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Dear Friends,

OCTOBER is our festive month of the year. Wishing all my friends a great time ahead. It's time to enjoy but also introspect, review, un-learn, re-learn and evolve.

I had the opportunity to read Simon Sinek, an ex-advertising executive and author, who is perhaps best known for his concept of the Golden Circle.

I am sharing synopsis of the article. The concept revolves around the thought leadership and messaging approach utilized by some of the world's most exciting leaders and brands - the Wright Brothers, Apple, and Martin Luther King Jr. - which, as Sinek puts it, "starts with the why."



According to Sinek, most people communicate by starting with the "what" they do aspect and eventually work their way back to talk about "how" and "why" they do what they do. However, companies that are universally identified as unique and successful communicate with an "inside-out" type of thinking, observes Sinek. They start with the why and only then do they move on to talk about the how and what portions of what they do.

Apple starts with the "WHY"

"Everything we do, we believe in challenging the status quo. We believe in thinking differently. We challenge the status quo by making beautifully designed products that are simple to use." Now which company do you want to buy from? With normal companies, you're being sold a computer - end of story.

But with Apple, simply by reversing the expected order of communication, the company is able to inspire us - to tap into a more emotional part of our brain where we make decisions based on feelings.

It's All About How You Frame It

This Golden Circle approach to messaging can be applied to content marketing and marketing automation plans as well. Marketing automation tools rely on workflows - populated with emails, triggers, and various types of content - created for the purpose of moving consumers through a natural buying process.

These workflows are designed by marketers who have taken the time to understand buyer personas and pair appropriate content to the different stages in the buying cycle. The next time you're planning content - email copy, e-book titles, calls to action, blog posts, etc. - anything for a marketing automation flow, take time to think through the way you're choosing to tell your story.

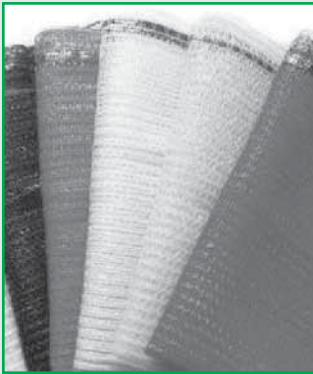
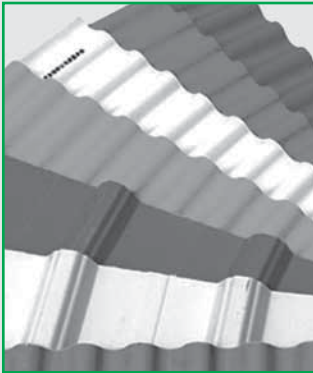
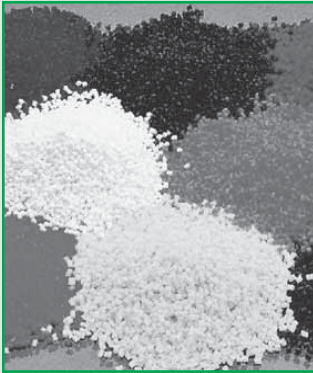
SHUBHO BIJOYA & HAPPY DEEPAWALI.

Happy reading ahead!

Warm Regards,

Manish Kr. Bhaia
Editor

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PRESIDENTIAL ADDRESS

P RESIDENTIA L ADDRESS



Dear Friends,

October / November is the festive season for majority of people all over India. In West Bengal it is Durga Puja. It is also the month when there are many red letter dates on the calendar and people are in a holiday mood. During festivals plastics also play an important role since advertisements printed on flex is seen all over the place. Packaging of the idols is also done with plastics to protect the idol against any thunder shower. Packaging plays an important role in everyday life and is an important area of research all over the world. Research is going on to bring some change to the present methods of packaging and a few lines are given below in this connection.

Consumers today are getting increasingly environment-aware and consciously explore the shelves for brands that provide them with sustainable packaging alternatives. Packaging is an important concern for consumers, particularly those who are interested in converting to eco-friendly and innovative packaging solutions. Reduction in the carbon footprints as well as amount of packaging material and use of eco-friendly raw materials constitute new consumer preferences. A leading packaging organisation organises annual distinguished international award in packaging-WorldStar, that illustrates the continual advancement of the state of packaging art and creates a living standard of international packaging excellence. Some of the award winning packaging that use plastics have been listed.

Two Tetra Pak products, each designed specifically to reduce environmental impact, have won prestigious WorldStar packaging Awards. Tetra Top with Separable Top and Tetra Prisma Aseptic 1000 with plant-based plastic received specific recognition for their commitment to the environment, for providing consumers with a balance between functionality and sustainability.

The Coca-Cola Co. unveiled a new plastic bottle made entirely from plant-based materials, but the company has yet to reveal plans for commercial production of the package. The PET bottle, an extension of Coke's Plant Bottle technology is made from natural sugars derived from sugarcane plants as well as "waste from the sugarcane manufacturing process" that are converted into ingredients used for PET containers. It is an upgrade to the current Plant Bottle which uses up to 30% plant-based materials per bottle, and accounts for 30% of the Coke's packaging volume in North America and 7% globally. Coke describes the bottle, used for a variety of its soda, water and tea brands, as a key to its vision to develop a more responsible plant-based alternative to packaging traditionally made from fossil fuels and other non-renewable materials." The company aims to convert all new PET plastic bottles, to Plant Bottle packaging by 2020.

This packaging pushes the boundaries on sustainable innovation by using groundbreaking technology to create a fully recyclable plastic bottle made from renewable plant materials. Converting natural sugars found in plants into the ingredients for making PET plastic bottles, the packaging looks, functions and recycles like traditional PET but has a lighter footprint on the planet and its scarce resources.

By the time the next volume of Plastics India is in your hand Indplas'15 exhibition will be over. I request all members not to miss this life time opportunity to see new products and processes that will be showcased during the exhibition. Members are requested to spread the message of Indplas'15 exhibition amongst their contacts and request them to register themselves on-line as visitors and get free entry in the exhibition. There will be large participation of Indian and foreign exhibitors. Large contingent of visitors will come from China. Kindly do not miss this opportunity! Our Chairman Shri Ashok Jajodia and his team is leaving no stone unturned to make this exhibition a grand success.

