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Bi-monthly Plastic News Magazine

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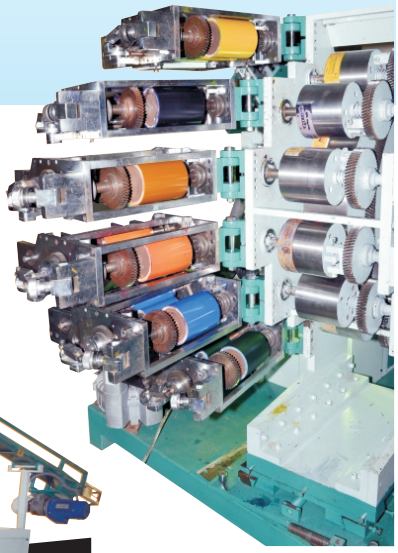

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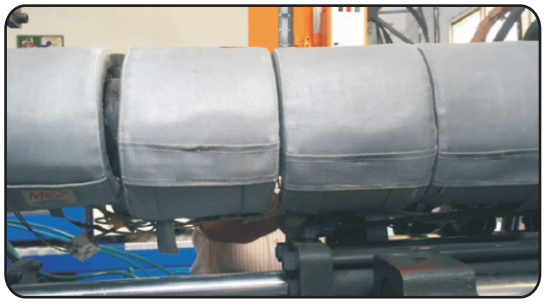

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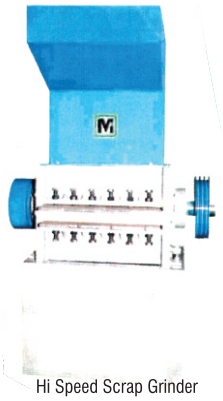
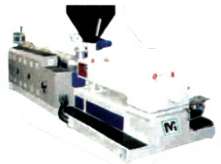


Hi Speed Scrap Grinder



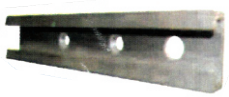
Conical Twin Screw Extruder

Hi Speed Mixture

Parallel Twin Screw Extruder

Pvc Pipe Extruder

Take off



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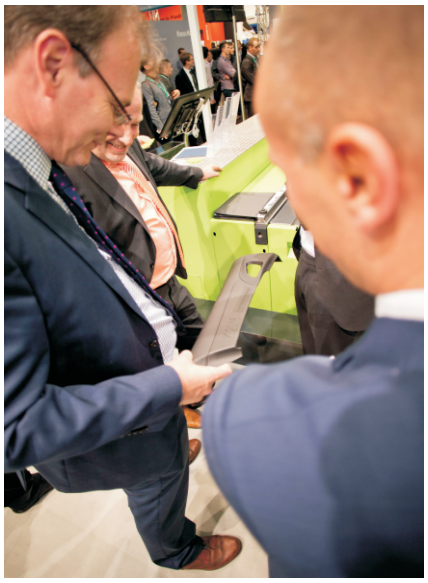
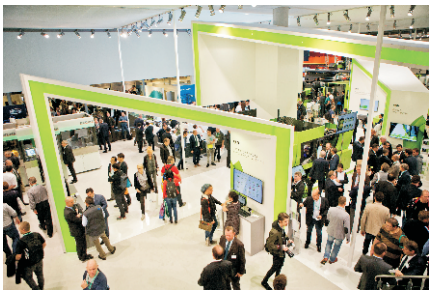
"AN EXTREMELY POSITIVE INVESTMENT CLIMATE"

Thanks to a wealth of innovation, a positive climate for investment and enthusiastic attendees, the K 2016 fair was a resounding success for ENGEL AUSTRIA. inject 4.0 – ENGEL's answer to the challenges of the fourth industrial revolution – played a key role in this achievement. Furthermore, topics such as DecoJect and in-situ polymerisation had a magnetic appeal on visitors.



"K 2016 confirmed the very good mood in the plastics industry," says Dr. Christoph Steger, Chief Sales Officer at the ENGEL Group. "In Düsseldorf we found that the investment climate was extremely positive. On the basis of discussions with our clients, we are confident that the trend will continue in the months ahead. We are encouraged to see that a positive impetus is coming from every region – things are even looking up in Russia."

ENGEL noticed the rise in visitors numbers compared to K 2013, which itself was very well attended: the company's stand attracted a stream of visitors throughout the event. However, Steger emphasised that the quality of dialogue – which was generally excellent – was more important than the actual number of visitors. "During the fair we discussed numerous new projects and got them moving. The number of agreements we concluded was far in excess of our target, which was an ambitious one," concludes Steger.



Comprehensive inject 4.0 solution

Industry 4.0 – the core theme of K 2016 – was strongly in evidence at the ENGEL stand, which was designed to resemble a smart factory. With concrete products and solutions for all three areas of the smart factory – smart machine, smart service and smart production – ENGEL is already offering customers a coherent concept known as inject 4.0. Many products and solutions are firmly established in practical situations, while other new solutions were premiered at K. With its modular structure, inject 4.0 promises plastics processors a very straightforward, step-by-step introduction to digitalisation. "Processing businesses used the trade event to find out how they can make the most of the opportunities presented to them by

Industry 4.0," says Dr. Stefan Engleder, Chief Technical Officer and designated CEO of ENGEL. "A lot of visitors to the fair were amazed to find that even individual, small-scale solutions can make a big difference in terms of optimising production processes." Just like process technology and automation, Industry 4.0 calls for tailored solutions – another point underlined at the ENGEL stand.

All machines exhibited were equipped with the inject 4.0 products best suited to their particular application. At the same time, ENGEL demonstrated how to maximise the potential of smart machine in practical situations by manufacturing inject 4.0 logos on an ENGEL e-motion 80 TL injection moulding machine. Fluctuating process conditions were simulated in the machine's CC300 control unit, while visitors were able to monitor the automatic readjustment of the iQ weight control and iQ clamp control assistance systems live on the machine display.

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Dear Readers

Wishing you a very happy and sparkling New Year ahead

First of all I would like to thank our Readers, Advertisers and Well Wishers for their usher support for Plastic Tomorrow Magazine.

Demonetization has become talk of India as every Indian is speaking about it. Demonetization of 500 and 1000 Indian rupee notes has created chaos across the nation.

It's important for the industry to know about the effect of demonetization in the Plastic Industry. Since the cash crunch impact is widely expected to persist for two quarters, there is little chance that industrial growth will improve in the second half of 2016-17.

Automobile Sector sales in November were 5.48% lower—the slide is expected to accelerate in coming months. PMI data for November showed that the sudden withdrawal of high-value banknotes in India caused problems for manufacturers, as cash shortages hampered growth of new work, buying activity and production.

The unorganized manufacturing sector that falls in the category of SMEs works generally on the basis of cash, with purchases being made through this mode; all do not have access to credit and their creditworthiness could be of a lower grade. These units would find it a challenge to convert their currency—any time-lag in their operation can affect their functioning and hence there is a concern here. Wage payments, mostly made in cash—as labour in this segment is unorganized and employed on a daily basis—also becomes a consequent problem. The shortage of currency notes and the restrictions on withdrawals have a short-term impact on these units which must strive hard to meet these requirements.

Demonetization is not expected to have any major impact on the Indian pharma market and demand is not expected to get impacted in a big way.

After demonetization big pharma companies may have better resources than new comers but all entrepreneurs will have some cash strength irrespective to resources. It will be huge advantage for all new entrepreneurs.

Demonetization move will be beneficial for the Plastic Industry in the long run due to transparency in business; besides banks are likely to reduce interest rate after being flushed with funds.

Hoping for a very positive year for the Indian Plastic Industry

Best Regards
Dinesh Shah
Editor in Chief
Plastic Tomorrow

Technological innovations for higher cost-effectiveness

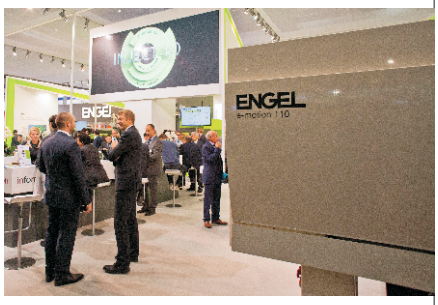
be the first: the ENGEL motto is both an aspiration and a promise to customers. ENGEL demonstrated its technological pre-eminence yet again in Düsseldorf – not just with its inject 4.0 range, but also its machine exhibits. Through a wide array of demanding applications, ENGEL presented innovative process technologies for the target sectors of Automotive, Teletronics, Technical Moulding, Packaging and Medical.

The DecoJect process emerged as a magnet to visitors. ENGEL unveiled the film solution for high quality parts visible in car interiors (developed with system partners) using fully automated manufacturing cell. One special feature of the technology is the combination of injection moulding and in-mould graining in the roll-to-roll process on an ENGEL duo injection moulding machine. Surface structures, colour and haptical features are created through the film. By using different base materials, DecoJect simplifies the harmonisation of interior components. The application presented in Düsseldorf also incorporated MuCell technology to save raw materials as well as component weight. Trade fair visitors were impressed by the high degree of process integration and the extremely compact footprint of the manufacturing cell.

In-situ polymerisation also attracted a great deal of attention as ENGEL showcased an integrated manufacturing cell ready for industrial use for the first time. Over the eight days of the fair, thermoplastic-based, functional composite components were produced from dry reinforcing fabrics in a single work step. To achieve this, polymerisation and the injection moulding process take place in parallel in the ENGEL v-duo machine. The fibre fabrics are inserted into the first cavity of the mould and infiltrated with ε-Caprolactam. After polymerisation to polyamide 6, the preform is transferred to the second cavity in order to inject reinforcing ribs directly, for example. This kind of process integration guarantees cost effective composite processing, which is particularly important to the automobile industry. Visitors to the event were also impressed by the new reactive aggregate, which reduces thermal load by melting and processing monomers according to need.

More precise injection

ENGEL staged the world premiere of the new hydraulic injection units for its ENGEL duo and ENGEL victory injection moulding machines at K 2016. The units are based on years of development work that focused on precision, ergonomics and efficiency. "The new injection units enable even more precise injection and generally improve process stability," says Engleder. "We have also enhanced energy efficiency and ergonomics. The new ENGEL duo and ENGEL victory machines are fitted with the ENGEL servohydraulic ecodrive as standard. Energy efficiency remains an important issue to our customers."



ENGEL AUSTRIA GmbH

ENGEL is one of the global leaders in the manufacture of plastics processing machines. Today, the ENGEL Group offers a full range of technology modules for plastics processing as a single source supplier: injection moulding machines for thermoplastics and elastomers together with automation, with individual components competitive and successful on the market in their own right. With nine production plants in Europe, North America and Asia (China and Korea), and subsidiaries and representatives in more than 85 countries, ENGEL offers its customers the excellent global support they need to compete and succeed with new technologies and leading-edge production systems.

www.engelglobal.com

Courtesy

BUSINESS NEWS

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World premiere: The new PX from KraussMaffei the all-electric made-to-measure machine

- **New KraussMaffei all-electric injection molding machine series features flexibility, precision and productivity throughout its service life**
- **One-of-a-kind modular principle for all-electric injection molding machines**

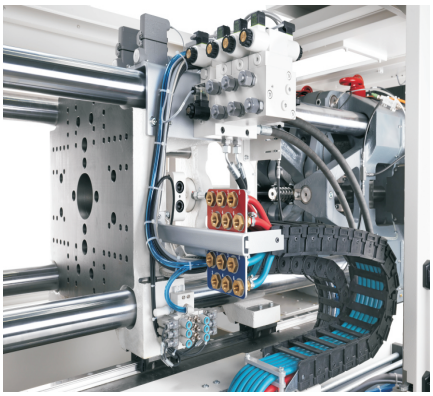
Flexibility is the key

Electric injection molding machines are known for precision and efficiency – and for admittedly limited equipment options. "Until now, customers have most often been forced to decide between low-budget and high-end designs. KraussMaffei is now presenting the first all-electric machines on the market, which the customer may tailor to its specific manufacturing needs in the modular principle in the hydraulic area. This includes, for example, larger platens, faster injection speeds, more ejector force or the ability to be operated with food-grade NSF H1 lubricants," explains Dr. Hans Ulrich Golz, Managing Director of KraussMaffei and President of the Injection Molding Machinery segment at the KraussMaffei Group.

The K 2016 will feature the launch of the all-electric toggle machine with clamping forces from 500 to 2000 kN. It was conceived and designed with flexibility in mind, and this extends over the entire service life from the purchase to everyday production to retrofitting. The tried-and-tested modular concept of the KraussMaffei hydraulic series was thus transferred successfully to the all-electric PX.

Wide variety of variants

The great adaptability is demonstrated by two essential features of the series. First, the injection and clamping unit can be combined individually from a wide range of variants. Secondly, versions of the PX come standard with the larger platens of the respective next higher clamping force. These intermediate models are identified using odd numbers, i.e. PX 51 to PX 161. The larger clearance corresponds to an increased maximum mold weight, approximately 750 kilograms for the PX 51 compared to 450 kilograms for the PX 50. Since the machine bed of the PX is split, clamping and injection units can also be combined as necessary. Large clamping units, small injection units – In production, this means that no more space is taken up than what is absolutely necessary for the production order. There are five high-performance injection units available for each clamping unit. Each injection unit has its own performance level and can be fitted with one of three to four different screw diameters.

