process developed for other similar applications. And the tooling was designed and built for under \$500. MDI says that it was also able to keep the per piece price within the customer's budgeted range, making the grommets cost effective at the lower volumes.

Another project for which dip molding provided an ideal solution involved a customer that manufactures high-value titanium products requiring many different machining operations. After discovering a high rate of returns due to minor scratching or small "dings" in the product due to the handling of the products, they came to MDI looking for a solution. "Together we developed a protective dip-molded cover used in the plant to protect the product as it moved between stations during the various operations, greatly reducing returns and rework costs," said Dave Schoell, Vice President of Sales for MDI.

Dip molding can also be used to compete in blow-molded applications for bellowed products. "One customer initially reached out to a blow molding

company for a bellowed gear shift cover," explained Schoell. "The blow molding company came back with tooling and cutting fixture costs in excess of \$70,000. MDI made the mandrels for under \$500 and a lower part cost as well."

As seen by these examples, dip molding and dip coating can be used in a wide range of applications from protective coverings, medical applications, recreational equipment, sound dampening, circuit board protection, in fitness equipment, bumpers, soft grips on power tools where haptics (touch) are important, lawn and garden, and steering wheels, among others.

Source : Plastics Today

DEMAND FOR VINYL STEPS UP, AS U.S. CONSUMERS FLOCK TO HARD-SURFACE FLOORING

Demand for hard-surface flooring in the United States is forecast to advance 6.1% per year to 11.3 billion square feet in 2019, valued at \$16.7 billion, according to a new study from the Freedonia Group (Cleveland, OH). As building construction and improvement and repair spending increase under a recovering economy, hard-surface flooring as an alternative to traditional installed carpeting continues to gain converts. Vinyl and its luxury vinyl tile (LVT) subset are expected to post the most rapid gains in demand, says Freedonia.

The residential market accounted for the largest share of hard-surface flooring demand in 2014 and it is expected to post the fastest growth through 2019. Gains in housing completions will spur demand in the new housing segment, while homeowner makeovers will support replacement and remodeling demand. According to analyst Matt Zielenski, "Consumers are showing interest in

using hard surface flooring in rooms—such as living and dining areas—where carpeting has predominated in the past. In these cases, products such as hardwood, vinyl and decorative tile benefit from their long lifespans and pleasing appearance."

In the nonresidential market, double-digit annual advances in office and commercial construction will boost demand for hard-surface flooring. Shopping malls and office buildings often specify hard-surface flooring because of its durability and slip resistance. Increasing use in the institutional segment will also support demand, as owners and managers of healthcare and educational facilities install hard-surface flooring because it requires minimal maintenance and generally does not affect indoor air quality.

Among all hard-surface flooring types, vinyl flooring is expected to post the most rapid gains in demand, driven by the increasing use of LVT. Consumers in both the residential and nonresidential markets increasingly will install this material because of its glossy surface and its ability to mimic more expensive materials, such as hardwood flooring and decorative tile, says Freedonia.

US HARD SURFACE FLOORING DEMAND (Million Square Feet)					
Item	% Annual Growth				
	2009	2014	2019	2009-2014	2014-2019
Hard Surface Flooring	6840	8400	11300	4.2	6.1
Vinyl	2785	3285	4580	3.4	6.9
Decorative Tile	1660	2200	3000	5.8	6.4
Wood	805	1275	1725	9.6	6.2
Laminate	910	1005	1225	2.0	4.0
Other	680	635	770	-1.4	3.9

Source : Plastics Today

MANALI PETROCHEMICALS TO INVEST RS 100 CR FOR POLYOLS CAPACITY EXPANSION

The company plan to expand the capacity from the current 50000 tonnes per annum (tpa) to 1,50,000 tpa over the next five years

In a bid to consolidate its position in the polyurethanemarket, Manali Petrochemicals Ltd (MPL), a part of Ashwin Muthiah International, is planning to increase its polyols production capacity from the current 50000 tonnes per annum (tpa) to 1,50,000 tpa using an innovative process to produce additional propylene oxide (PO). Manali Petrochemicals Ltd, which is one of the leading manufacturers of propylene oxide, propylene glycol (PG) and polyols, will invest around Rs 100 crore over the next 4-5 years to raise the polyols manufacturing capacity.