Wishing all members SHUBHO BIJOYA AND HAPPY DEEPAWALI.

With best wishes,

A handwritten signature in black ink, appearing to read 'Pradip Nayyar'. The signature is stylized and somewhat cursive.

Pradip Nayyar
President

From the Desk of Hony. Secretary



Dear Members,

It is a proud moment for all IPFian to know that Shri K.K. Seksaria, our Past President, has been unanimously elected as President, Plastindia Foundation (PIF), Mumbai for the term 2015 – 18 at their recently concluded AGM held on 22nd September 2015. This was the term of IPF for holding Presidentship post of Plastindia Foundation and we are very thankful to all founder members of Plastindia Foundation for respecting our views.

With Indplas'15 knocking at the door our efforts for a very successful exhibition has also picked up. 5000 sq. m. space has already been booked of which approx. 600 sq. m. has been booked by overseas exhibitors. There will be a large contingent of visitors from China. This time it will truly be an international exhibition. Regarding domestic booking Odisha Industrial Development Corp. have confirmed to be a Gold sponsor. Odisha government is using Indplas'15 exhibition as a platform to promote their upcoming Poly Park at Paradeep. We are sure that our exhibition will be able to deliver the desired results for which it is being organised and help promote plastics industry at Paradeep. Gujarat government have also confirmed their participation by booking 75 sq. m. space. We are in discussion with the Dept. of Commerce & Industry, Govt. of West Bengal to book space at Indplas'15 for promotion of West Bengal as an investment destination in plastics. With Haldia Petrochemicals Ltd running at full steam and upcoming IOC plant at Paradeep and Brahmaputra cracker at Assam, it won't be difficult to convince out-station exhibitors to put their units in West Bengal and other neighboring states.

This time spot and site advertisement space is being booked online. The matter has already been uploaded on our website www.indplas.in and those eager to advertise at the fair ground are requested to log on to our website and select a good location. Our gala night chairman is making excellent arrangements for an eventful gala night. It will be held at Chandras' Green Project Limited Gold Acres (Ground-II) on the evening of 28th November 2015. M/s. Kushal Group has consented to be sponsor for the Gala night.

In the last Committee meeting it was unanimously decided to hold our next Annual General Meeting on 22nd December 2015. This date was selected as our exhibition will be over on 30th November 2015. The follow up work of the exhibition will take a few days and then we will have some time to devote our energies on holding our AGM. The venue and time of the AGM has not yet been finalized but the Office-Bearers have been empowered by the Committee to finalise the same. Necessary circulars inviting candidates for filling up various portfolios in the Executive Committee will be shortly issued.

By the time this volume is in your hand Durga Puja will be over. I wish all IPF members and their families SHUBHO BIJOYA. Deepawali will be held on 10/11 November 2015 and I convey my best wishes to all of you for an eventful & HAPPY DEEPAWALI.

With best wishes



Ashok Jajodia
Hony. Secretary

ADDITIONAL WOES FOR PETROCHEMICALS MAKERS IN THE GULF REGION

Revenue of petrochemical makers in the Gulf region is expected to further decline this year after sliding 20 to 30% in the 12 months to June because of the oil price slump, as per thenational.ae. China, the market that consumes a major chunk of Gulf output, is trying to build its own petrochemical projects to be self-sufficient. Also the economic slowdown in China is expected to hit petrochemical demand.

“We think the petrochemical prices will maintain this level in 2015,” said Abdulwahab Al Sadoun, the secretary general of the Dubai-based non-profit Gulf Petrochemicals and Chemicals Association. Brent tumbled by more than 40% between June this year and the last year because of an oil supply glut and weaker demand from Asia and Europe.

Their key market China is currently on a self-sufficiency drive. However, this is not going to have an immediate impact,” said Mr Al Sadoun, adding that volume-wise there will be an increase in capacity and this will offset slightly the overall sales revenue [drop].”

Total petrochemical production in all six Gulf states is projected to grow at 7.5% to about 144 mln tons this year, less than the compound annual growth rate of 11% recorded between 2004 and 2014. The growth rate will see some slowdown because there is constraint in the supply of gas. All Gulf states, except Qatar, are facing a gas shortage which is set to limit expansion of petrochemical projects, which rely on cheap gas. The Gulf region is boosting investments in gas projects to address this shortage. As the region’s petrochemical industries compete with power generation and other industries over gas supply, some petrochemical producers are choosing to use the oil derivative naphtha rather than gas, or ethane, as feedstock. Utilising naphtha will help companies produce a more diversified range of products, but at a higher cost that will pit them against other countries in Asia, for example, that use naphtha as feedstock.

“With population growth in our region, power and water in our region becomes critical and so they have taken their share from those [petrochemical] industries, and this has pushed the drive to have a mixed feedstock rather than just ethane,” said Mr Al Sadoun, as per www.the.national.ae

Source : Plastics News

GLOBAL POLYMERIZATION CATALYSTS MARKET TO REACH US\$6298 MLN IN 2020

Global Polymerization Catalysts market by revenue was US\$4,439.9 mln in 2014, and is projected to reach US\$6298 million in 2020, thereby witnessing a growth of CAGR 6%, as per Mordor Intelligence. The developing regions of South America and Asia Pacific are expected to increase its market share in the future owing to the growing purchasing power in the developing countries. According to our analysis, plastic products will continue to displace other materials in a variety of applications, while rising incomes in developing nations will also contribute to additional plastic consumption. Ziegler- Natta and single-site catalysts will benefit most. Rapid growth is expected to occur in both Asia and the Middle East. In Asia, growth will be led by China and India, and result from rapid industrialization and expansion of the refining, chemical and polymer industries in both countries. China's rising income levels, vehicle ownership rates, and industrial activity will all contribute to strong growth in demand for catalysts. In the Middle East, Saudi Arabia and other large oil and natural gas producers will continue

efforts to expand and diversify their economies by investing in new chemical and petroleum refining capacity. Polymer producers in the Middle East will increasingly compete in global markets. Brazil will lead strong growth in Central and South America. The country is beginning to successfully develop its natural gas and oil resources. This will provide a competitive advantage for chemical and polymer producers, while the nation's large population will provide a strong market for products manufactured with the use of catalysts. Catalyst demand in North America will see healthy growth as well, due largely to a rebound in chemical and polymer production as companies take advantage of comparatively low natural gas prices.