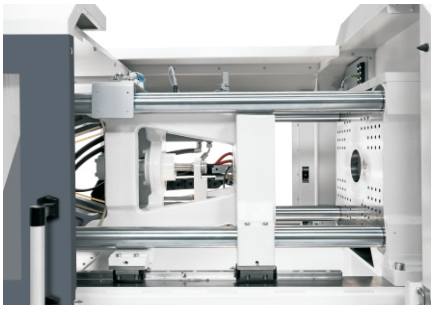


All-electric with some servo hydraulics

The basic properties of all-electric machines have been set up to meet the desire for flexibility, since electric motors function independently of each other. This allows for any number of processes to run in parallel, ensuring high speeds. The three main axes of the PX for the injection unit, plasticizing unit and clamping unit are driven by air-cooled servomotors, making the PX exceptionally economical in terms of energy and water consumption. All servomotors also work in what is called "recuperative mode," where brake energy is converted back into electricity. As a result, up to 60 percent of the brake energy can be temporarily stored and used by the machine itself or fed back into the power supply.

The slave axes of the PX, meaning each axis for the injection unit and ejector movements, operate using servohydraulics in the default version. The initial movement takes place via two parallel injection unit barrels because this enables nozzle contact forces to be built up very quickly and free of lateral forces, unlike the movements carried out with only one electric barrel. For particularly high material throughput, for example in the case of thin wall injection molding, there is an option for increasing the injection speed for the PX to more than twice the normal speed, thereby increasing the plasticizing output significantly. The injection unit can be set up to swivel in order to make it easier to change the nonreturn valve or replace the screw.

For the ejectors, the reason behind the servo hydraulics relates to durability. Electric drives are sensitive to the mechanical impacts that occur when plastic parts are demolded using a vibrating platen. Any customer that does not do this during production and requires even more precision has the option to equip the PX with an electric ejector drive.



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Clamping unit: Geometry, force and speed

"Three things matter when it comes to the clamping unit: geometry, force and speed. In all three areas, the PX offers options for coordinating the machine to meet individual requirements", explains Dr. Golz. As already mentioned, the size of the platens can be increased with the odd-numbered intermediate models, meaning that the entire machine bed of the machine that is next in size is then used. This ensures that the high mold weight receives the necessary linear support. Thanks to the extremely wide support of the moving platens on linear guides, a precise parallel movement is always achieved. The tiebars are released and thus are always free of lubricant and clean. The clamping unit bed has been designed so that the entire area under the clamping unit, lengthwise and crosswise and all the way to the floor, remains free for failure and parts logistics. As a result, parts containers or conveyor belts can be rolled under the machine very easily and practically, without any cross-beams getting in the way. The maximum mold height can, if desired, be increased to 100 millimeters more than the respective standard version. For instance, it can be increased from 450 to 550 millimeters for the PX 120. The mold height adjustment itself takes place automatically.

Regardless of whether they use hydraulic or electric power, ejectors need plenty of force for parts that shrink onto the cores. This is why the product range provides an option to increase the ejector force by 50 percent. For projects with aggressive cycle times, there is an ejector speed of 700 millimeters per second as opposed to 350.

In continuous operation, the PX features an ergonomically favorable working height of 130 cm, which remains the same for all clamping forces, ensuring perfect accessibility of the mold and nozzle for setup or during production. The resource consumption of energy and water is extremely low. Precision and availability, on the other hand, are high.

www.kraussmaffei.com

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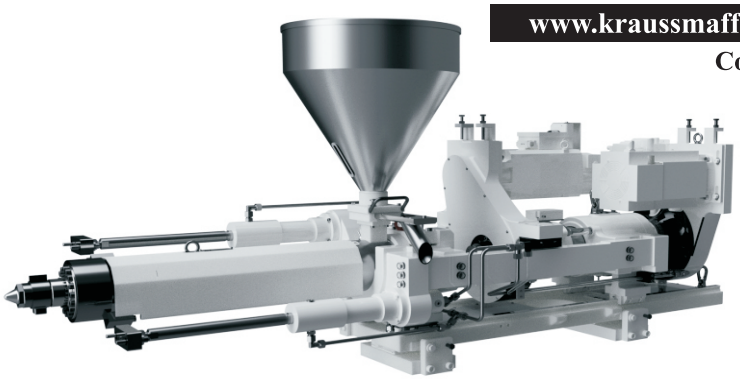


Solvay Meets Growing Demand for its Healthcare Polymers by Naming Foster Corporation as Distributor of Udel® and Radel® Sulfone Polymers

Solvay, a leading global supplier of high-performance specialty polymers, announced today that it has appointed Foster Corporation, a top compounder and distributor of custom polymers for medical devices, as its newest distributor of Udel® polysulfone (PSU) and Radel® polyphenylsulfone (PPSU) resins for the North American Healthcare market. The appointment went into effect October 1.

"Solvay looks forward to working with Foster to serve the fast-growing demand for Solvay's high-performance materials in the Healthcare market," said Jeff Hrivnak, Global Business Development Manager for Healthcare at Solvay's Specialty Polymers Business Unit. "Strategic relationships like these are critical to our commitment to support and accelerate the innovation and growth initiatives of customers in North America."

Foster's new role as distributor of Udel® PSU and Radel® PPSU resins will not affect either Solvay's order fulfillment policies or its existing distribution relationship with ResMart. Solvay Specialty Polymers will continue to accept and fill orders that are 1,000 kg (2,200 lb) or greater, while smaller quantities will still be available through ResMart – and now Foster, who will focus on supporting Solvay's customers in Healthcare.

Solvay's medical-grade Udel® PSU is a rigid, high-strength, transparent polymer that offers higher heat resistance and better hydrolytic stability than polycarbonate. It retains its mechanical properties when exposed to steam and other sterilization techniques. Radel® PPSU is a super-tough, transparent polymer that can withstand more than 1,000 cycles of steam sterilization without significant loss of properties. This makes it an excellent choice for sterilization cases and trays, surgical instrument handles and other reusable medical devices.

Solvay Specialty Polymers' experience as a reliable materials supplier in the healthcare field spans more than 25 years. The company is a leading manufacturer of healthcare polymers, offering a broad range of high-performance, medical-grade polymers for orthopedic applications, sterilization cases and trays, medical and dental devices. Solvay also offers a family of Solviva® Biomaterials for use in a range of implantable devices.

www.solvay.com **Courtesy**

BASF increases capacity of its global plastic additives production network

nvestments of more than €200 million planned for several sites in the U.S., Europe and Asia Pacific

Within the next five years, BASF plans to invest globally more than €200 million in its plastic additives business, approximately half of which in Asia, focusing on capacity expansions and operational excellence. Plastic additives improve product properties such as scratch resistance or light stability, and optimize plastics manufacturing processes. As the leading global supplier of plastic additives with manufacturing assets in all regions, BASF is a major partner to the plastics industry.

"BASF will strengthen its plastic additives business with investments in additional capacities to meet increasing global demand for antioxidants, as well as light stabilizers. Moreover, we will invest in digital processes and technology to support our customers as a reliable supplier in all regions," said Dr. Christian Fischer, President, BASF Performance Chemicals division.

The planned set of measures focuses on capacity expansions at sites in North America and Europe as well as investments in automation, digital technologies and modelling. In addition, BASF plans to strengthen its plastic additives production footprint in Asia.

Innovation based on new chemistry In addition to investments, innovation remains an integral part of BASF's business strategy. At the K Fair in Düsseldorf, Germany, BASF's plastic additives business recently launched two new light stabilizers:

Tinuvin® 880, based on a new chemistry, is a medium molecular weight light stabilizer which provides significantly improved light stability, especially in interior car applications with the additional benefit of offering higher thermal stability.

Tinuvin® XT 55 provides formulators with very good durability and excellent secondary properties such as color stability, gas fading and extraction resistance. Using this new solution, an excellent cost performance will be achieved by adjusting dosage and other formulation components to end application conditions and expectations.

Both products are undergoing sampling at key customers.

www.basf.com **Courtesy**

Smart Lid distributor Appointed in Middle East

Australian packaging firm Smart Lid appoints Middle Eastern distributor for its smart coffee lids. Caffè DILANO will act as exclusive distributor for the country of Iran.

The Smart Lid is a colour changing disposable beverage lid that warns of the hot contents by turning bright red and as the lid returns to the 'cold' colour as the hot drink cools. The technology draws attention to the hot liquid with the purpose of warning those around of the potential scald danger.

Every week we continue to be amazed by the product enquiries we receive many different regions of the world" Mr George Bayss confirmed. He also add "We a very excited about the Smart Lid expansion to Iran as business owners of all sizes are always looking to deploy new packaging to draw attention to their brands." Smart Lid is currently in the process of dramatically scaling up production output to meet the international wholesale foodservice enquiries.

www.smartlid.com **Courtesy**

BD Launches Advanced Prefillable Syringe for Higher Volume Injection of Biologics

BD a leading global medical technology company, today announced the launch of the BD Neopak™ 2.25 mL prefillable glass syringe, specifically designed for biopharmaceutical manufacturers that develop, manufacture and market high-value and sensitive biologic drugs that require higher quality levels and performance to treat chronic diseases such as, rheumatoid arthritis, psoriasis, lupus and severe asthma.

"Through our continued investment in innovation, this new syringe enables biopharmaceutical manufacturers to develop drug-syringe combination products with extended injection intervals. This will provide patients with more time between injections and decrease the frequency of injections," said Peter Nolan, worldwide president of Pharmaceutical Systems for BD. "By offering higher volume subcutaneous injections, the BD Neopak 2.25 mL prefillable glass syringe is designed to help reduce the number of necessary injections, aiming to improve the safety and convenience for patients."

Built on the legacy of BD's most advanced biotech syringe platform, the BD Neopak 2.25 mL glass prefillable syringe is designed to reduce undesired interactions, such as drug degradation or aggregation between the primary container and drug, to support biopharmaceutical manufacturers' efforts to mitigate product development and commercialization risks. The new syringe is now commercially available in the United States, Europe and Japan.

BD is a leading partner for biopharmaceutical manufacturers offering a wide range of services to assess drug-container compatibility, evaluate system-related functional requirements, human factors and provide regulatory expertise to support drug development. The BD Neopak 2.25 mL glass prefillable syringe expands the BD Neopak™ portfolio, which also includes a BD Neopak™ 1 mL glass prefillable syringe. **www.bd.com** **Courtesy**

DSM-Niaga ready for commercial scale production of 100%-recyclable carpets

DSM-Niaga, a joint venture of DSM and start-up company Niaga, today announces that its Niaga® technology is ready for commercial-scale production of recyclable carpets. All carpets made with this technology can be 100% recycled and made into new carpets of the same volume and quality, again and again. To boost innovation and collaboration with the carpet industry, DSM-Niaga will extend its Niaga Innovation Center activities and install its own Niaga Technology carpet line in DSM's Materials Center in Geleen, the Netherlands, as of January 2017.

Annually around 4.5 billion m2 of carpet, tiles and rugs has been fitted worldwide in buildings, cars, planes and many other interiors. Each year billions of kilograms of carpet are discarded as landfill or incinerated. For 40 years, the combination of many materials, including latex adhesive, has made it both technically difficult and economically uninteresting to attempt to recover materials for re-use.

DSM-Niaga is convinced that this innovation has the potential to radically improve the use of materials in the carpet industry and to be instrumental to the sustainable production and re-use of carpet material on a global scale.

The innovation center will serve the carpet industry to test and

further develop the Niaga Technology and expand their portfolios with more sustainable, reusable products. DSM-Niaga has the ambition to make the technology available for all carpet producers globally. Together with its strategic partner Lacom GmbH, a global leader in laminating and coating machines, DSM-Niaga has made machine sets fit for Niaga technology.

95% less energy and no water use

DSM-Niaga has invested several million euros to develop a completely new technology to make circular products, starting with carpet. DSM-Niaga partnered with Lacom GmbH, to develop a commercial-scale laminating process based on the Niaga Technology, with DSM's engineered adhesive. This new laminating process enables the production of a polyester mono-material carpet, and a duo-material carpet with a polyester backing and nylon or woolen face fibers. All materials in these carpets can be recovered after use, and made into carpet again and again. The machine uses up to 95% less energy than mainstream lamination processes and reduces water use to zero. Unlike a regular carpet, a carpet made with Niaga Technology does not contain any latex, PVC or bitumen.

Up to now, DSM-Niaga has tested its adhesive R&D and application solely in its Zwolle Tech Center. With the expansion of Niaga's Innovation Center activities, the company will add development capacity by tapping into the innovative knowledge and expertise of DSM's Materials Center in Geleen - a materials powerhouse. Combining the R&D capabilities of two of DSM's materials knowledge centers in Zwolle and Geleen, the Netherlands, makes a powerful platform to deliver on the successful growth strategy of Niaga.