This brown field investment will help Manali Petrochemicals produce cost-effective PO used in the manufacture of polyurethane (PU) foams, which is extensively utilised in the automotive, construction, refrigeration and other industrial sectors.

The annual polyol demand in India is estimated to be around 500,000 metric tonne (mt), in a market dominated by multinational petrochemical companies like Dow, Shell, Bayer, BASF and Huntsman.

Manali Petrochemicals, the only Indian supplier, often feels the impact of aggressive pricing through cheap imports by MNCs companies. "However, through innovation, tight cost control and strong technical support, Manali Petro has established itself in the Indian market," said MPL in a press release.

Ashwin C Muthiah, chairman, Manali Petrochemicals, said, "The move would give the company significant scale and ability to further penetrate the market. The expansion is in line with our endeavor to serve our growing customer base with better products and to provide superior customer experience and service."

Propylene oxide is the key raw material for the production of PU and propylene glycol (PG). Over the years, MPL has enhanced its production capacity for both PO and polyols and at present has a combined capacity of 36,000 tpa of PO and 50,000 tpa of polyol of single grade. Due to technical issues PO capacity cannot be augmented further and, hence, Manali Petrochemicals was depending on imported PO, which is expensive and affects margin, said MPL press release.

The proposed expansion will be carried out in phases over a period of five years. In the first phase, which is expected to be completed by March 2016, the company will raise the production of polyols from 50,000 tpa to 75,000 tpa. In the subsequent phases, Manali Petrochemical plans to add 25,000 mt capacity every fiscal. Capacity augmentation at each leg would result in an incremental turnover of Rs 280-300 crore to the company.

Source : Business Standard

BAYER EXPANDS THERMOPLASTIC POLYURETHANES CAPACITY IN CUDDALORE

With the commissioning of second production line, the company has increased the annual capacity of the site from 2500 metric tonne (MT) to 6000 MT

Bayer MaterialScience has commissioned a second line for production of thermoplastic polyurethanes (TPU) inCuddalore (Tamil

Nadu) thereby increasing the capacity of the site to 6,000 metric tonnes from its current capacity of 2,500 metric tonnes. The extension of the production facility was recently inaugurated by Ajay Durrani, managing director and senior country representative – Indian SubContinent, Bayer MaterialScience Pvt Ltd and Marius Wirtz, global head of TPU business at Bayer MaterialScience.

The Cuddalore site supplies thermoplastic polyurethanes under the brand name Desmopan for applications in hose, tubing, belt profile (HTBP), sports & leisure (shoes), IT, cables, industrial mechanical, automotive, compounding and films & coatings segments. The company is the local market leader and offers a wide range of innovative TPUs from both Bayer's local and global TPU portfolio.

Ajay Durrani said, "The investment in Cuddalore is a testament to the confidence that the company has in the country. Bayer MaterialScience is now even better positioned to meet the strong global and local demand for TPU."

Marius Wirtz added, "Desmopan sales continue to grow unabated in (what is) one of the world's fastest growing TPU markets. There has been strong partnership with all the stakeholders of the business and was confident that it will continue to grow further."

Juergen Haettig, head of application development EMEA region highlighted the new innovative TPU solutions from Bayer MaterialScience which included high-transparent grades, C3 ether-based Desmopan grades, high modulus grades, solutions for additive manufacturing and TPU's made from greenhouse gas & bio-based raw materials.

Source : Business Standard

My Faith is My Business

Dr. Devdutt Pattanaik

The Lord rested on the Seventh Day. So say Abrahamic mythology. That was on Friday say the Muslims, Saturday say the Jewish folk, Sunday say the Christians. Unable to agree, the 2-day weekend came into being, satisfying needs of the Jewish and Christian Sabbath. This is now deemed secular. In fact, what is and what is not secular is always codified by the West, because it was in the West that religion and state came to be separated after the rise of the scientific revolution in the 16th century, which also played a key role in the rise of banking and industrialization.