BASF SE, Bayer, Clariant International Ltd., Johnson Matthey Inc., Kbr Inc., UOP LLC, Dow Chemicals and Nova Chemicals Corporation among others are some of the major global companies included in this report.

Expansion of polymer resin production, stringent environmental regulations is seen as the major driver for the polymerization catalyst market. Also the increasing refinery market output in Africa, Middle East and Asia Pacific shows the trend towards higher consumption of these catalysts. The industry is expected to face certain challenges such as high manufacturing costs

and also the fluctuating prices for precious metals used for production. Backward integration and Research & development to reduce cost and improve quality are seen as the opportunities which the manufacturers should focus to tap in for better capturing of the market.

Source : Plastics News

POLYOLEFINBUYERS MANAGE SIZEABLE PRICE CONCESSIONS

European standard thermoplastic prices plunged for the third month in a row in September as a result of a further decline in crude oil, naphtha and petrochemical feedstock costs.

Prices were also under pressure from better material availability. Meanwhile, for the most part, demand failed to recover quite as anticipated after the summer holiday season.

The economic uncertainty in China added further pressure to prices. The weaker yuan meant that Chinese petrochemical buyers have less purchasing power for imports and more incentive to buy domestic cargoes.

At the start of the month polymer producers wanted to restrict price cuts to the monomer decline. However, in the case of polyolefins, weaker than expected order intake and much improved availability soon put paid to their plans.

L/LDPE prices fell €130/tonne during the first two weeks of

September, €40/tonne more than the €90/tonne reduction in the ethylene contract price. HDPE injection moulding prices shed €110/tonne with blown film and blow moulding grades, where supply is tighter, down €100/tonne.

Polypropylene prices plunged by €145/tonne, €35/tonne more than the propylene cost reduction.

PVC and polystyrene producers managed to limit price rebates at close to the respective €45/tonne and Å100/tonne cost reductions.

PET prices continue to fall as a result of lower feedstock costs, excess supply and subdued demand.

Material availability has improved during the summer with cracker and polymer plants running at high capacity utilisation rates following a series of planned and unplanned outages. Producers are cranking up output wherever possible to capitalise on the record margins they achieved this spring when material was very short. However, upcoming cracker maintenance programmes could however tighten supply during the autumn.

High European polymer price levels compared with the rest of the world are now also attracting a growing influx of imported material.

A summary of supply-related developments since August is presented below:

➤ Borealis' Stengunsund, Sweden,

cracker; LyondellBasell's Muenchsmuenster, Germany, cracker; and Dow's Bohlen, Germany, cracker are all expected to go into turnaround mode during the autumn.

➤ Petrochemical producer Ducor is expected to lift its force majeure on polypropylene supplies by the end of September. Ducor operates a single PP plant at Rozenburg, the Netherlands. It experienced a fault at one of three production lines in mid-July, which resulted in the force majeure. The plant is now running at full capacity following repairs and a successful restart in mid-August.

➤ The explosion and ensuing fire that broke out at Unipetrol's cracker in Litvinov, Czech Republic on 13 August has caused substantial damage. The petrochemical operations remain shut down and the company said it will take "months rather than weeks" for operations to resume fully.

Producers were planning for a revival in order activity after the end of the summer holiday period. However, it appeared that demand was at the lower end of market expectations during the first two weeks of September. There was hardly a surge in sales with most processors adopting tactical restraint. They were limiting their

buying to the bare minimum with prices expected to fall further this month.

Crude oil and naphtha prices continued to slide during the first two weeks in September. Better feedstock availability from local cracker plants and higher import volumes were also dragging down ethylene and propylene prices. There is a danger that an over-supply situation could emerge shortly, should demand fail to pick up during the rest of the year.

Source : Plastics News Europe

BANK OF ENGLAND TO USE PLASTIC FOR 20 POUND NOTE

The Bank of England has announced that the next 20 pound note will be printed on polymer.

The move follows the move in 2013 to make 5 pound and 10 pound banknotes from polymer

The current polymer notes are around 15 percent smaller than the current paper notes. The new 20 pound notes will also keep their traditional look, with a portrait of the Queen on the front. The character for the new note will be announced in spring 2016 and the new note issued by the end of 2020.

The 20 pound note is the most common banknote, with a reported 1.9 billion in circulation at the end of February according to the

Bank of England. A competitive tender process for the supply of the polymer for the 20 pound note is expected to start in late 2015, the Bank said.

The move to plastic notes will leave the 50 as the only remaining paper note.

Polymer notes tend to last at least two-and-a-half times longer than paper banknotes and are more resistant to dirt and moisture. They also have advanced security features, making them difficult to counterfeit, according to the bank.

Polymer banknotes entered circulation in Scotland in March, when Clydesdale Bank issued two million of the notes to commemorate the 125th anniversary of the opening of the Forth Bridge.

More than 30 countries currently issue polymer notes, including Australia, New Zealand, Mexico, Singapore, Canada and Fiji.

Source : Plastics & Rubber Weekly

FORMOSA PETROCHEMICAL CONSIDERS NEW POLYOLEFIN PLANT IN LOUISIANA

Formosa Petrochemical Corp. is reviewing a plan that could bring new production of polyethylene and related products — as well as more than 9,000 jobs — to Louisiana.

Officials with Taiwan-based

Formosa said in a Sept. 3 news release that the firm is studying the feasibility of a \$9.4 billion industrial complex in St. James Parish, La. The two-phase project would include production of PE, ethylene, ethylene glycol, polypropylene and related products. The project would create 1,200 direct jobs and as many as 8,000 indirect ones, officials said.

“We believe strategic growth in petrochemicals in the future will be in the U.S., especially in Louisiana,” company Chairman Bao-Lang Chen said in the release. “It’s the right and perfect location for our company’s next development base.”

Gov. Bobby Jindal added in the release that “this tremendous capital investment signals that the many reforms we have installed to improve Louisiana’s business climate are succeeding.”