DSM-Niaga also expects to benefit from its proximity to the Center Court at Brightlands Chemelot Campus in Sittard-Geleen in the Netherlands. The Center Court is the newest addition to the Chemelot campus where top knowledge institutions and companies, amongst others DSM's Innovation Center, are gathered under one roof in the heart of Europe's Materials knowledge area.

www.dsm.com

Courtesy

Switching screens with new cost-effective manual screen changers is easier, with operators exerting only 50% of the usual force

New BKG® NorCon™ EMR and XMR Screen Changers from Nordson Provide Cost Advantages of Manual Units and Are Easily Retrofitted in U.S. or Metric Systems

New-generation manual screen changers from Nordson Corporation reduce by 50% the force required for switching screens on the extrusion line, making easier a task that used to challenge the strength of some machine operators.

Like standard manual screen changers from Nordson, the new BKG® NorCon™ EMR and XMR models provide a less expensive alternative to stationary screen changer systems. The operator replaces a contaminated screen with a clean one by turning a handle or lever that activates an indexing system. The new EMR and XMR screen changers contain a ratchet mechanism that reduces the force required to turn the handle. This mechanism can also be retrofitted onto corresponding standard models, EM and XM, at either the customer's plant or a Nordson technical support facility. While EMR and EM units are for use with extruders sized in inches, the XMR and XM units are for metric equipment.

As an example of the reduction in screen-switching force, tests by Nordson showed that the NorCon EMR-35 unit requires 25 lb. (111 N), as against 50 lb. (222 N) for the EM-35.

"By means of a simple swing of a handle during routine shutdowns, NorCon manual screen changers quickly bring clean screens on-line, minimizing costly downtime by avoiding need for line disconnection," said Christian Schroeder, global product manager for melt delivery products. "The force reduction provided by our new EMR and XMR models make screen changes even more efficient while improving the working conditions of machine operators."

Available standard NorCon manual screen changers range from 10 to 65 inches for EM units and 30 to 120 mm for XM units. EMR and XMR models are available in most of these sizes.

www.nordson.com

Courtesy

Chem-Trend introduces new high-efficiency Lusin® purge compound for engineering plastics

Chem-Trend, a global leader in the development and production of high-performance purging compounds, release agents and other ancillary molding products, today announced the addition of Lusin® Clean 1100 to its broad line-up of high performance purging compounds. Lusin® Clean 1100 is a universal purge compound developed specifically for providing a cost reduction in engineering plastics processing.

The new product is designed to make the color and material change process for injection molding machines more efficient, with early results showing the use of Lusin® Clean 1100 reducing the number of parts required to make a complete switch in color or material by up to 35%. A reduction in scrap of over 90% has been achieved by users of Lusin® Clean 1100 during the initial evaluations of the product. Beyond the improved cleaning performance, the new product has also been designed to produce less smoke and lower odor than products currently on the market, helping to improve working conditions within thermoplastic processing facilities.

Lusin® Clean 1100 is suitable for polyolefins and engineering plastics such as ABS, PS, SAN, ASA, PC, PC/ABS, CA, PMMA, POM, PET, PBT and PA. The newly developed purging compound is stable at temperatures up to 320° C / 608° F and is safe and effective for use in screw and barrel assemblies, hot runners and gates. As an additional benefit, Lusin® Clean 1100 is extremely easy to remove from all metal surfaces, adding to the overall potential efficiency gains offered through use of the product. Lusin® Clean 1100 is suitable for polyolefins and engineering plastics such as ABS, PS, SAN, ASA, PC, PC/ABS, CA, PMMA, POM, PET, PBT and PA. The newly developed purging compound is stable at temperatures up to 320° C / 608° F and is safe and effective for use in screw and barrel assemblies, hot runners and gates. As an additional benefit, Lusin® Clean 1100 is extremely easy to remove from all metal surfaces, adding to the overall potential efficiency gains offered through use of the product.

www.chemtrend.com

Courtesy

Great similarity: Plastic bottles score with many advantages over glass bottles

Effective immediately, the Polish Vodka brand Sobieski is now marketing its 1.75-liter premium product in plastic bottles from Greiner Packaging. While this step may seem surprising at first glance in an unusual product category, it makes perfect sense on closer inspection.

Plastic bottles are light as a feather, stable, hygienic, and can be decorated in many ways – these are some of the numerous advantages they bring to many areas of everyday life. This form of practical plastic packaging has already caught on in sports and leisure, for example. Because they are not just light but also shatterproof, they are the ideal packaging for people on the go.

Elegant, light, and reusable

Effective immediately, the Sobieski brand will also try to appeal to consumers with plastic bottles made from PET in a sector where they have been rather uncommon so far. Part of the Marie Brizard Wine & Spirits Group, Sobieski stands for first-class premium vodka. It enjoys great popularity, especially in North America, thanks to its purity and various flavors. A 1.75-liter bottle made of plastic was especially conceived for the local market, where it should be a convincing alternative not just because of its highly valuable content, but also because of its look and practicality. As opposed to glass bottles, the light weight of the bottle makes transport from producer to POS not only simpler, but also helps save on CO2 emissions. In addition, the risk of breakage is reduced, consequently preventing potential product rejects. After the vodka has been used up, the bottle can also be reused any number of times by the consumers.

The plastic bottle is produced by Greiner Packaging, which relied on a combination of an appealing design and practicability for the Polish customer. "The raw material and the modern production approach used ensure greater bottle transparency, thereby highlighting the engraving of the brand logo even better. The bottles now completely match our client's expectations to be a premium brand," says Günter Ausserwöger, Kavo Sales Director.

The PET bottles meet environmental demands since they can be easily recycled and reused. That means many plastic bottles become just plain bottles again, and fibers made from recycled PET are being used more and more in the textile industry as well, such as in the production of fleece products.

www.greiner.at **Courtesy**

Amcor Unveils New PET Stock Bottle Collection for Dairy, Aseptic, and High-Pressure Processed Beverages

Amcor Rigid Plastics, the world's leading producer of rigid plastic packaging, has launched a new collection of crystal clear polyethylene terephthalate (PET) stock bottles and preforms for dairy, aseptic, and high-pressure processed (HPP) liquid bev

These sleek, eye-catching containers deliver a positive consumer experience along with versatility and flexibility for brand owners and packaging manufacturers.

Amcor's new stock bottle and preform collection represents one of the industry's largest lines of dairy-specific products providing significant design flexibility based on a wide range of package shapes and sizes.

"Along with consumer appeal, our comprehensive PET package portfolio for dairy and juice provides brand owners and manufacturers with convenience and reduced product line complexity, enabling efficient and cost-effective product management, " said Alex Warren, manager of marketing and strategic business development for Amcor's Beverage Business Unit.

These premium bottles are aesthetically-pleasing, easy to handle, and meet the needs of on-the-go consumers. They are spill-proof and offer higher quality and better sealing than competitive containers. Convenient sizes meet today's busy consumer lifestyles and enable healthier, controlled portion sizes.

The PET beverage collection is available in round, hourglass, and square shapes and comes in four sizes (12oz, 16oz, 32oz, and 64oz). Three filling types include cold-fill for dairy and juice, aseptic for dairy and juice, and high-pressure processing (HPP) for juice. A broad range of preforms enables stock and custom bottle designs ranging from 8oz to 16oz for single-serve and 28oz to 68oz for multiple-serve applications. Labeling alternatives include wrap, shrink, or pressure-sensitive labels (barring hourglass design).

The large, comprehensive product line enables multiple applications and one-stop shopping for manufacturers thanks to the availability of three shapes, four bottle capacities, three finishes, and three filling types, according to Amcor. Multiple applications for each SKU enable efficient and cost-effective product management. The stock bottle collection also offers compelling shapes and sleek premium designs which help brand owners achieve differentiation on the store shelf.

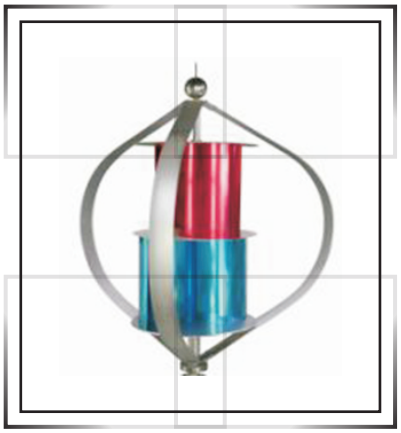
The new dairy bottle portfolio delivers high performance and is designed to maximize process efficiencies while applying industry-leading technologies including the lightweight Bericap Aseptic finish. Superior sealing is achieved due to the tight tolerance of the finish, product spoilage is virtually eliminated, and secondary packaging and distribution costs are reduced. For brand owners and co-packers, Amcor's superior vacuum absorbing technology provides bottle stability even during challenging altitudes and temperatures encountered during transportation and distribution.

Capital costs are reduced because fewer change parts are required to change from incumbent bottles as well as between the different shapes of a given size in the stock portfolio. This cost advantage applies to both the filling equipment and the blow molding machine.

www.amcor.com **Courtesy**

+VE Kamal shah Positiveaggression

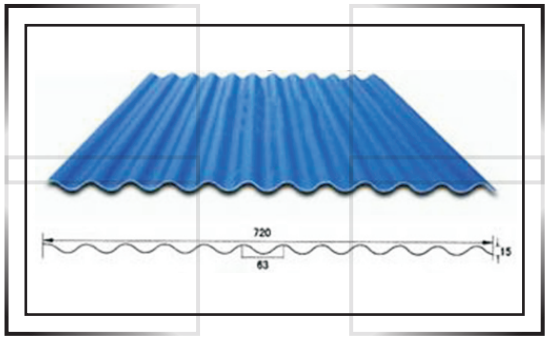
ભારત દેશમાં વિકાસની અનેકા નેક તકો રહેલી છે. અનેક ઉધોગપતિ ઓ અને રોકાણ કારો પાસે અને દેશભર ની બેંક પાસે મૂડીની કોઇ કમી નથી. નિચેના નવા ઉધોગો માટે વિચારો.
Alternate Energy Sources એટલેકે ઉર્જા માટેના વૈકલપિક સાધનો જેમકે વિંડ અને સોલર પાવર. હાઇબ્રિડ એટલેકે વિંડ અને સોલર સાથે હોય તેવી વ્યવસ્થાની ખૂબ મોટી માંગ નિકળશે.


ઉધોગપતિ ઓની લઘુ દષ્ટિ અને એમના માણસો ની અણ આવડત ને કારણે આપણા દેશ માં સદંતર નિષ્ફળ નિવડેલાં ઉધોગો તરફ નજર કરો. ઇલેકટ્રીક બાઇસિકલ, દરેક ભારતિય ના ઘર માં એક હોઇ શકે.ખૂબજ મોટું માર્કેટ મળી શકે.



યુપીવીસીરુફિંગ શીટસ. = પ્લાસ્ટિકનાં છાપરાં



After many freezing and Heating cycles, it does not cracks .
It is corrosion resistant.
Can withstand load and even Monkeys jumping, does not get damaged.
It can be termed as Eco-friendly It is 100% environment friendly, helping conserve energy and they are easily recyclable. Recycling also consumes relatively much lesser energy to get recycles.
Very few manufacturers in the country

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કદી યે ખતમ નહિ થતી લાકડા ની માંગ અને ઘટતા જતાં જંગલ અને મોંઘા થતા જતા લાકડા ના વિકલ્પો આવી ગયાં છે.

પી વી સી ફ્રેમ્ડ બોર્ડ

વુડ+ પ્લાસ્ટિક બોર્ડ.

ઉધઇ ની ચિંતા નહિ, પાણી લાગે નહિ, કલર અને વાર્નિશ ની ચિંતા નહિ, દરેક પ્રકારનું લેમીનેશન થઇ શકે. પ્રિન્ટીંગ થઇ શકે. વળી ના જાય, ફૂલીના શકે, કટાય નહિ, રંગ રોગાન થઇ શકે, એક અને ત્રણ લેયર માં બની શકે. ફિલ્મ લેમીનેશન થકી માર્બલ જેવો દેખાવ આપી શકાય. કોઇ પણ ઘનતા (ડેન્સીટી)માં બનાવી શકાય, એટલે કે, વજનમાં ભારે કે હલકું બનાવી શકાય જેથી બજાર પ્રમાણેના ભાવ લઇ શકાય.

આ પ્રોજેક્ટમાં આશરે રોકાણ

Machinery cost INR Landed approx. 1 For **single layer making**	15329000
Machinery cost INR Landed approx. 2 For **three layer making**	19000000
Add locally	
Compressor	150000
Chiller	800000
Panels and cables	300000
EB cost	2000000
Water and air system pipes and tanks etcetera	200000
Consultant's cost	500000
Land + Building cost Approximately	17000000
Total Initial Project Cost for Single layered Board making Rs.	36279000
Total Initial Project Cost CASE 2 for Three layered board making Rs.	39950000

અલગઅલગઅનેકાનેકઉપયોગીતાઓચકાસોઃ-

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સાવધાનઃ આપણા દેશ માંથી મશીનરીની ખરીદી માટે ચાઇના જતાં લોકો માટે ખાસ માર્ગદર્શનઃ

લો કોશું કરે છે ?