This was the age when aristocrats controlled all land in Europe, and the Church that forbade banking. This did not bode well for industry. The only bankers were Jewish people, who had no choice in the matter as they were not allowed to own land. And they were victims of widespread anti-Semitism, a result of bankrolling kings and landowners who could not repay their debts. Entrepreneurs were at a loss. Many changed their faith, became Protestants, rejecting papal oppression so as to pursue banking. They sought refuge in America, which attracted those with entrepreneurial spirit, as well as those facing debt and persecution in Europe. Jewish bankers and traders, tired of European anti-Semitism also moved to America. All of them worked hard and eventually helped USA outpace Europe in terms of wealth and power. Having seen how religion could be dangerous for business, it was the newly formed USA that spearheaded the idea that religion should be kept private.

The relationship between religion and business in India has been far less violent and far more complex. Indian society is made of villages, each of which is a set of communities that pursue different trade and professions. Integrity of these communities was maintained by preventing inter-marriage. Thus there were communities of laborers, craftsmen, traders, landowners and priests. It ensured knowledge and professional secrets were passed on within the family from generation to generation. This was the caste system. The rise of new religions such as Buddhism and Jainism and Sikhism, and arrival of new religions such as Islam and Christianity were accommodated within this caste framework. Thus entire trading communities followed Islamic faith or Jain faith or Sikh faith, or worshipped a particular deity. Each community had its own set of rules. Jain bankers for example would not, and still do not, invest in what their gurus deem to be 'violent industries'.

But this system did not allow room for disruptive innovation as relationships outside caste were frowned upon expect in markets. Also, willy-nilly, it created social hierarchy, with landowning and trading communities dominating the village politically and

economically, and the priestly communities dominating the society using the doctrine of purity. As a result, certain services such as sweeping and tanning and butchery were seen as 'dirty' and 'polluting' and even 'untouchable'. This had widespread social consequences. Orientalist academicians in desperate search for a 'Hindu Bible' blame a text called Manu Smriti for this caste system, not realizing the text codifies a prevalent practice, and does not establish it. In fact, fluidity caste structures became rigid social identities to satisfy the administrative needs of British colonizers.

Urbanization broke this hierarchy at a structural level. Rise of a secular state, then liberalization and software industry boom ensured that entrepreneurship moved out of the traditional 'bania' lobby, so much so that many entrepreneurs of the IT-service sector traditionally come from 'brahmin' backgrounds. But the fact remains, that the richest people in India even today can be traced to old trading and entrepreneurial castes though they are mostly described nowadays using religious or regional nomenclature such as the Jains, Marwaris, Parsis, with the exception of the Chettiars. Now conscious efforts are being made to put the spotlight on and encourage Dalit entrepreneurs, Dalit being a term used for those who were traditionally and structurally placed at the bottom of the caste hierarchy, denied resources and privileges as a result of structural unfairness. Thus 'jati', the religious-social construct of India (not just Hindu), continues to shape Indian industry, whether we like it or not. Government policies have simply tried to reframe it, make it less unfair, as it seems impossible to annihilate it.



When Indians place an image of Ganesha or of Mother Mary or an image of Mecca on their desks, it has traditionally been seen as a social practice, not a religious act. No one thinks much of the Lakshmi photo kept in the Finance Department above the safe. No one thinks much of the Lakshmi puja done on Diwali. Or the Satyanarayan Puja done in the factory during Navaratri. No one thinks too much of a Muslim colleague taking a longer lunch break on Friday to go to a nearby mosque.

This integrated approach where religion, industry and society mingle and merge, is alien to the West. From the West comes the multinational ecosystem which is why in corporations religion is approached very consciously, awkwardly, either in conciliatory or in confrontational terms. We are increasingly inheriting this Euro-American gaze of seeing religion with suspicion, of turning all things communal, of either completely hiding it or displaying it oppressively. And that is not good for business.

C I R C U L A R

TO ALL MEMBERS OF THE FEDERATION

MEMBERS ARE REQUESTED TO SEND THEIR GRIEVANCES / PROBLEMS FACED ON VAT / CST / ENTRY TAX ETC. IN DETAILS ALONGWITH SUPPORTING DOCUMENTS TO THE IPF SECRETARIAT SO THAT WE CAN PUT THE SAME TO THE CONCERNED AUTHORITY.