If Formosa goes ahead with the project, the firm will receive a \$12 million performance-based state grant, as well as tax exemptions through the state’s Quality Jobs and Industrial Tax Exemption programs. Formosa also would work with LED FastStart, the state’s workforce development program.

Several petrochemicals makers — including Dow Chemical, ExxonMobil Chemical and Chevron Phillips — already have announced major PE expansions in the Gulf Coast region because of

newfound supplies of natural gas. Most of these projects are scheduled to come online in 2017.

Formosa Petrochemical is a separate entity from Formosa Plastics Corp., although both are owned by Taiwanese conglomerate Formosa Group. Formosa Plastics is building a new ethylene cracker, low density PE line and PDH propylene unit in Point Comfort, Texas. In July, officials said the firm will build a new PP unit there as well.

Formosa Plastics already makes PE, PP, PVC and related products in the United States as Formosa Plastics Corp. USA. The firm operates a Louisiana production site in Baton Rouge.

Source : Plastics & Rubber Weekly

BOARDWALK MAKEOVER: NYC USING PLASTIC, CONCRETE TO REBUILD CONEY ISLAND BOARDWALK

For 92 years, the Coney Island boardwalk has beckoned crowds from near and far to stroll, skate and cycle hardwood planks that stretch 2.7 miles between sandy beaches and seaside attractions.

The boardwalk has become an enduring symbol of New York City, offering respite, recreation and a route to the classic wooden Cyclone

roller coaster, legendary hot dog eating contests — the record: 62 downed in 10 minutes — and Saturday night burlesque shows.

However, time and Super Storm Sandy have taken their toll on the famous promenade. And some are saying a plan to replace the tropical wood boards with concrete and recycled plastic lumber will be the final ruin of the iconic destination.

The first phase of reconstruction is underway at Brighton Beach. High density polyethylene planks made from recycled milk jugs and detergent bottles by Tangent Technologies LLC of Aurora, Ill., will soon be installed atop a concrete substructure.

The faux wooden boards will flank a central concrete strip for five blocks in this initial \$6.9 million step of the renovation. The polymer material is enjoyable, durable and sustainable in that it prevents further deforestation of the rainforest, according to the NYC Department of Parks & Recreation.

“As an environmentally conscious and design-forward material, we couldn’t have done better,” spokesman Sam Biederman said in a telephone interview.

Maeri Ferguson, who handles media inquiries related to Brooklyn for NYC Parks & Recreation, added in an email: “In fact, to reconstruct the entire boardwalk with tropical hardwoods would destroy 45,200

acres of tropical rainforest — the equivalent of roughly 34,000 football fields — and contribute to the very climate change that destroyed the boardwalk in the first place.”

Synthetic critics

Opponents, who started a Save the Boardwalk website, call the plan “myopic stewardship.” They say they’re not asking for tropical hardwoods. They want to see it restored with domestic wood like black locust or white oak. They wave signs that say “Boardwalk. Not sidewalk.” at rallies. And, as for the low-maintenance benefit of polymer planks, one resident pointed to money spent at Central Park and suggested that “may be we should put in plastic grass and plastic trees.”

Passionate preservationists are trying for a second time to have the 42-block boardwalk designated a scenic city landmark and kept a wooden walkway. They say real wood looks better, feels better underfoot, and is part of the draw for millions of visitors needing an escape from the concrete-filled city.

One detractor is Steven Cymbrowitz, a New York state lawmaker who in 2009 helped direct a \$10 million grant to fix the structure officially called the Riegelmann Boardwalk.

“This is an underhanded misuse of the money and the mayor [Bill De Blasio] knows it,” Cymbrowitz said

in a statement in November, when the construction fence went up. “I will work to make sure that the millions of dollars I allocated are cut off. I fought hard for the boardwalk to be repaired, not to fund the elimination of the boardwalk as this community and all New Yorkers know it.”

Why not wood?

Defenders of the plan contend it is in keeping with the boardwalk that generations of New Yorkers and visitors know and love. The city will use a Tangent Technologies product called Poly Force, which is embossed with a wood grain, has a weathered appearance, comes with a 50-year warranty, and should last much longer.

“The new boardwalk will mirror the look and feel of a traditional boardwalk while adding critical strength and resilience, which will protect the Coney Island community and stand up to floods and hurricanes,” Ferguson said in an email.

The parks department website has a lot of information about surface material evaluations compiled by the staff, the Mayor’s Office of Recovery and Resiliency and the Public Design Commission. They found domestic hardwoods cost \$144 per square foot compared to \$126 per square foot for recycled plastic lumber with a concrete carriage lane.

They also say the domestic hardwoods today are “new growth” subject to earlier decay. And, domestic hardwood isn’t readily available in the quality, quantity and length needed for such a large-scale project. The original boardwalk used 3.6 million feet of timber.

Plastic pluses

Poly Force, which is made of HDPE with foaming agents in the base resin, is used by many cities and departments of transportations (DOTs) for applications like decks, boardwalks and bridge fenders. The DOTs are one of Tangent Technologies biggest client bases, Alan Potts, the company’s sales manager for structural marine projects, said in a telephone interview.

“The root-cause reason isn’t just the durability,” he explained. “Or, that it doesn’t rot or require maintenance or leach toxins into the water — all advantages over treated timber, which it has replaced. The main reason is that it will absorb energy from impacts much better than wood. A similar cross section of recycled plastic lumber will absorb 15 times the energy of a piece of wood. Whether it’s in tendering for bridge pier protection or decking on a pier, when it’s subjected to impacts as might be the case during a storm, it’s going to fare very well.”

For government agencies on limited budgets, Potts said recycled plastic

lumber is gaining popularity. As for its appearance, he said New Yorkers need only look at Steeplechase Pier, which juts out from the boardwalk, to get an idea of what the Poly Force part of the boardwalk will be like.

The pier, which extends far over the Atlantic Ocean, bore the brunt of Sandy with boards broken off and swept away. Tangent Technologies won the bid to provide the recycled plastic lumber for the city.

“It was a bit of a trial, putting one toe in the water for them,” Potts said. “They were looking for something durable and low maintenance. Overall, they were very happy with the material. We’re now engaged with the boardwalk itself and it’s really, I think, on the back of the success of Steeplechase Pier.”