સહુ પ્રથમ કોમ્પ્યુટર ખોલીને ગુગલ ઉપર જાય છે, મશીનરી શોધે છે, ઇ-મેઇલ કરે છે અને જાળમાં ભરાઉ જાય છે. ચાઇના વાળા ડફોળો નથી. તમને ખૂબસારી રીતે આવકારે, હોટલ બુકીંગ કરાવી આપે, એરપોર્ટ થી લાવે, લઇ જાય અને લળીને વાતોકરે અને ડિસ્કાઇન્ટ ગણી આપે એટલે ભારતી ઓ ભરાય. ઘણાંને મફતનું ખવડાવે એટલે ખૂશ. ધંધો કરવા વાળા કોઇ ડફોળ નથી એ યાદ રાખો.

દરેક મશીનરી અને ઈક્વીપમેન્ટ માટે ત્યાં નકલી માલ મળે છે. એ લોકો તમારા કાકાનાં છોકરાં નથી કે તમને માંગો એ ડિસ્કાઉન્ટ મળી જાય. વધુ માં ત્યાં મેન્યુ ફેક્ચરર્સ ઓછાં અને ફક્ત ટ્રેડર્સ વધારે છે. પણ ડિસ્કાઉન્ટની લ્હાયમાં આપણે ચકાસવા ની કે જાણકાર માણસો ની સલાહ સુચન લેવાનું રાખતાં નથી. આપણે ત્યાં કોઇ પણ જાતની સર્વિસ લેવી એ ચલણ નથી અને એ મોટી નુકશાની નોંતરે છે.

મોટાં ભાગનાં લોકો ને ટેકનીકલ જાણકારી નહિ હોવાં છતાં યે મશીનરી માટે દોડી જાય છે. ઘરે લોકો સમજે કે ભાઇ ખૂબ હોંશીયાર છે,

ચાઇના મશીનરી લેવા ગયો છે અને આખરે પિતાનાં પૈસા ઓછા કરી આપે. મોરબી અને રાજકોટ આ માટે પ્રખ્યાત છે.

ચાઇના ને બદનામ કરવાનો આ પ્રયત્ન નથી, ત્યાંથી માલ બની ને અમેરીકા અને યુરોપ માં પણ વેચાય છે. પૈસાં આપતાં ક્વોલિટી મળી રહે છે. તફાવત છે, યોગ્ય કંપની અને માણસો શોધવાનો. જે બધાંનું કામ નથી અનુભવ અહીં કામ આવે.

મશીનરી માંઅનેક જગ્યાઓ છે કે જ્યાં વેચનાર પૈસા બનાવી શકે, એટલેકે તમને અપાતુ ડિસ્કાઉન્ટ કાપી શકે. મોટર થી લઇને લગભગ બધી જ જગ્યાએ એ લોકો કાતર ફેરવી શકે. લોખંડના વજનથી લઇને મશીન ના પાવર સુધી તમામ જગ્યા એ કાપ મૂકઇ જાય અને છતાંય આપણને ભાન ના પડે. ફક્ત બે મહિના માંજ આપણે જ્યારે મશીનરી ને અનુભવી એ એટલે ચાઇના વાળા સાથેનું હનીમૂન પુરું થઇ જાય અને પછી એ લોકો ને જગતના સ્હુથી મોટાં ચોર સાબિત કરવાનાં ધમપછાડા ચાલુ કરીએ.

યાદરાખોઃ લોભિયાં હોય ત્યાં ધૂતારાં ભૂખે ના મરે.

જયહિંદુસ્થાન

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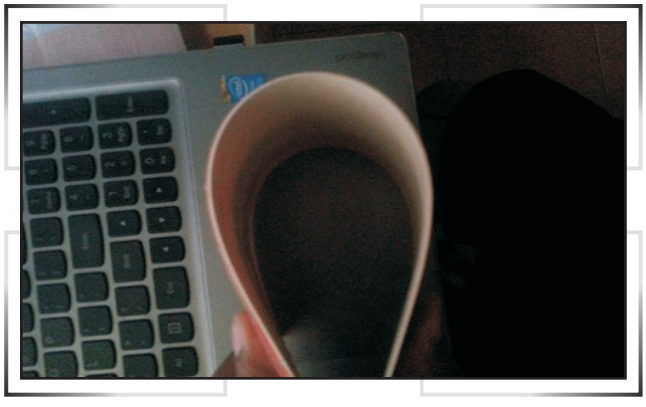
PVC Laminate making to replace traditional Laminate.

KAMAL SHAH

Dear Readers,

The developments and advancements with the assistance of plastics, is always blessings for the society, almost always. To save and replace wood and paper also, plastic has assisted a lot.

PVC laminate to replace traditional LAMINATE is the best new project: Laminate, which is a Must product for furniture and going with almost all kinds of wood application, is and to be replaced completely replaced by PVC Laminate.



PVC laminate to be made in thickness of 1 mm, same 4 feet wide, with Top as laminated PVC Film for color/design of choice from among million, can be bent at 360 Degrees without breaking for many number of times; i.e. not easily breakable, which poses life to it.

Application with the Adhesive gum, fastest, cheapest and needing least carpentry which saves time and money. 'The Plastic laminate' as discussed comes with the best possible film laminated on it and UV Coated also to offer shine and making it scratch proof to good extent.

Any country can have and INDIA also has hundreds of laminate makers, thousands of dealers, few of them bigger than some manufacturers, all can easily venture in to business of making PVC laminate; even new entrants. Have a look at possible investment.

Proposed Project	COST
Machinery with UV Coating plant	17360650
Land 2 acres	7000000
Building 7000 Sq. feet	3500000
EB cost and all Utilities	3500000
Installation and commissioning	300000
Consultant's cost	500000
Total initial investment. Rs.	3,21,60,650

20 hours per day of working for 312 days a year can give output of 1872 tons.

Rs. 21 works out to be the cost per square foot of making which includes material cost and conversion cost [on investment above, plus Working capital interest too – WC needed 1.1364 Cr.] of all sorts. Market rate is Rs 56 to 78 per square foot depending upon the decorative film applied on it.

Why not go for it: It is termite proof, water proof, long lasting and looks much better and brighter.

All the figures are indicative and can change on the date of discussions.

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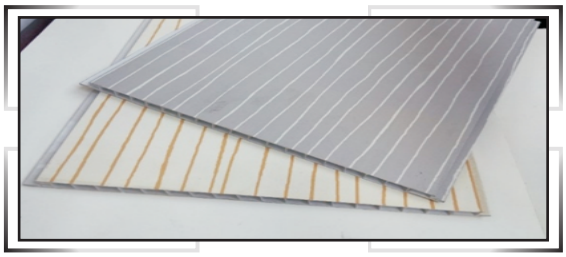
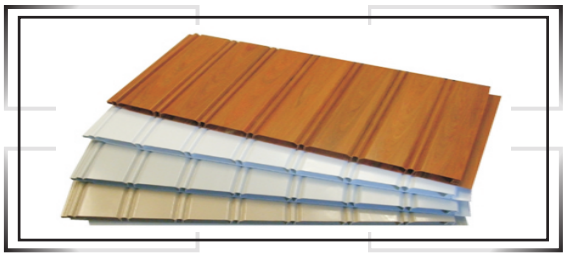
The Author, based at Ahmedabad, is a Professional consultant assisting to set up Lucrative / new projects.

PVC Wall and Ceiling Panel

Plastic has been replacing almost anything and everything and has been blessing to save trees and woods, in fact avoids De-forestation and assist save environment.

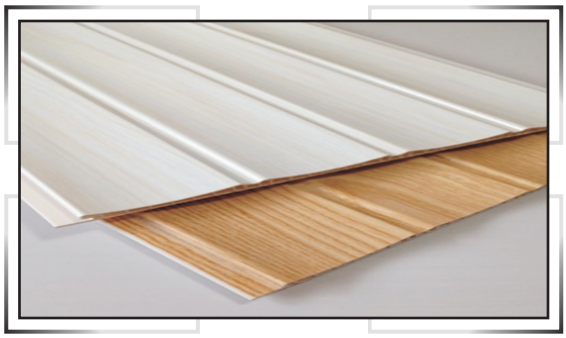
Of late the wall decoration wood has been replaced by the PVC Wall covering, as also much problematic false ceiling has also been replaced by PVC Ceiling panels.

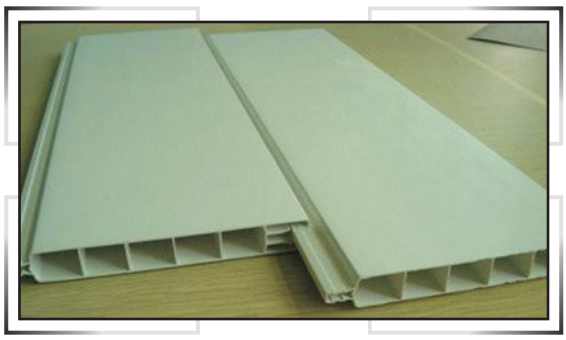




The walls also can have many designs and any colors.

Depending upon the need, Quality of customer/s, rate and applications place we can chose from among the wide range of Lamination fil available to laminate on line over the panels.





Male-Female coupling, which also can be madde in various kinds, join the profiles together. Investment in the Business.

Machinery cost One set ADD one MOLD COST Rs.	110,00,000
Land + Building + Machinery + Utilities and all needed Initial project cost: Total Initial Investment Rs.	2,50,00,000

And returns?

Total weight of the panel	For 10 mm thick and 250 mm wide and 10 feet long profiles	Total Material + Conversion cost Rs.
1.5 Kgs	83.85	
2 Kg	111.8	
2.5 Kgs	139.75	

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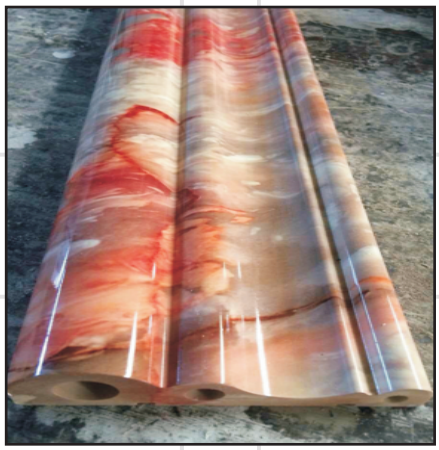
PVC Wall and Ceiling Panel



Marble look alike Board and profile making.

Total connected power needed all-inclusive chiller	910 HP
Machinery cost	27534870
add 20 HP Chiller	800000
Land cost say 2 Acres	7000000
Building	7500000
Utilities, Installation, consultant's cost et-cetera Approximated at :	6000000
Total Initial project Cost Rs.	48834870

Costly marble and Granite shall become son obsolete and all issues related to it like Mining, transport, working and costof and on it shall be replaced by PVC + CaCO3 made Marble look-alike Boards and profiles.

These boards are usually made from 2.8 to 4 mm thickness. The density can be as high as 1800 to 2000 Kilogram per meter cube and so are so heavy and solid with equal strength but unbreakable easily and with life. Compare at what cost CHINA Sells to INDIA.

Sheet size(mm)	thickness (mm)	density (g/cm3)	FOB China (USD/pc)	Cost at China Equivalent to INR
1220x2440	3.8	2.0	23.10	1524.6

We shall have to add duties in case we bring here and sell from CHINA. Whereas we can make same thing here in INDIA at RS 1352 per sheet of 3.8 mm thickness and 22.62 kg weight with material + Conversion cost all inclusive.

Get ready, in very near future this is the replacement of al Marble and Granite and ideal for wall coverings, railings and many kinds of frames and decoration. Wall tiles and Bathroom are to be an ideal application to be catered to with this product. Some few Big names in INDIA are already entering with this product soon. Termite proof, water proof product.

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Energy Conservation Opportunities in Plastics Processing Industries

Energy management is potentially one of the most cost-effective actions that a company can take to reduce both carbon emissions and costs. Energy costs are rising and there is no reason to believe that they will decrease in the future. The returns from energy management are much better than the returns from increasing sales.Energy management requires both measurements and an understanding of the process.

This section presents the most common recommendations of electrical energy conservations that can be applied in a typical plastic facility.

Improvement of the Electrical Power Factor of the Facility:

The average power factor in this sector has been estimated as 0.89 – 0.95, which is considered low in terms of industry standards. Power factor can be an important aspect to consider in an AC circuit; because any power factor less than unity means that the circuit's wiring has to carry more current than what would be necessary with zero reactance in the circuit to deliver the same amount of (true) power to the resistive load. Hence, the power factor of the generator can be improved by addition of capacitors parallel to the line. The penalty due to power factor has been estimated as 8-12% of total billing. By adding the appropriate capacitor, the charged amount will be reduced to zero. The payback period will be approximately 5-7 months.