PLEASE SEND THE SAME TO THE HONY. SECRETARY, INDIAN PLASTICS FEDERATION
8B, ROYD STREET, 1ST FLOOR, KOLKATA – 700 016.

E-MAIL: office@ipfindia.org, FAX : 22176005

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MEMBERS WANT TO SET UP NEW PLASTIC INDUSTRY AND TO AVAIL SUBSIDY AND OTHER GOVERNMENT BENEFITS AVAILABLE FOR MSMES' MAY CONSULT WITH **MR. PINAKI SINHA ROY, EX-PROJECT MANAGER, DIC AT IPF SECRETARIAT, 8B, ROYD STREET, 1ST FLOOR, KOLKATA – 700 016 ON EVERY WEDNESDAY FROM 3.00 P.M. TO 5.00 P.M. WITH PRIOR APPOINTMENT.** INTERESTED MEMBERS MAY CONTACT DIRECTLY WITH THE IPF SECRETARIAT AND FIX AN APPOINTMENT AT LEAST 2 DAYS BEFORE THE SCHEDULED MEETING. MR. ROY WILL PROVIDE THE KNOWLEDGE REQUIRED FOR SETTING UP PLASTIC INDUSTRY UNDER MSME POLICY 2013 ISSUED BY DEPT. OF MSSE & TEXTILE, GOVT. OF WEST BENGAL.

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IPF NEW MEMBERS & CIRCULAR

IPF WELCOMES TO NEW MEMBERS TO ITS FAMILY APPROVED IN THE EXECUTIVE COMMITTEE MEETING HELD ON 27/05/2015

Name of the Company	Class of Membership	Membership No.
M/s Mutha Brothers	Life Manufacturer member	LM – 353
M/s Crown Industries	Life Manufacturer member	LM – 354
M/s Vishal Enterprise	Life Manufacturer member	LM – 355
M/s K. Saraf & Sons	Life Manufacturer member	LM – 356
M/s Sethia Plastics	Life Dealer member	LDR – 102
M/s A. B. Enterprises	Life Dealer member	LDR – 103
M/s Saraswati Trading Co.	Life Dealer member	LDR – 104
M/s Manna Traders	Life Dealer member	LDR – 105

CIRCULAR NO. 37/2015

15th June 2015

The Federation has received the following applications for membership of the Federation :

1. a) Name & Address of the Applicant Firm : **M/S. S. R. INDUSTRIES**
1/4C, Khagendra Chatterjee Road
(Suraj Jute Press Compound)
Kolkata – 700 002.
- b) Class of membership : **Life Manufacturer member**
- c) Proposed by : M/s Shree Krishna Industries
- d) Seconded by : M/s Prakrit Impex Pvt. Ltd.
- e) Name of Representative : Shilpa Jain - Proprietor
- f) Items of manufacture : Manufacturer of plastic bottles, containers and caps etc.
2. a) Name & Address of the Applicant Firm : **M/S. CENTURY PLASTIC INDUSTRIES**
P-44, Khirod Vidya Vinod Avenue
Kolkata – 700 003.
- b) Class of membership : **Life Manufacturer member**
- c) Proposed by : M/s Prakrit Impex Pvt. Ltd.
- d) Seconded by : M/s Shree Krishna Industries
- e) Name of Representative : Mr. Sunil Agarwal - Proprietor
- f) Items of manufacture : Manufacturer of Plastic Recycling.
3. a) Name & Address of the Applicant Firm : **M/S. G. M. INTERNATIONAL**
15, Brabourne Road, 2nd Floor
Banerjee Bhawan
Kolkata – 700 001.
- b) Class of membership : **Life Dealer member**
- c) Proposed by : M/s Kumar Engineering Works
- d) Seconded by : M/s Prakrit Impex Pvt. Ltd.
- e) Name of Representatives : 1. Mr. Bharat Kr. Jain – Partner
2. Mr. Prakash Kr. Jain - Partner
- f) Items dealt in : Dealer of Plastic Moulded Toothpicks,
Tongue cleaners and Combs.