Poly compromise

The pair of projects in the Big Apple is far from the biggest Tangent Technologies has supplied.

“We did a bridge at San Francisco Bay that took 45 truckloads of material,” Potts said. “This is not a huge project for us but it is a significant one in that it is so close to the heart of the local community. It’s one of our more high-profile projects at the moment.”

He has followed the debate from the sidelines, noting comments from bicyclists who prefer all concrete and complain about boardwalk fasteners tearing their tires;

walkers, who like “the springiness” of boards; and “traditionalists,” who want hardboard like the way it has been since 1923.

“Different people want different things and they’re all pretty vocal,” Potts said. “I think the city played a great role in diplomatically seeking input from the community and trying to appease everybody. They’ve come up with a hybrid design with a concrete center and on either side two sections of the traditional deck look.”

Potts said he hopes he’s not naive but after a career in recycled plastic lumber, he has seen a lot of public hesitation about the material at the start of projects and then almost always gets compliments when they’re done.

“I often revisit past installations,” Potts said. “I’ve gotten to know the country from projects we’ve done. I’ll take pictures and strike up a conversation with people. I’m happy to get their opinions and the reaction is almost always we love this. I’ve been to Steeplechase Pier many times since it was finished and I’ve had nothing but positive feedback. I haven’t honestly had anyone complain that it’s plastic.”

This part of the boardwalk rebuild has a targeted completion date of May 2016.

Source : Plastics News

LATEST DEVELOPMENT OF INJECTION MOLDING TECHNOLOGY

Injection molding technology is experiencing fast development. The goal of precision, light weight and intelligence were proposed for this stage. As a result, new injection molding technology and products are constantly emerging to meet market needs. This paper outlines the latest development and new technology in injection molding. New injection molding technology to be highlighted herein mainly include: low-pressure injection molding, microcellular foaming, gas-assisted injection molding technology, multi-component injection molding and micro injection molding.

Injection molding, a common plastics production method, is experiencing fast grow in China. Enormous supply leads to fierce market competition, which results in huge improvements in terms of technological level and speed of development.

Low-pressure injection molding

Low-pressure hot melt injection molding technology is mainly used in applications such as printed circuit board (PCB), vehicle electronics, wiring harness, connector, sensor, micro switch and connector assembly.

Contd..... pg.17

PLASTINDIA NEWS

At the 28th Annual General Meeting of Plastindia Foundation, Mumbai, held on 22nd September 2015 the following persons have been elected as Office-Bearers for the term 2015-2018.



Shri Rajiv Raval
Vice-President



Shri K. K. Seksaria
President



Shri Raju D. Desai
Hony. Treasurer

The following persons have been nominated for Plastindia 2018 exhibition to be held at Gandhinagar :



Shri Pradip Nayyar
Co-Chairman NEC



Shri Rajeev Chitalia
Chairman NEC



Shri Tushar Parikh
Co-Chairman NEC

Message from Shri K K Seksaria - President, Plastindia Foundation

Dear All,

I am grateful to the Indian plastics industry and all the founder members of Plastindia Foundation for the confidence reposed in me by unanimously electing me as the President of Plastindia Foundation and specially to Indian Plastics Federation which has nominated me for this post.

Plastindia Foundation is an apex body consisting of its various organs in the form of various plastics industry organisations, institutions and other stakeholders. The soul of this body is 'Plastics'. This soul Plastics is pure, philanthropic and permanent with the sole wish of selfless service to entire humanity and its inclusive growth. The wishes of soul are the commands for the body, Plastindia Foundation.

Plastindia Foundation is working and will continue to work with all sincerity for the growth of plastics industry in India for betterment of nation and its citizens.

Though there are various challenges before the industry, we are confident that with wider participation of all segments & stakeholders, collectively we will be able to meet all challenges and to take plastics industry forward qualitatively and quantitatively. We, the newly elected office bearers of PIF along with its managing committee will act as true representatives of entire plastics industry to fulfill its wishes and also to work towards ultimate wish of our soul 'The service of entire humanity'.

Finally, as a response to your support, blessings and good wishes I would like to dedicate a few lines to all of you....

with regards

K K Seksaria

प्रियवर,

आप की बधाइयों, शुभकामनाओं, आशीषों और समर्थन के लिए मैं आप का आभारी हूँ और आप से यही निवेदन करना चाहता हूँ कि.....

“दृश्य आपका, दृष्टि आपकी

मेरी तो तूलिका मात्र है।

रूप आपका, सुगंध आपकी

मेरा तो स्पर्श मात्र है।

व्याकुल प्राण रहित वंशी में

आपने फूँका महामंत्र है राग आपकी,

ताल आपकी मेरा तो बस यंत्र मात्र है।

लक्ष्य आपका, प्राप्ति आपकी

मेरा तो प्रयत्न मात्र है।

सृजन आपका, सृष्टि आपकी

मेरी तो भूमिका मात्र है।”

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Originated from European automobile industry, this technology has been successfully used for more than 10 years in the automotive, electronic & electrical sectors in Europe, the US, Japan and South Korea. It is only at a beginning phase in China though.

Low-pressure injection molding's major advantages can be attributed to the special physical and chemical properties of Henkel Macro melt series hot melt materials.

Gas/Water assisted injection

Gas-assisted injection molding

Gas-assisted injection molding technology (GIT) represents one of the most important developments since the birth of the reciprocal screw injection machine.

GIT produces hollow section inside the product with high-pressure gas. The gas pressure can reduce residual stress, eliminate shrink mark and save materials, outperforming conventional injection molding process.

With the fast development of GIT, some other technologies have come to birth, including Cold-Gas-assisted Injection Molding Technology (CGIT), Co-Injection and Gas-Assisted Injection Molding, External Gas Molding Technology and Vibrated Gas-Assist Molding.

Water-assisted injection molding

Developed by the Plastic Processing Research Institute of Aachen University, Water-Assisted

Injection Molding Technology (WIT) is a new injection method based on the principle of gas-assisted injection molding. The only difference is that water is injected inside the melt instead of gas.

As a result, cooling time is greatly reduced, production cycle is shortened by 25%-40% and internal surface is even smoother.