Replacement of Energy-Inefficient Motors:

It has been found that the average current operating efficiency of a typical motor is 78%. This low efficiency is due to the common practice by many facilities to simply rewind an existing motor when it burns out rather than purchasing a high efficiency replacement motor. However, a rewound motor is typically less efficient than a new one. The loss of efficiency is due to the age of the failed motor and degradation of its stator core during failure, or as a result of the rewind process. The typical efficiency loss ranges from 1% to 5% for each rewinding process.

Installation of Variable Frequency Drives (VFD):

In many industrial environments, the application of variable speed control is cost effective. Energy savings result from reduced power consumption by the motors. As the system power requirements are reduced, the power consumed by the equipment can be reduced by an amount significantly greater than can be achieved with the existing controls. For example, in the case of pumps, flow is often controlled (throttled) by valves, which increase the pump head and reduce the flow rate. In the Plastic industry, VFDs can be applied to injection and blow moulding motors, pumps, and compressors. It is estimated that a saving of 15-20% of the motor electrical energy can be achieved if such controllers are adopted. Assuming an average saving of 17.5%. In average, the payback period will be approximately 9 -12 months.

Repair of Compressed Air Leaks

The cost of compressed air leaks is the energy cost to compress the volume of lost air from atmospheric pressure to the compressor operating pressure. The amount of lost air depends on the line pressure, the compressed air temperature at the point of the leak, the air temperature at the compressor inlet, and the estimated area of the leak. The leak area is usually detected depending on the sound and feeling of air flow from the leak. An alternative method to determine total losses due to air leaks is to measure the time between compressor cycles when all air operated equipments are shut off. It is estimated that a saving of 15-20% of the compressor electrical energy can be achieved if air leaks are eliminated. Assuming an average saving of 17.5%. In general, implementation involves one or two of the following: replacement of couplings and/or hoses, replacement of seals around filters, shutting off air flow during lunch or break periods, and repairing breaks in lines, etc. The payback period will be approximately 10-20 days.

Avoiding Poor Practices of Compressed Air Usages:

On site, several poor practices of compressed air usage have been noticed. For examples: Several companies use the compressed air to cool the extruded pipes or some devices such as motors, while others use it for cleaning purposes. Since the use of compressed air is either for cooling or cleaning purposes, air at sufficient flow rates can be adequate for these purposes. This can be done by blowers which use much less energy. It was estimated that a saving of 10-20% of the compressor electrical energy can be achieved by avoiding

Energy Conservation Opportunities in Plastics Processing Industries

such poor practices. Implementation costs include purchasing blowers to replace the compressed air. The payback period will be approximately 1- 2 month.

Insulation of the Extrusion, Injection, and Blow Moulding Machine Heaters:

On site, it was found that some areas of the extrusion, injection, and blow moulding machines are not well insulated. This results in heat losses and associated energy costs. These areas of heat losses have to be studied. The energy savings were estimated to be 10-14% of the total input electricity to heaters. Implementation costs include purchasing of insulation material in addition to labour costs with a payback period of approximately 1-2 months.

Building

Building energy costs are not always a significant percentage of the total energy costs in plastics processing and at the typical site they are 7– 8% of the total energy costs. Despite this, they are almost always the first area to be considered and improving building energy efficiency can reduce costs, improve staff comfort and improve work output.

Lighting

Lighting only represents around 5% of the energy use at a typical plastics processing. Lighting can be divided into 'ambient' and 'task' lighting - they are very different. Ambient lighting is to allow safe movement; task lighting is to allow completion of a specific task. The lighting levels are very different, recognizing this and taking action to separate them can reduce costs. A 'lighting map' is vital in reducing lighting energy use. Map the lights, switches and controls on the site to identify areas for improvements. Investments in replacing the LED lights & in controls such as sensors, timers and push switches can automatically reduce lighting costs without affecting product or lighting quality.

Overall Energy and Cost Savings:

After implementing the recommendations for all plastic processing facilities, the total annual electrical energy savings, the electrical demand savings, and the total annual cost savings are Hugh. The average payback period will not exceed 7-8 months.

Conclusions

An analysis and estimation of the potential electrical energy saving opportunities in the plastic industry has to be carried out. The results will be - there is a large room of improving the efficiency of plastics processing unit electricity consumption in this industry with remarkable energy cost savings. The total electricity cost savings represent nearly 23% of the industry's total annual electricity bill. This can be considered as an effective option for increasing profit and competition within this sector. Having listed all the different remedies that can lead to electrical energy conservation, the implementation of these recommendations is very crucial for the plastic industry to reach the desired cost savings. Such study can be considered as the corner stone in achieving national energy savings among all plastics processing industries. Therefore, it is highly recommended to carry out such studies and analyses in industries.

5 Stages of the Plastic Recycling Process

Plastic recycling is the term given to the processing of waste plastic which turns old or scrap plastic in to a useable product which can then re-enter the manufacturing chain.

In order for the plastic to be in a suitable format for re use in manufacturing environments such as by injection moulding companies the waste or scrap plastic, needs to go through several recycling processes.

Stage One – Sorting the Plastic

Firstly the waste plastic needs to be collected by the recycling company, once the plastic arrives at the recycling plant the first stage is sort the plastic in to the specific types, plastic recycling is more complex than that of metal or glass recycling due to the many different types of plastic and more importantly mixed plastic cannot be used in manufacturing without delivering poor quality products, hence why plastic recycling companies need to be thorough when it comes to sorting the waste plastic in to the different forms prior to the next stage in the recycling process.

Stage Two - Washing Waste Plastic

Once the waste plastic has been identified and separated in to one of its many forms the cleaning process can begin, this usually starts with washing to remove paper labels, adhesives and other impurities, all the labels on your plastic containers, bottles and even your wheelie bin need to be completely removed as these will lower the quality of the finished recycled plastic.

Stage Three- Shredding the Plastic

The shredding stage is when the waste plastic is taken and loaded on to conveyor belts or directly in to huge hoppers that funnel the clean scrap towards rotating metal teeth that rip the plastic in to small pellets which are bagged up afterwards ready for testing.

Stage Four – Identify and Classify the Plastic

Once the shredded plastic has been bagged it is then chemically tested and labelled as to its exact specification, this rGrade plastic can be used as is by adding to a mix of virgin plastic in a manufacturing run, alternatively the rGrade plastic can be further recycled.

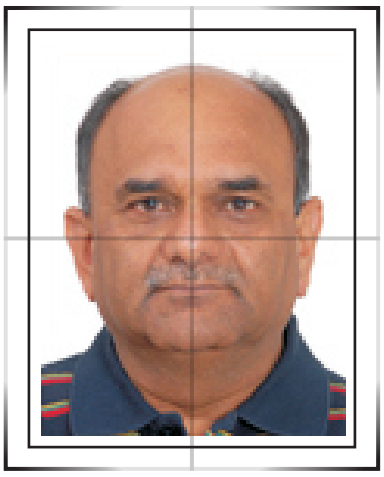
Stage Five - Extruding

This is the final stage in recycling plastic, this involves melting the clean shredded plastic and extruding in to the form of pellets which then go on to manufacture the next lot of plastic products.

Reasons to Recycle Plastic

Millions of tons of waste plastic end up in landfill when the vast majority of it can be recycled, it's all too easy for us to throw away rubbish without a second thought but we need to take care of our planet and not just reduce the amount of rubbish we bury but also given that plastic is derived from oil a natural product with ever depleting resources it makes sense to recycling as much as possible. Recycled products are becoming more popular and are set to continue as oil exploration moves to ever more hostile and difficult to reach locations, which will of course result in prices of products made from oil will increase.

Plastics & Project Recycling Consultant



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With Best Compliment

PLASTIC PROCESSERS (GUJ.) ASSOCIATION VADODARA

MESSAGE FROM PLASTIC PROCESSORS (GUJ) ASSOCIATION, VADODARA.

JAYAKANT NANAVATI
President (Vadodara)

We must say that there is one and only one industry on the earth which are Saving Woods, papers, a lot gallon of water & obviously an Environment, and that is "Plastic industries".

In INDIA plastic industries are growing industry like sunrise. The growth engine of plastic industries is like a bullet train. But we all know that the plastic industries are facing a challenge with the wrong propaganda against it.

In the world, the share of plastic industries in GDP is constantly increasing like Turkey, USA, UK, Japan, China ,Indonesia, Germany etc. only because of their public awareness and proper disposal as well as by full government support.

If we open the eyes and study of all developed countries, that how they collect, dispose and recycle the waste, (who are using more than 10 times of India) then only we realize that we are very far from them for development of our country in waste management.

Plastic polyethylene packing material is widely use in Pharmacy Sector (like blood bags, syringe etc.) Electronics sector (like TV, mobile etc.) Fertilizer sector (for packing of fertilizer), Food Packing sector (for packing of food items) & Automobiles Industries sector (for car accessory parts etc). "If it is harmful for health then why each and every sectors prefer to use plastic as a packaging!!!" It is surely cheaper than other materials, but it is not harmful. "it is also necessary to boost up the plastic Carry Bag Industries as well." Because plastic is the best substitute for anything.

In real sense plastic is not harmful for the earth, if we create public Awareness we definitely make India strong by way of giving proper education to each and everyone and especially to young Generation. We also create many Employments by this.

We can use plastic waste in Road Construction, for manufacturing of Concealed Pipe, Garden and School Benches etc... In India many state government start giving support to plastic industries by changing in policies of collecting and disposing of plastic waste and using it in making roads and many more things. And they got positive results. So "we must have to educate our Country men, that Plastic is not the cause for environment problems but proper disposal is necessary for development of the country."

Today Gujarat's economy is at such a healthy stage. In Gujarat Vadodara, Halol, and surrounding areas are become hub for plastic industries. We heard that Gujarat government is going to declare new industrial policy 2017 for plastic industry. That is good sign for plastic industries like manufacturers of plastic machinery; manufacturers of Master Batch, manufacturers of reprocess materials etc. Hope that new government's aim is surely for develop the plastic industries.

Thanks to D.J.Publication for giving such a good support. We congratulate them for participation in 10th Plastivision Exhibition at Mumbai.

President
PLATIC PROCESSORS (GUJ) ASSOCIATION, VADODARA.
JAYAKANT NANAVATI

Plastic Tomorrow 2017

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January

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www.plasticudyog.com

Cosmo Films launches Universal Lidding Films for all thermoformed plastic containers

Cosmo Films, a leading manufacturer of speciality BOPP films announced the launch of BOPP based Universal Lidding Films; suitable for heat sealing to any of the rigid thermoformed cups/containers made up of PP/HIPS/PET/PVCor PE. The films are generally used for lidding of unit packs of packaged drinking water, juice, yogurt, jelly, jam, marmalade, butter etc., as well as trays used for packing salads, meals and fresh fruits etc.

The different products available in the market for lidding generally are aluminum foil/PE or PET/PE structures. However, BOPP used for lidding applications scores over its counterparts in terms of sustainability, yield and therefore cost, better aesthetics and fold/flex resistance.

These films are available in white opaque cavitated & semi-transparent variants. BOPP film based lids are safe for direct food contact as no solvent is involved and ingredients involved in the manufacturing of this product are approved by FDA. The films offer excellent peelability, printability with water & solvent based inks and high aesthetic appeal. The films offer good moisture barrier properties and films to cater high barrier needs are also available.

The films can be easily die cut & punched and display good stiffness for dispensing. The films can be used for both in-line and offline lidding processes. The product is available in standard thickness of 50, 75 and 85 microns. Other microns are also possible on demand.

Commenting on the development, Mr Pankaj Poddar, CEO Cosmo Films said "We saw both end consumers and printers facing challenges while using unit packs especially for packaged drinking water. The consumers invariably found it challenging to peel open the pack without spilling and the label printers faced issues with finding the right adhesives for heat sealing of the lidding film. Looking at the need gap, we have developed a cost effective universal product where all that the printer needs to do is to print, die cut and supply the film to the brand. The film can also be sealed at lower sealing temperatures of 140-150 degrees".

About Cosmo Films Limited

Established in 1981, Cosmo Films Limited today is one of the g lobal leaders and manufacturers of Bi-axially Oriented Polypropylene (BOPP) films used for packaging, labels and lamination applications. The company is the largest exporter of BOPP films from India and is also the largest producer of thermal lamination films in the world with plant cum distribution centres in India, Japan, Korea & the U.S along with global channel partners in more than fifty countries.

For more information.
visit www.cosmofilms.com
write to : **enquiry@cosmofilms.com.**

Cosmo Films to showcase a comprehensive range of speciality packaging products at PackTech 2016

DELHI, November 30, 2016-Cosmo Films, a leading manufacturer of speciality BOPP films will be showcasing its comprehensive range of speciality packaging films, especially barrier films, at the upcoming International Pack Tech India 2016-9th International Exhibition for Processing, Packaging and Printing, scheduled to take place from 15th December to 17th December 2016 in Mumbai, India.