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4. a) Name & Address of the Applicant Firm : **M/S. PRINCE PLASTIC**
3/2/1, Chanditola Branch Road
Kolkata – 700 053.
- b) Class of membership : **Life Dealer member**
- c) Proposed by : M/s Gautam Plastic
- d) Seconded by : M/s Prakrit Impex Pvt. Ltd.
- e) Name of Representative : Mr. Ashok Kr. Agarwal - Proprietor
- f) Items dealt in : Dealer of Food Containers.
5. a) Name & Address of the Applicant Firm : **M/S. PRABHU POLYCOLOR LTD.**
Chatterjee International Centre
33A, J. L. Nehru Road,
12th Floor, Room No. 7
Kolkata – 700 071.
- b) Class of membership : **Conversion from Producer member to
Manufacturer member**
- c) Proposed by : M/s Kumar Engineering Works
- d) Seconded by : M/s Montel Pen & Plastics
- e) Name of Representatives : 1. Mr. H. M. Marda – Director
2. Mr. Sunil Poddar – Director
3. Mr. Pawan Kr. Newar – Vice-President
- f) Items of manufacture : Manufacturer of Plastic Masterbatch, Additives and Compounds.

(Circulated in terms of Article 15 of the Articles of Association of the Federation)

CIRCULAR NO. 38/2015

18th June 2015

The Federation has received the following applications for membership of the Federation :

1. a) Name & Address of the Applicant Firm : **M/S. VEDIKA POLYMERS**
42, Chanditolla Main Road
Kolkata – 700 053.
- b) Class of membership : **Conversion from Annual to Life Manufacturer member**
- c) Proposed by : M/s Jupax Vanijya Pvt. Ltd.
- d) Seconded by : M/s Rateria Laminators Pvt. Ltd.
- e) Name of Representative : Mr. Vineet Khemka - Proprietor
- f) Items of manufacture : Manufacturer of printed shopping bags.
2. a) Name & Address of the Applicant Firm : **M/S. RAMKUMAR RAJKUMAR**
132, Utkal Mani Gopa Bandhu Sarani
(Formerly Cotton Street)
3rd Floor
Kolkata – 700 007.
- b) Class of membership : **Life Manufacturer member**
- c) Proposed by : M/s Rateria Laminators Pvt. Ltd.
- d) Seconded by : M/s Jupax Vanijya Pvt. Ltd.
- e) Name of Representative : Mr. Raj Kumar Agarwal – Proprietor
- f) Items of manufacture : Manufacturer of PP Bags.

C I R C U L A R

3. a) Name & Address of the Applicant Firm : **M/S. M. R. PLASTICS**
35, A. P. C. Road
Kolkata – 700 009.
- b) Class of membership : **Life Dealer member**
- c) Proposed by : M/s Jupax Vanijya Pvt. Ltd.
- d) Seconded by : M/s Rateria Laminators Pvt. Ltd.
- e) Name of Representative : Mr. Vishal Khemka - Proprietor
- f) Items dealt in : Dealer of Plastic Packaging Goods.
4. a) Name & Address of the Applicant Firm : **M/S. SHANKAR PLASTIC**
167, Netaji Subhas Road
Kolkata – 700 007.
- b) Class of membership : **Conversion from Annual to Life Dealer member**
- c) Proposed by : M/s Jupax Vanijya Pvt. Ltd.
- d) Seconded by : M/s Rateria Laminators Pvt.
- e) Name of Representative : Mr. Kailash Kr. Agarwal - Proprietor
- f) Items dealt in : Dealer of Poly Bags.
5. a) Name & Address of the Applicant Firm : **M/S. MAANSAROVAR DISTRIBUTORS**
39A, Jorapukur Square Lane
Girish Park
Room No. 302, 3rd Floor
Kolkata – 700 006
- b) Class of membership : **Life Dealer member**
- c) Proposed by : M/s Rateria Laminators Pvt.
- d) Seconded by : M/s Jupax Vanijya Pvt. Ltd.
- e) Name of Representative : Mr. Binod Kr. Tulsyan - Proprietor
- f) Items dealt in : Dealer of PVC Pipe.

(Circulated in terms of Article 15 of the Articles of Association of the Federation)



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