PME fluidtec is a German company and a world leader in the development of WIT technology and special equipment; Engel launched its Watermelt multi-component water-assisted injection molding process. The clamping unit of the machine's apron molded uses two-component material water-assisted injection molding process. Materials used include BKV 30G polyamide 66 from Lanxess and Desmopan 487 polyurethane thermoplastic elastomer (TPE) from Bayer MaterialScience. Aquamould water-assisted injection molding system from Wittmann Battenfeld is a modular structure consisting of several parts such as water pressure equipment, electric control system, pressure regulating system and water injection system. The Aquapress system from Ferromatik Milacron is mainly used for backflow and overflow injection molding.

In mold assembly

In mold assembly (IMA) was proposed by the German company

Fickenscher in the 1980s.

In recent years, corporations engaged in IMA research and development include Ferromatik and Foboha from Germany, as well as Danish firm Gram. Meanwhile, Engel Austria has successfully applied this technology in automotive, toy and electronics. For example, a three-component vehicle louver made of PBT, ABS and PP, and infant pacifier in which the ring and mouth mask are made of nylon and PP.

Source : China Plastics & Rubber

POLYMER MATRIX COMPOSITES TO BE LARGEST SEGMENT OF GLOBAL AUTOMOTIVE COMPOSITES

Asia-Pacific was the largest market for automotive composites in 2014, accounting for 50.8% market share, followed by Europe and North America, with 22.7% and 15.5% market shares respectively. The Asia-Pacific market is expected to account for 52.4% by 2022, as per MRRSE - Market Research Reports Search Engine. Rising domestic automotive production, especially in developing countries such as India and China, is expected to boost the Asia Pacific automotive composite market. The Europe market is expected to lose market share to reach 21.9% by 2022. However, the automotive

composite market in North America is expected to marginally gain market share to reach 15.9% by 2022. The automotive composites market is divided on the basis of composite material (polymer matrix composites, metal composites and ceramic matrix composites), manufacturing process (manual, compression, injection and continuous and other), composite component (interior components, exterior components, engine and drive train components and others) in major region. The polymer matrix composites segment held the largest share in 2014 and was valued at US\$ 2,728.6 Mn. The segment is expected to reach US\$ 5,290.8 Mn by 2022, at a CAGR of 8.7% for the period 2015–2022. However, the metal composites segment is expected to exhibit the highest CAGR of 9.9% during the forecast period to reach US\$ 1,203.4 Mn by 2022.

Concerns over increasing carbon emissions have led various industries to undertake various initiatives for environmental conservation. The automotive sector is one among the prominent sources of greenhouse gas emissions globally. Owing to environment deterioration various governments have formulated regulations or emission reduction targets. In order to achieve these targets, various automotive companies are focusing towards improving the

fuel efficiency of vehicles. Use of lightweight materials for vehicle design or automotive weight reduction is the preferred strategy to improve the fuel economy of the vehicle. Advanced plastics, alloys, and composites are some of the lightweight materials extensively utilized for automotive designs in order to reduce the weight of the vehicle. Composites being durable, light weight, corrosion resistant, easy to mold and high strength to weight ratio are becoming preferred lightweight materials for automotive designs.

Some of the major drivers identified in the market are growing preference for fuel-efficient passenger cars, improving vehicle aesthetics in order to achieve product differentiation, increasing vehicles production especially in Asia Pacific region, and stringent vehicle emission norms. Minor restraints identified in the market is relatively high cost of composites.

This is influencing automakers towards investing in the R&D of lightweight materials to manufacture the exterior and interior parts/components of the vehicle. This reduces the overall weight of the vehicle, in turn, improving its fuel efficiency. According to SuperLight-Car, Germany, around one-third of total fuel consumption by passenger cars depends on weight. For instance, weight reduction of the vehicle by 100 kg is expected to save 0.3 to 0.5 liters of fuel for

every 100 km drive. Owing to increasing automotive production, especially in developing Asia-Pacific countries such as India and China, consumption of automotive composites has witnessed steady growth in the recent past. In 2013, there were 800 vehicles per 1,000 people in the U.S. compared to 600 vehicles per 1,000 people in Japan, 80 cars per 1,000 people in China, and 25 vehicles per 1,000 people in India.

The global automotive composite market is highly consolidated, with the top four companies accounting for about 70–75% market share. Toray Industries, Toho Co. Ltd., Mitsubishi, and SGL are the prominent players in the market. Other major players operating in the global automotive composites are Cytec Industries Inc., SAERTEX GmbH & Co. KG, Koninklijke Ten Cate N.V., Johns Manville, Johnson Controls, Inc., Scott Bader Company Ltd., Teijin Limited, E.I. du Pont de Nemours and Company, and UFP Technologies, Inc.

Source : Plastics News

S-OIL COMMITS TO COMPLETE NEW FCC, PETROCHEM CAPACITY BY JUNE 2018

South Korean refiner S-Oil has made a final commitment to build a 60,000 bpd fluid catalytic cracking (FCC) unit with associated petrochemical capability, to be

completed by June 2018, as per Argus Media.

S-Oil has an existing 580,000 bpd refinery and petrochemical complex at Onsan. The new FCC will adopt high-severity technology licensed by Axens. It maximizes a propylene yield ratio of up to 20% compared with a normal yield at about 5-10%. S-Oil has not yet finalized the final plans on propylene capacity but said output will be close to 700,000 tpa. The new unit will take the company's total propylene capacity to about 900,000 tpa. The FCC will also be able to produce up to 200,000 tpa of ethylene from an off-gas recovery unit.

S-Oil has planned to build two propylene derivative units to extend its petrochemical supply chain, including a 400,000 tpa polypropylene unit and a 300,000 tpa propylene oxide plant, which are targeted to start up in the second half of 2018. No investment plans have been made for ethylene downstream units.

Source : Plastics News

SOLVAY'S MEDICAL-GRADE POLYMERS HELPS MEDICAL ILLUMINATION ACHIEVE COMPACT LED SYSTEM

With the use of Udel polysulfone (PSU) and Radel polyphenylsulfone (PPSU) medical-grade polymers from Solvay Specialty Polymers,

Medical Illumination International has designed a more compact version of its flagship MI-1000 surgical lighting unit.