Some of the barrier films (with excellent moisture, oxygen and aroma barrier properties), which would be on display are as follows:

Broad Seal & High Hot Tack Barrier Films: This category of metalized films is a new addition to the Cosmo's range of barrier films and these metalized films having a broad heat seal range & high hot tack, have been designed to run on high speed machines and can be used for medium size food packs.

High Moisture Barrier Films: These are metalized films used for duplex and sandwich lamination in snack foods, shampoo sachets, dry milk powder and powdered drinks sachets/packs, where loss of moisture is a concern.

Aroma Barrier Films: These are transparent barrier films typically used for coffee/tea, spices, chewing gum and perfume boxes over wrapping.

High Moisture & Oxygen Barrier Films: These transparent films have both excellent moisture and gas barrier properties and are used for packaging of cream biscuits, chocolates, chips and snacks.

The company will also be showcasing **Cold Seal Release Films** meant for packaging of ice creams, chocolates and confectionary in gloss, matte and white varieties.

Some of the new packaging films that would be on display are:

Universal Lidding Films:

These films are mono layered BOPP films which can take printing on one side and can be sealed with the other. They are referred to as Universal Lidding films as they can be sealed with any of the thermoplastic containers such as PP, PVC, HDPE, HIPS and PET. Available in white opaque cavitated and semi transparent varieties, they can be used as easy peelable lid on packed drinking water glasses, meal trays, butter trays, fresh fruit containers, and milk containers to name a few.

Both Sides Heat Sealable Matte Films: These are both side heat sealable matte films with low seal initiation temperature, specially designed for lap seal applications.

Besides the packaging range, Cosmo will also be showcasing its range of top coated labelstock films, In-mould label films and wrap around label films.

Mr. Jeevan Kulkarni, Head- Domestic Sales, Cosmo Films said, "We look at this exhibition as a great platform to showcase our comprehensive range of speciality packaging films to converters and brands, specifically in the food & beverage industry. With our speciality films and customized innovation, we are confident of meeting the new emerging packaging challenges viz shelf life extension and reduced plastic consumption."

Please visit Cosmo Films at stand no. D22 at PackTech2016.

About PackTech

The International PackTech India is the largest event in the Indian subcontinent addressing the entire spectrum of the packaging, package printing, processing, beverage, food and liquid food industries. Exhibit categories will include food processing,packaging machinery and devices, machinery and equipment for the production, converting,processing and printing of packaging materials as well as automation technology, storage and logistics equipment.

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Kaka polymers
house of plastic raw materials

LARIPUR® TPU
Thermoplastic Polyurethane

Polyester, Polycaprolactone and Polyether based products with hardness ranges from 60 Shore A up to 75 Shore D:
- Toughness and Durability - Excellent Abrasion Resistance
- Excellent Low Temperature Flexibility • Resistance to Fuel, Oils, Grease and Fats
- Outstanding Compression Set Properties • Hydrolysis and Microbial Resistance.

Series 15 and 18 Plasticized Ester
Developed to provide soft touch and flexibility and fast cycle time for injection moulding while maintaining good abrasion resistance and physical properties. Products also available without phtalate based plasticizers.

Series 20 Standard Ester
Injection Molding grades providing strong resilience and tear resistance, excellent abrasion resistance and good stability in water, solvents and against light and oxidation.

Series 25 Special Ester
Designed for both injection molding and extrusion of hose, tubes, profiles, belts, films and sheets. Higher resistance to hydrolysis and improved flexibility at low temperatures.

Series 2102 Polycaprolactone Ester
Polycaprolactone based TPU. Improved elasticity and hydrolysis resistance compared to Special Esters.

Series 50 Modified Ester
Polyester based TPU coupling high hardness with improved low temperature impact resistance.

Series 60 and 2103 Ether
High quality polyether based TPU. Excellent resistance to hydrolysis and microbial attack with low temperature flexibility and high impact properties.

Seal Grades
Both polyether and Polycaprolactone based TPUs exhibiting very low compression set values at high temperatures combined with good resistance to oils and chemicals.

Special Grades
Specially developed TPUs to cover a variety of market and customer needs in specific application.

LARICOL Thermoplastic Adhesives
A range of Crystalline Thermoplastic Polyurethane Adhesives supplied in pellet form.
Laricol products are designed to provide excellent bond to various substrates including plastics (TPU, PU, EVA, PVC,…), rubber, leather, textiles, wood, etc..
They can be used for solvent solution thermo-reactive adhesives, powder syntering and thermo-adhesive extruded film.

RECYCLE · REUSE · REDUCE · GOING GREEN

HIGH QUALITY RECYCLED

GLASSFILLED | U V STABILIZED | FLAME RETARDENT

NYLON - 6 / 6.6 | POLYACETAL | POLYCARBONATE

POLYURETHANE | PBT / PPS / PEEK | ABS / SAN / EVA

ACRYLIC

PROCESSING PARAMETER GUIDELINES

Material	Melting Temp. °C	Shrinkage %	Mould Temp. °C	Berrel Temp. °C	Nozzle Temp. °C	Pre-drying Temp. & Time °C - hour	Injection Speed m/sec	Back Pressure kg/cm2	Injectability for length wall thickness 1mm - 2mm
LDPE	110	1.5-2	10-40	220-240	300-250	--	0.8	5-30	350-900
LLDPE	115	2	10-40	190-220	210-260	--	0.8	10-30	300-800
HDPE	130	2	10-40	185-220	240-270	--	0.8	10-30	160-475
PP/Copolymer	165	1.5-1.7	15-50	200-240	230-250	--	0.9	10-35	300-800
PP/Homopolymer	170	1.6-2	15-50	220-250	245-270	--	0.8	10-35	250-700
EVA	80	1.0-2.5	10-40	170-220	200-220	--	0.8	10-30	350-900
PS (GPPS)	90	0.2-0.6	10-60	190-270	250-270	70 - 1 hr	0.9	0-2	230-630
HIPS	88	0.2-0.6	40-70	200-260	230-260	80 - 2 hr	0.7	0-2	175-450
ABS	105	0.4-0.7	50-70	220-260	230-250	90 - 2.5 hr	0.5	0-2	120-350
SAN	115	0.3-0.6	40-60	210-250	230-240	85 - 4 hr	0.6	2-6	120-300
Polycarbonate	160	0.5-0.7	80-120	280-320	290-320	100 - 4 hr	0.3	3-10	40-120
Nylone - 6 / 6.6	220/260	0.2-0.4	70-90	240-265	250-270	80-6/10 hr	0.3	5-8	130-350
RPVC	80	0.4-0.5	40-60	140-210	170-190	-	0.2	4.5-13.5	110-230
Acrylics	100	0.2-0.8	50-80	200-250	230-250	85 - 4 hr	0.4	2-6	80-300
PBT	228	1.6	80-130	220-260	240-255	125-4 hr	0.3	4.5-8	120-210
Polyurethane	160	0.5-1.0	40-80	185-240	200-215	90 - 2 hr	0.3	7-12	120-285
Cellulose Acetate	110	0.6	60-80	170-210	195-210	70 - 3 hr	0.3	5-7	250-450
Poly Acetal	175	1.8-2.0	20-40	180-240	230-240	100-3 hr	0.3	4-6	120-320
TPE / TRP	215	0.9-1.4	45	180-240	220-240	110-6 hr	0.7	10-20	200-500

ENGINEERING PLASTICS COMPOUNDS & BLENDS

Modified Polypropylene - PP

- PPTalc Reinforced 5-50% & with Impact Modified
- PP Glass Reinforced 5-50% (Chemically Coupled)
- PP FR (V1, V1, V2) Molding & Extrusion
- Halogen & Halogen Free
- PP FR with Talc filled or Glass
- PP Pre coloured UV stabilized
- PP Antistatic & Conductive

Modified PBT

- PBT Precolor - ROHS
- PBT GF
- PBT FR
- PBT Lazer Mark Material

Modified PolyCarbonate (PC)

- PC Precolor Transparent, Traslucent, Opaque and Dry Glow
- PC FR V0 Precolor (Halogen Free)
- PC Glass Filled 5 - 40%
- PC Glass Filled 5 - 50% with FR V0 Halogen Free
- PC Antistatic & Conductive

Modified ABS

- ABS Pre colored Material
- ABS Heat Resistance with Pre-color
- ABS FR (V0, V2)
- ABS Glass Filled 5 - 30%
- ABS Antimicrobacterial
- ABS Antistatic & Conductive
- ABS High Gloss for Monitor
- ABS Transparent Pre-color
- ABS Electroplating Precolor
- ABS Extrusion Grade precolor

Blends

- ABS / PC
- PC / PBT
- NYLON / PTFE
- NYLON / ABS
- NYLON / PP
- ACETAL / PU
- ACETAL / PTFE
- NYLON 66 / PTFE
- PC / PTFE / GF
- TPO
- TPE
- TPR

Modified Nylone 6 & Nylon 66 (Polyamides)

- Nylon 6/66 Pre colored UT stabilized Material
- Nylon 6/66 - Super Tough
- Nylon 6/66 Glass Filled 5-40%
- Heat Stabilized
- Nylon 6/66 Minerals Filled 5-40%
- Nylon 6/66 FR (V0, V2) Halogen Free
- Nylon 6/66 Mineral, Reinforced FR V0
- Halogen Free
- Nylon 66 25 Gf FR V0 Halogen Free
- Nylon 66 Mineral FrVo Impact Modified
- Nylon 6/66 Conductive & Antistatic
- Nylon 6/66 Graphite / MoS2

Modified ACETAL

- Acetal Precolor - ROHS
- Acetal GF
- Acetal MoS2
- Acetal UV Stabilized

Reinforcements

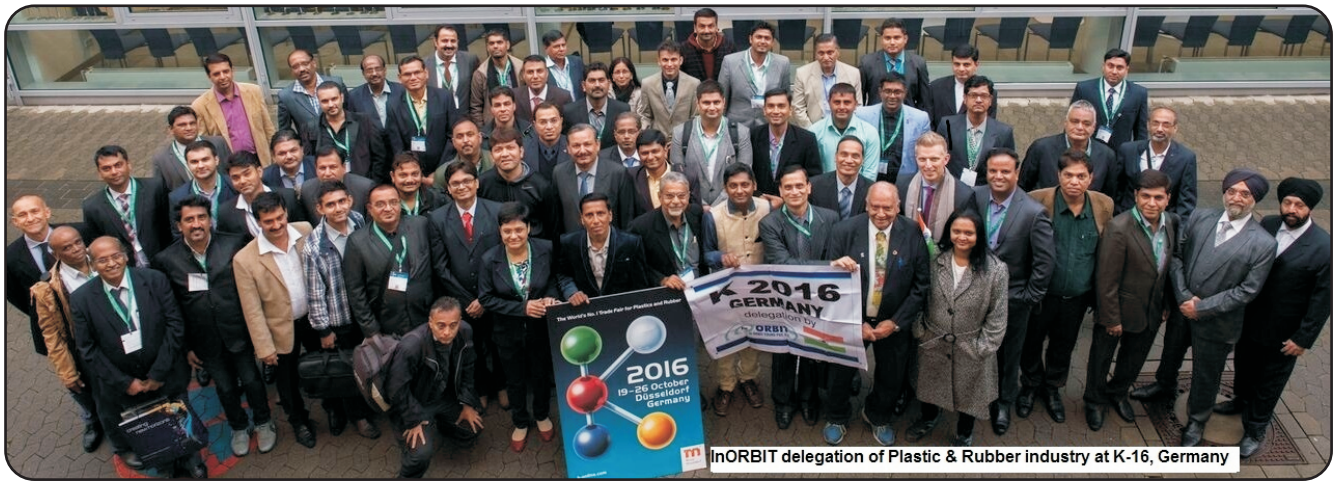
- Talc
- Glass (Long Fibre & Short Fibre)
- Calcium
- Antistatic Properties
- Antimicro bacterial Properties
- UV Resistance
- Impact modified
- Conductive polymers
- Laser Mark
- UV Stabilized
- Heat Stabilized
- Customer Colours as per RAL & PANTONE SHADES

Modified SAN

- SAN Glassfiller
- SAN Impact Modified

At K-16 world's biggest Plastic & Rubber Expo in Germany

Chinese & Indian visitors were the highest among Asian visitors



InORBIT delegation of Plastic & Rubber industry at K-16, Germany

Dusseldorf Germany (19 – 26 Oct 2016) by Om Prakash, Director – InOrbit Tours Pvt. Ltd. & Ambassador of Messe Dusseldorf in India

Mumbai, 22nd November 2016

China & India dominated with the highest number of visitors among the Asian countries at K-16 in Dusseldorf Germany, reports Mr. Om Prakash, Director -InORBIT Tours Pvt. Ltd. & Ambassador of Messe Dusseldorf in India on his return from K-16.

Thousands of Chinese & Indian visitors were seen every day at the K-16. This fact was also acknowledged by Mr. Werner Mathias Dornscheidt, President & CEO of Messe Dusseldorf. 230000 visitors & 3285 exhibitors were registered from all over the world. This certainly surpassed the figures of K-13 with 218000 visitors & 3220 exhibitors. Mr. Dornscheidt further said "Just the sheer number of experts visiting K-16 impressively confirmed the appeal and importance of the trade fair-since the number is once again clearly higher than at the previous event in 2013. However, what is more important: the breakdown of trade visitors was of an exceedingly high standard. We can register a constantly good level of demand from Germany and a disproportionately high level of interest from abroad, especially from overseas. It is known the world over that **K** in Dusseldorf is THE innovation platform for the entire sector. A visit here is simply indispensable for everyone wanting to stay ahead of the competition."

Trade visitors were thrilled with the wealth of new technical developments presented to them by raw materials producers, machine manufacturers and producers of semi-finished and technical parts. As per the Organisors, over 70% of visitors confirmed having received information on news and trends. By their own accounts, numerous visitors wished to immediately convert these new insights in investment: 60% of industry decision-makers said they had visited the trade fair with concrete intentions to buy while 58% had already found new suppliers. With these new purchases visitors first and foremost pursued three objectives for their enterprises: expand their product portfolio, extend production capacity and increase efficiency. The results of the visitor survey also confirm the positive business situation in the downstream sectors of the plastics and rubber industries: 60% of the visitors polled rate the current situation as "very good" and "good" while the same percentage even expect the situation to improve over the next twelve months.

Energy, material and resource efficiency were the dominating themes at K-16. Also meeting with avid interest were new materials, innovative recycling concepts, new application areas for organic plastics and additive manufacturing. Smart, quick and flexible lines and services were in high demand among customers; Industry 4.0 dominated not only lecture and discussions but was also demonstrated hands-on at many stands. Commenting on this Ulrich Reifenhauser said: "The possibilities the Internet of Things brings stimulates strong, serious interest-especially among younger, IT-savvy customers from throughout the world. Industry 4.0 is a theme of the future that will keep us busy for years to come." Machine and plant manufacturing, which occupies the biggest exhibition area at K-16 with over 1900 exhibitors, was also the centre of attraction for visitors; a good two thirds of all experts polled ranked this segment first. 46% said they were predominantly interested in raw and auxiliary materials, while for 25% semi-finished products and technical parts made of plastic

and rubber were the main reason for coming (multiple choice possible). Albeit the smaller sector of the two, the rubber industry made a highly visible appearance at K-16 and underscored its importance in the areas of mobility, leisure, household and energy.

Visitors came from all important user industries-from the construction sector and automotive to packaging and electrical as well as medical device technology not forgetting agriculture. They all again gave top scores to the ranges on display in the 19 exhibition halls. 97% ensured that they had reached their goals 100% while 96% said they were impressed with the line-up at K-16.

A large contingent of over 150 visitors accompanied Mr. Om Prakash, with InORBIT Tours group. They expressed their satisfaction for the guidance provided by Mr. Om Prakash who has been promoting K fairs since 1972 and is also the Hon. Ambassador of Messe Dusseldorf in India.

Special Reception to InORBIT delegation

A special reception was arranged by the Organisors to welcome the InORBIT delegation. Mr. Thomas Franken, Dy. Director of K-16 informed the InORBIT delegation about the salient features of K-16. He specially recommended to visit Hall No: 6 to learn about the innovations and the future of Plastics.

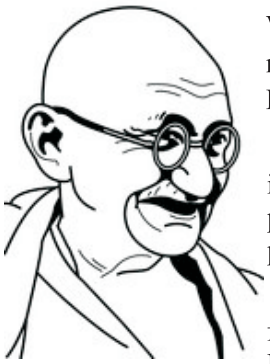
Mr. Om Prakash informed the Organisors that the InORBIT delegation represented all the regions of India and that there were many visitors who have been visiting K fairs with Mr. Om Prakash for more than 30 years.

Mr. Thomas Franken thanked Mr. Om Prakash for his dedicated contribution. Mr. Om Prakash presented a 'Shawl' to Mr. Thomas Franken.

Chinaplas 2017 which is co-organised by Messe Dusseldorf will be the next project and InORBIT Tours will once again lead a large number of Indian visitors to China. More information can be obtained.

Courtesy

For Mor Details Contact : Mr. Om Prakash, Director - In ORBIT Tours E.mail: omprakash@inorbittours.com Tel: 022 - 2422 9281/40436868.



Mahatma Gandhi

A customer is the most important visitor on our premises. He is not dependent on us. We are dependent on him. He is not an interruption on our work. He is the purpose of it. He is not an outsider on our business. He is a part of it. We are not doing him a favour by serving him. He is doing us a favour by giving us an opportunity to do so.

RENUKA Polymers was established in 2005 as a pioneering trading house specialized in masterbatch Division. Over the years, Renuka has steadily developed into a high-performance trading house handling a wide and well-balanced range of products for plastic & pvc industries.

After a modest beginning, in 2013 we expanded our activities with a solid base foundation into Specialty COMPOUNDING Industry with the name RENUKA PETROCHEMICALS. Our collaboration is with MNC's for some products. Today we grown as a multi faceted, multi product company with dynamic marketing, high morals, services & high standards of quality with customer satisfaction, we are growing slowly & we believe slow & study wins the race.

RENUKA POLYMERS

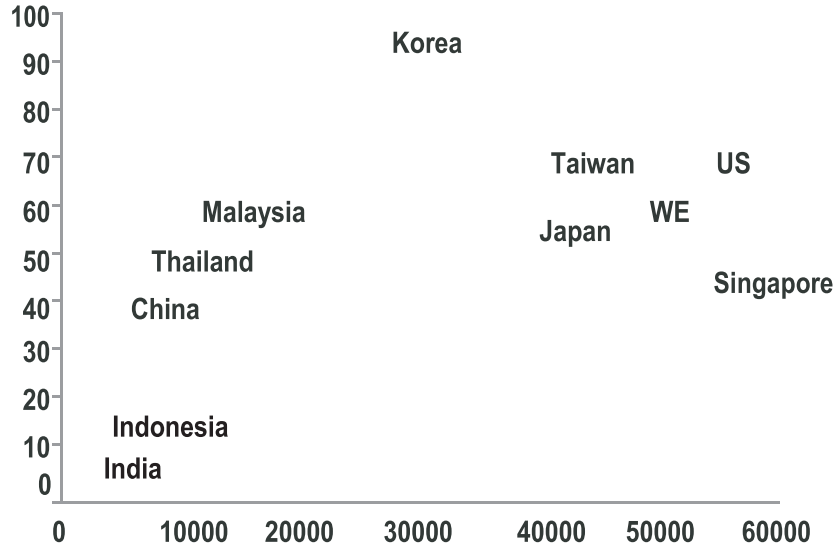
Everything is Possible

Petrochemical Industry in India

Petrochemicals play a vital role in the functioning of virtually all key sectors of economy which includes agriculture, infrastructure, healthcare, textiles and consumer durables. Polymers provide critical inputs which enable other sector to grow. Petrochemical products cover the entire spectrum of daily use items ranging from clothing, housing, construction, furniture, automobiles, household items, toys, agriculture, horticulture, irrigation, and packaging to medical appliances.

Per capita consumption of polymer has reached saturation level in US. India has the advantage of high population and expected to maintain high economic growth. This should propel India's polymer consumption to new levels in coming year.

Figure 15: Per capita Polymer Consumption Vs per capita GDP ~ 2013



Petrochemical Industry Review of 2014 & Outlook for 2015

Polymers

The sharp fall in crude oil prices cast a shadow on petrochemical markets across all regions in 2014. The final quarter of 2014 was especially difficult for petrochemical producers as buyers held back purchases and inventories had to be managed. The dramatic slump in petrochemical prices in the fourth quarter also had an impact on overall profitability for the year.

Cracker operators and derivative producers in the US had enjoyed very high margins in the first half of 2014 but saw their relative competitiveness eroded in the second half and particularly in the fourth quarter.
US chemicals growth in 2014 was fairly robust, and industry economists remain positive for the sector in terms of output and demand. In Asia, the focus continues to be on China where a slowing economy has affected growth in petrochemical demand and this is expected to continue in 2015.

The Indian domestic polymer industry (like global industry) is dominated by Polyolefin's (PE & PP), representing about 73% of all commodity resins consumed in 2013-14. Polymers registered a demand growth of 1.3% in 2013-14 against modest growth of 9.3% in 2012-13. Domestic demand is expected to outpace domestic production.

POLYMER Demand Supply

POLYMERS (KT)	2012-13 A	2013-14 A	2014-15 E	2015-16 E
Capacity	8952	9049	9084	11404
Production	7949	8161	8426	10078
Op Rate (%)	89%	90%	93%	88%
Import	2816	2673	3319	2964
Exports	1073	1061	813	1131
Net Trade	-1743	-1612	-2506	-1833
Demand	9234	9356	10007	11075
Demand Growth %	**9.3%**	**1.3%**	**7.0%**	**10.7%**

Source: Industry Estimates. A: Actual, E: Estimate

ETHYLENE & PROPYLENE Net Availability

ETHYLENE (KT)	2012-13 A	2013-14 A	2014-15 E	2015-16 E
Capacity	3907	3907	3687	7057
Production	3744	3735	3756	6800
Imports	23	49	60	25
Exports	0	0	0	0
Net Availability	**3767**	**3784**	**3816**	**6825**
PROPYLENE (KT)	**2012-13 A**	**2013-14 A**	**2014-15 E**	**2015-16 E**
Capacity	4141	4371	4255	5126
Production	3880	4150	4020	4650
Imports	0	0	0	0
Exports	6	0	10	10
Net Availability	**3880**	**4150**	**4020**	**4650**

Source: Industry Estimates. A: Actual, E: Estimate

Ethylene Capacity increased from 3837 KT in 2010-11 to 3907 KT in 2012-13. It is further going to increase to 3687 KT by 2014-15 and 7057 KT by 2015-16. In 2013-14, production of ethylene and propylene was 3735 KT and 4150 KT respectively as shown in table below. Ethylene Production is expected to see a dip in 2014-15 with respect to slow down in production at Haldia plant. The capacity is however expected to touch 7057 KT with the new capacity lined up by RIL, GAIL BCPL and OPAL and resumed production at Haldia Plant.

POLYOLEFIN Demand in India Actual & Projected

(KT)	Actual		Projected		% Change year on year		
	2012-13A	2013-14A	2014-15E	2015-16E	2013-14A	2014-15E	2015-16E
LDPE+EVA	559	575	649	704	2.9%	12.9%	8.4%
LLDPE	1240	1236	1345	1506	-0.3%	8.8%	12.0%
HDPE	1781	1766	1835	2022	-0.8%	3.9%	10.2%
PP	3142	3253	3515	3827	3.6%	8.0%	8.9%
Total PO	**6721**	**6831**	**7344**	**8059**	**1.6%**	**7.5%**	**9.7%**

Source: Industry Estimates. A: Actual, E: Estimate

All PE registered a negative demand growth of 0.5% in 2013-14. It is expected that PE will see growth in demand to 7% in 2014-15 and again bounce back to clock a double digit growth of 10.7% in 2015-16. PP registered a demand growth of 4% in 2013-14 and growth is expected to witness a slow-down to touch 8% in 2014-15. Polyolefins registered demand growth of 2% in 2013-14. It is expected to improve to 8% in 2014-15 and 9% in 2015-16.

ONGC Petro additions Ltd. (OPaL), a JV among ONGC, Gail, and Gujarat State Petroleum Corp., is building a grassroots petrochemical complex at the Dahej PCPIR. The complex's' ethylene plant will be a dual-feed cracker with capacity for 1.1 million m.t./year of ethylene and 400,000 m.t./year of propylene. The downstream units will include two 360,000- m.t./year Swing PE units capable of producing high-density PE (I-IDPE) and/or LLDPE.

OPaL also is building a 340,000-m.t./year dedicated HOPE plant and a 340,000-m.t/year PP unit. The Dahej project, which has been delayed by several years is expected to go on-stream in 2015.

Meanwhile in Assam State, in the far northeast of the country, Brahmaputra Cracker and Polymer Ltd. (BCPL), 70%.owned by Gail, is building a complex based around a 220,000- m.t./year ethylene and 60,000-m.t.lyear propylene plant. The complex will also produce 226,000 m.t./year of LLDPE-HDPE and 60,000 m.t./year of PP.

Indian Oil is working on a number of investment projects. It broke ground recently on a PP project at Paradip that will be designed co-produce 700,000 m.t./year. The plant, slated to be on-stream in 2017, will more than double Indian Oil's PP capacity. The company currently has 650,000 m.t./year of PP capacity at Panipat, Haryana State. Gail is also doubling ethylene capacity at the company's gas-based petrochemicals complex at Para, Uttar Pradesh State, to 900,000 m.t./year and adding 450,000 m.t./year of LLDPE- HDPE, which will double its capacity for PE.

Vinyl's: PVC

The demand for PVC increased substantially 2012-13 but was subdued in 2013-14 to 2%, however it is expected to gain in 2014-15 to 5.6% and touch a double digit 13.9% by 2015-16.