The new LED lighting model, named as MI-750, is intended to provide bright, cool and energy-efficient LED illumination to minimize shadows and improve tissue rendition for exams or minor procedures.

Solvay's polymers form the three injection-molded components: a handle, a handle post and the lamp's yoke attachment, which are produced by the US-based Mold Precision Engineering.

"Solvay's materials consistently exhibit a high level of quality and performance - from the molding process to the end-use application - which were both critical in enabling us to meet the exacting criteria for our innovative new lamp design," said Steve Rowey, Chief Operating Officer for Medical Illumination.

Medical Illumination uses Solvay's Udel PSU to form the lamp's handle and the yoke attachment that holds a bearing in place to enable the cantilevered light to pivot.

The material is able to withstand repeated autoclave cycles up to 121°C without a significant loss of properties. It also complies with the American National Standards Institute autoclave standard AAMI-

SSSA-1988 for steam sterilization in healthcare facilities.

In addition, Udel PSU's high stiffness and dimensional stability ensure that the yoke attachment applies a precise amount of pressure on the bearing it encloses, allowing the lamp to pivot freely, yet remain stable when released, explained Solvay. It also provides strong chemical resistance for frequent cleaning with stringent disinfectants.

For the 102mm handle post of the MI-750 lamp, Medical Illumination chose Solvay's Radel PPSU for its ability to improve the impact strength and stiffness of the part while also offering better resistance to chemical sterilants vs. polycarbonate.

Udel PSU and Radel PPSU both supported Medical Illumination's need to color match the injection molded parts to the powder-coated Polar White palette of its new lighting system, added Solvay.

"Their materials process easily, offer value-added options for overmolding and deliver dependable performance from batch to batch. That helps us to reliably produce high quality finished parts and meet our customers' criteria for success," said Peter Minaskanian, President of Mold Precision Engineering.

Source : China Plastics & Rubber

SPECIALITY POLYMERS MARKET TO INCREASE STRONGLY THROUGH 2023

The specialty polymers market is anticipated to expand at a healthy CAGR during the forecast period, as per Transparency Market Research. Asia Pacific is projected to be the fastest growing market for specialty polymers during the forecast period. Expansion in automotive and electrical industries in India and China coupled with growth in infrastructure activities is likely to drive the specialty polymers market in Asia Pacific. Rise in economy and increase in per capita income are some of the key factors that trigger the growth of the specialty polymers market in the region. Increasing need for specialized polymers with high endurance limit, corrosion resistance, electrical insulation, resistance to wear, and thermal stability can act as a major driver for the growth of the specialty polymers market. However, high instability in the prices of raw materials required for the manufacture of specialty polymers is expected to be one of the major restraining factors for the specialty polymers market. In spite of higher raw material prices, the promising benefits gained through specialty polymers in various end-user and allied industries is expected to moderate the effect of restraint. Overall, the specialty polymers

market is anticipated to experience significant growth in the near future due to the increase in the number of applications. Some of the major companies operating in the global specialty polymers market include Evonik Industries, Ashland Inc., Clariant, Solvay Group, BASF SE, Specialty Polymers, Inc., PolyOne Corporation, AmeriLux International, LLC, The Dow Chemical Company, 3M, Alpek S.A.B. de C.V., A.Schulman, Inc., Arkema Group, Koninklijke DSM N.V., and Croda International Plc.

Specialty polymers are a class of polymers that exhibit specialized properties. These properties differentiate them from conventional polymers. Specialty polymers are employed in a wide range of applications. Specialty polymers are classified under specialty chemicals. These polymers are usually manufactured in small quantities and are priced at premium. Specialty polymers Market can be classified into thermoplastic polymers, biodegradable polymers, polymer composites, liquid crystal polymers, electroluminescent polymers, and conducting polymers. Specialty polymers are used in various industries such as automotive, electronics, cosmetics, medical, and construction. These polymers, especially thermoplastic polymers, are good insulators, and offer high heat resistance and flame resistance properties. Thus, they are used in the manufacture of various electrical components such as sockets and

switches. Thermoplastic specialty polymers can also be used to manufacture bullet-proof glass. Biodegradable polymers are used widely in medical and agriculture fields. These polymers can be used in the manufacture of films, blow molded bottles, and as coatings on paper. Biodegradable specialty polymers are useful for controlled drug delivery in the medical industry, as these are biocompatible and biodegradable. Thus, specialty polymers exhibit various properties. This makes specialty polymers suitable for usage in a wide range of end-user industries. Conducting polymers, a class of specialized polymer have the ability to conduct heat better than other type of polymers. These polymers are used in applications requiring high heat conductivity. Electroluminescent polymers emit light in response to a strong electric field or electric current. These polymers can be used in LED devices (including flat panel display for PC, television, and mobiles) and color pixels in ink jet printing. Liquid crystal specialty polymers exist as liquid crystals under suitable conditions of temperature, concentration, and pressure. Liquid crystal polymer, also called Kevlar, is used in the manufacture of protective clothing and body armor. The cost of specialty polymers is high; however, these are preferred due to its unique properties and wide range of applications.

Source : Plastics News

BASF'S BASOTECT BEING USED IN HIGH SPEED ELEVATORS FOR NOISE REDUCTION

Basotect melamine foam, widely known as a lightweight acoustic insulation material in automotive and interior construction applications, has expanded its application range into the acoustic treatment of elevators, announced BASF. In a recent project with ThyssenKrupp Elevator and National Elevator Cab and Door, the melamine foam was used to reduce the noise levels in elevator cabins of a high rise building in New York, the US. Despite the very high speed of the elevators (up to 23 miles/hour), the noise level inside the cabin is reportedly lower than 50dB, which is quieter than a conversation between two people. "The requirements for modern elevator construction, especially for those in high rise buildings, are getting more and more ambitious. They need to be fast but also comfortable and quiet for the passengers," said Joseph Braman, Regional Vice President of ThyssenKrupp Elevator.

Prior to the actual construction of these super-fast high rise elevators, the material was tested in a mock-up elevator constructed by National Elevator in cooperation with Soundcoat, a subsidiary of the Recticel Group and a supplier of thermo-acoustic solutions, and acoustic consultant Frank Kirschner.

"Basotect is commonly used in other modes of transportation, such as trains and aircraft, due to its acoustic abilities, light weight and fire performance. Elevators are simply a means of vertical transportation, so it was a natural choice," stated Mr. Kirschner.

Basotect's high sound absorption capacity is achieved by its fine, open

cell structure, explained BASF. The material meets Class A for flame spread and smoke density according to ASTM E84. In addition, it could not flake off fibers or particles when exposed to the high airflow as the cab was moving.

In order to reduce the energy requirements for the total operation from start to stop, it was very important that the cab be as light as possible as well. Basotect's low density of 0.55lb/ft³ contributes to the cab meeting the requirement, according to BASF.

"We relied heavily on Frank and Soundcoat to come up with a solution that helped National Elevator and ThyssenKrupp Elevator meet very stringent acoustic goals. Not only did Basotect perform as needed, the foam's light weight, flexibility and durability were also highly desirable for the installers as the foam had to be fit in very restricted spaces," said Jeff Friedman, Executive Vice President of National Elevator.

Source : China Plastics & Rubber

WORLD'S FIRST 9-MANIFOLD CO-EXTRUSION DIE FROM NORDSON

A new co-extrusion technology from Nordson Corporation is said to enable film processors, particularly those with high-throughput lines dedicated to a narrow range of products, to achieve tighter thickness tolerances for the individual layers in a multi-layer structure. A Nordson EDI nine-manifold flat die, reportedly the first of its kind, has been successfully commissioned, producing nine-layer film from various resins.

While the degree of improvement will vary with the application, in general Nordson EDI's nine-manifold die technology promises to reduce variation in individual layer

thickness from the +/-15% tolerance often encountered with comparably advanced feedblock systems to +/-5%, according to Sam G. Iuliano, Chief Technologist for Nordson EDI.

"This greater accuracy achievable with multi-manifold dies enables processors to run thinner layers of the costly specialty materials often required for high performance packaging films, while at the same time enhancing product quality and consistency," explained Mr. Iuliano. A manifold is a flow distribution channel inside the die whose complex internal geometry, engineered for a specific polymer, is designed to develop a uniform, streamlined flow and distribute the material to its full width. In a multi-manifold die, each polymer flow stream has its own manifold, and the layers are combined into a single structure only after each layer has been individually spread to its full width.

By comparison, a feedblock combines multiple polymer streams into a narrow multi-layer "sandwich" that is subsequently distributed to full width in a single-manifold die. The multi-manifold method provides greater layer uniformity and thickness accuracy because it avoids much of the layer-interface deformation that occurs when multiple layers pre-assembled in a feedblock are then spread simultaneously through the die, explained Nordson EDI. Depending on the particular processing scenario, however, a single manifold die with a co-extrusion feedblock may be the best way forward. "For example, in a case where the extrusion tooling needs to produce many different structures with vastly different layer ratios. The feedblock approach generally allows for more product versatility as well as simpler cleaning and product changeover procedures," added Mr. Iuliano.

Source : China Plastics & Rubber

The tussle between the family man and the outsider

Dr. Devdutt Pattanaik

Did Duryodhana's friendship with Karna make his brother, Dusshasana, insecure? Did Ram's love for Hanuman make his brother, Lakshmana, or Bharata, insecure? Did Karna and Hanuman go out of their way to ensure that the family of their patron did not feel threatened by the patronage showered upon them? The tension born of insecurities is intangible, beyond the scope of measurement and often ignored by leaders — ignored because the inability to measure makes them feel helpless. This problem is amplified in a family-owned business. In multinational companies, this is better camouflaged.

Traditional organisations are built on the talent of one owner. He then hires people who are loyal and obedient. All decisions are centralised. As the organisation grows, he needs to bring in talented professionals, who owe allegiance to no one and demand reward for work done. This pits the professionals in conflict with the loyalists. The professionals, by simply doing their job, draw attention to how loyalists are inefficient and ineffective. This makes the loyalists insecure. The loyalists then go out of their way to use their knowledge of the organisation to sabotage professionals. This war between loyalists and professionals needs to be handled by leaders. It cannot be wished away. It certainly cannot be instructed away.

The insiders are either family members or old-timers. The outsiders are the new professionals. Everything about the two is different. The former dress casually and speak an informal language, often filled with secret codes and metaphors known only to those who have been around long in the company. The outsiders dress formally, in suits and boots, and distance themselves, clarifying that they are here to do their jobs and get their money, valorising detachment calling it professionalism, almost mimicking mercenaries of yore.

In the Mahabharata, when Duryodhana wants Karna to fight the war as leader of the Kauravas, Bhishma opposes this. He sees Karna as the 'bad influence' and the cause of the rift between Kauravas and Pandavas. He refuses to fight by the side of a charioteer's son, referring to Karna's lowly birth. Duryodhana is caught in a bind: family (Bhishma) or outsiders (Karna)? He knows that if he sides with Karna, then the family will withdraw support. But if he sides with

Bhishma, he will lose the talent of Karna. He does not know what to do. Karna comes to Duryodhana's rescue. He declares that he will not enter the battleground till Bhishma is dead. He thus spares Duryodhana the burden of making a choice. The professional steps back and sacrifices himself so that the family can have its way. He does not leave the organisation but simply waits in the shadows till a crisis demands he is sent for without resentment or grudge.

The strategy adopted by Hanuman is very different. In all images, he is shown at the feet of Rama, while Rama's brothers stand around him holding the parasol and the yak-tail fly whisks. Everyone is serving Ram — brothers and outsiders, but the outsider bends and bows to demonstrate he is no threat to Ram's brothers. One can argue that Ram's brothers were more mature, but that is rhetoric that does not help management.

Humans are not mature. We constantly feel threatened and seek validation from those around us. Very few are at peace with themselves and are able to locate themselves in a hierarchy without prejudice. The rest want to climb high and dominate those below. Family relationships enable one to climb the informal hierarchy of an organisation. Merit enables one to climb the formal hierarchy of an organisation. Friction between relationships and merit is unavoidable. A good leader uses both to his and an organisation's benefit.



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