PVC Demand Supply

PVC (KT)	2012-13 A	2013-14 A	2014-15 E	2015-16 E
Capacity	1345	1402	1402	1482
Production	1201	1293	1263	1381
Imports	1048	1026	1152	1396
Exports	0	0	0	0
Apparent Demand	2263	2309	2438	2777
Demand Growth%	**14.4%**	**2.0%**	**5.6%**	**13.9%**

Source: Industry Estimates. A: Actual, E: Estimate

As the economy is expected to perform well with the easing of monetary policy and various PVC end use sectors performance improving, PVC demand is expected to see a sustained growth in coming years. While 2013-14 witnessed capacity addition of cPVC by DCW Ltd, Reliance Industries too is expected to increase its capacity by debottlenecking at its PVC complex at Dahej and touch a total of 750 KT capacity by 2015-16.

Total capacity in 2013-14 was 1402 KT by adding Chemplast (emulsion grade) and DCW cPVC capacity of 30 KT and 121 KT respectively to 1360 KT which is produced by RIL, Finolex, Chemplast (suspension grade), DCW (suspension grade) and Shriram (suspension grade) which is expected to touch 1482 KT by 2015-16 with RIL adding another 80 KT capacity. PVC imports are expected to increase further to 1396 KT by 2015-16 from 1048 KT in 2012-13.

Thank You.

POLYMER BAZAAR: PETROCHEMICAL PLANT: INDIA

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Petrochemical Plants of India

Company Name	Product	Location	Capacity	Expansion
			*KTPA	
BCPL : Brahmaputra Cracker & Poly.LTD..	Ethylene (C2)	Lepetkata, Assam.	220	
BCPL : Brahmaputra Cracker & Poly.LTD..	H.D.P.E.	Lepetkata, Assam	110	
BCPL : Brahmaputra Cracker & Poly.LTD..	L.L.D.P.E	Lepetkata, Assam	110	
BCPL : Brahmaputra Cracker & Poly.LTD..	P.P.	Lepetkata, Assam	60	
BCPL : Brahmaputra Cracker & Poly.LTD..	Propylene (C3)	Lepetkata, Assam	60	
Bhansali Engineering (BEPL)	P.S.	Ambaji, Gujarat	20	
Bhansali Engineering (BEPL)	A.B.S.	Mount Abu, Rajasthan.	18	18
Bhansali Engineering (BEPL)	S.A.N.	Satnoor,Madhya Pradesh	5	10
Bhansali Engineering (BEPL)	A.B.S.	Satnoor,Madhya Pradesh	25	50
BPCL : Bharat Petroleum Corp.	Benzene	Mahul, Maharashtra.	105	
BPCL : Bharat Petroleum Corp.	Benzene	Kochi	87	
BPCL : Bharat Petroleum Corp.	Propylene (C3)	Mahul,	60	
BPCL : Bharat Petroleum Corp.	Propylene (C3)	Kochi	50	
BPCL : Bharat Petroleum Corp.	Toluene	Kochi	50	
BPCL : Bharat Petroleum Corp.	Toluene	Mahul,Mumbai	23	
BPCL LG Chem	Propylene (C3)	Kochi , Kerala.		500
Chemplast Sanmar Ltd	P.V.C.	Cuddalore ,Tamil Nadu.	170	
Chemplast Sanmar Ltd	P.V.C.	Mettur	65	
Chennai Petroleum Corp Ltd (CPCL)	Propylene (C3)	Manali	90	
DCM Shriram	P.V.C.	Kota	70	
DCW Ltd	P.V.C.	Tuticorin	90	
EI DuPont India Ltd	PA 6 (Polyamide 6)		13	
Ester Industries Ltd	P.E.T.	Khatima	54	

Ester Industries Ltd	P.B.T.	Khatima	14	
FCL Technologies &	P.E.T.	Malanpur	72	
Fert.and Chem. Travancore (FACT)	Caprolactam	Udyogamandal	50	
Finolex Industries Ltd	P.V.C.	Ratnagiri, Maharashtra.	260	
Futura Polyesters Ltd	P.E.T.	Chennai	57	
GAIL-Gas Authority of India Ltd.	Ethylene (C2)	Pata, Utter Pradesh.	500	
GAIL-Gas Authority of India Ltd.	HD / LLDPE swing	Pata, Utter Pradesh.	400	
GAIL-Gas Authority of India Ltd.	H.D.P.E.	Pata, Utter Pradesh.	270	
GAIL-Gas Authority of India Ltd.	HD / LLDPE swing	Pata, Utter Pradesh.	210	
GAIL-Gas Authority of India Ltd.	Ethylene (C2)	Pata, Utter Pradesh.		450
Gujarat FluoroChem.	P.T.F.E.	Noida	6	
Gujarat State Fert.& Chem. Ltd (GSFC)	PA 6 (Polyamide 6)	Vadodara, Gujarat.	30	
Gujarat State Fert.& Chem. Ltd (GSFC)	Caprolactam	Vadodara, Gujarat.	20	
Gujarat State Fert.&Chem. Ltd (GSFC)	Caprolactam	Vadodara, Gujarat.	50	
HFL : Hindustan Fluorocarbons Ltd.	P.T.F.E.	Sangareddi, Andhra Pradesh.	1	
HMEL- HPCL Mittal Energy Ltd.	P.P.	Bathinda, Punjab.	440	
HPL - Haldia Petro. Ltd	Ethylene (C2)	Haldia , West Bengal.	670	
HPL - Haldia Petro. Ltd	HD / LLDPE swing	Haldia , West Bengal.	335	
HPL - Haldia Petro. Ltd	H.D.P.E.	Haldia , West Bengal.	335	
HPL - Haldia Petro. Ltd	P.P.	Haldia , West Bengal.	320	
HPL - Haldia Petro. Ltd	Propylene (C3)	Haldia , West Bengal.	320	
HPL - Haldia Petro. Ltd	Benzene	Haldia , West Bengal.	110	
HPL - Haldia Petro. Ltd	Butadiene (C4)	Haldia , West Bengal.	80	
Indian Glycols	M.E.G.	Uttarakhand	150	
Indo Rama Synthetics(India) Ltd (IRSL)	P.E.T.	Nagpur	55	
Indorama Petrochem	P.T.A	t.b.a.		1,000
Indorama Polymers	P.E.T.	t.b.a.		500
Ineos Styrolution	S.A.N.	Katol	60	
Ineos Styrolution	A.B.S.	Nandesari, Vadodara, Gujarat	50	
Ineos Styrolution	A.B.S.	Katol	25	

Ineos Styrolution	A.B.S.	Moxi,Vadodara,Gujarat	25	
Ineos Styrolution	S.A.N.	Moxi	20	
Ineos Styrolution	S.A.N.	Nandesari	20	
IOCL -Indian Oil. Corp.	Ethylene (C2)	Panipat, Haryana.	857	
IOCL -Indian Oil. Corp.	Propylene (C3)	Panipat, Haryana.	650	
IOCL -Indian Oil. Corp.	P.T.A	Panipat, Haryana.	553	
IOCL -Indian Oil. Corp.	Paraxylene (PX)	Vadodara, Gujarat.	370	
IOCL -Indian Oil. Corp.	Paraxylene (PX)	Panipat, Haryana.	360	
IOCL -Indian Oil. Corp.	HD / LLDPE swing	Panipat, Haryana.	350	
IOCL -Indian Oil. Corp.	H.D.P.E.	Panipat, Haryana.	300	
IOCL -Indian Oil. Corp.	M.E.G.	Panipat, Haryana.	300	
IOCL -Indian Oil. Corp.	P.P.	Panipat, Haryana.	300	
IOCL -Indian Oil. Corp.	P.P.	Panipat, Haryana.	300	
IOCL -Indian Oil. Corp.	Propylene (C3)	Mathura	165	
IOCL -Indian Oil. Corp.	Butadiene (C4)	Panipat, Haryana.	130	
IOCL -Indian Oil. Corp.	Benzene	Panipat, Haryana.	21	
IOCL -Indian Oil. Corp.	Ethylene (C2)	Paradip ,Oddissa		850
IOCL -Indian Oil. Corp.	Phenol	Midnapur,West Bengal.		280
IOCL -Indian Oil. Corp.	P.P.	Paradip ,Oddissa		680
IOCL -Indian Oil. Corp.	Propylene (C3)	Paradip ,Oddissa		200
IOCL -Indian Oil. Corp.	Propylene (C3)	Paradip ,Oddissa		480
JBF Industries	P.E.T.	Sarigam	150	
JBF Industries	P.T.A	Mangalore , Karnataka.		1,250
Kesar Petroproducts Ltd	Bisphenol A	Lote Parshuram,Maharastra	8	
LGPI : LG Polymers India.	P.S.		80	
LGPI : LG Polymers India.	E.P.S	Vishakhapatnam	17	
MCC PTA India Corp Pvt.Ltd. (MCPI)	P.T.A	Haldia , West Bengal.	800	
MCC PTA India Corp Pvt.Ltd. (MCPI)	P.T.A	Haldia , West Bengal.	470	
Mikro PolyPet Pvt Ltd	P.E.T.	Midnapur,West Bengal.	480	
Mikro PolyPet Pvt Ltd	P.E.T.	Panipat, Haryana.	216	
MPRL -Mangalore Refinery & Petro.Ltd.	Paraxylene (PX)	Mangalore , Karnataka.	920	
MPRL -Mangalore Refinery & Petro.Ltd.	Propylene (C3)	Mangalore , Karnataka.	454	
MPRL -Mangalore Refinery & Petro.Ltd.	P.P.	Mangalore , Karnataka.	440	
MPRL -Mangalore Refinery & Petro.Ltd.	Benzene	Mangalore , Karnataka.	300	
Narmada Chematur	T.D.I.	Bharuch, Gujarat.	18	
Narmada Chematur Petrochemical	T.D.I.	Dahej , Gujarat.	50	
OCFL: Oswal Chem. & Fertiliser Ltd.	Ethylene (C2)	Shahjahanpur	15	
OCFL: Oswal Chem. & Fertiliser Ltd.	L.D.P.E.	Shahjahanpur	14	

OPal : ONGC Petro additions Ltd.	Benzene	Dahej , Gujarat.		270
OPal : ONGC Petro additions Ltd.	Butadiene (C4)	Dahej , Gujarat.		96
OPal : ONGC Petro additions Ltd.	Ethylene (C2)	Dahej , Gujarat.		1,100
OPal : ONGC Petro additions Ltd.	HD / LLDPE swing	Dahej , Gujarat.		360
OPal : ONGC Petro additions Ltd.	HD / LLDPE swing	Dahej , Gujarat.		360
OPal : ONGC Petro additions Ltd.	P.P.	Dahej , Gujarat.		340
OPal : ONGC Petro additions Ltd.	Propylene (C3)	Dahej , Gujarat.		400
Poly.LTD. (BEPL)		Sirohi		
Polyplex Corp Products Ltd	P.E.T.	Bazpur	58	
Polyplex Corp Products Ltd	P.E.T.	Khaital	20	
Rajashree Polyfil Ltd	P.E.T.	Bharuch, Gujarat.	66	
Rallis India Ltd	PEKK	Ankleshwar, Gujarat.		
RIL-Reliance Ind. Ltd.	Propylene (C3)	Jamnagar , Gujarat.	1,950	
RIL-Reliance Ind. Ltd.	Paraxylene (PX)	Jamnagar , Gujarat.	1,700	
RIL-Reliance Ind. Ltd.	P.T.A	Dahej , Gujarat.	1,150	
RIL-Reliance Ind. Ltd.	P.T.A	Dahej , Gujarat.	1,150	
RIL-Reliance Ind. Ltd.	Ethylene (C2)	Hazira , Gujarat.	825	
RIL-Reliance Ind. Ltd.	P.P.	Jamnagar , Gujarat.	770	
RIL-Reliance Ind. Ltd.	P.T.A	Hazira , Gujarat.	650	
RIL-Reliance Ind. Ltd.	Benzene	Jamnagar , Gujarat.	520	
RIL-Reliance Ind. Ltd.	P.T.A	Hazira , Gujarat.	510	
RIL-Reliance Ind. Ltd.	P.T.A	Hazira , Gujarat.	510	
RIL-Reliance Ind. Ltd.	P.P.	Jamnagar , Gujarat.	450	
RIL-Reliance Ind. Ltd.	P.P.	Jamnagar , Gujarat.	450	
RIL-Reliance Ind. Ltd.	P.P.	Hazira , Gujarat.	430	
RIL-Reliance Ind. Ltd.	P.T.A	Patalganga, Maharashtra.	375	
RIL-Reliance Ind. Ltd.	Propylene (C3)	Hazira , Gujarat.	365	
RIL-Reliance Ind. Ltd.	P.E.T.	Dahej , Gujarat.	325	
RIL-Reliance Ind. Ltd.	P.E.T.	Dahej , Gujarat.	325	
RIL-Reliance Ind. Ltd.	P.V.C.	Hazira , Gujarat.	325	
RIL-Reliance Ind. Ltd.	P.P.	Jamnagar , Gujarat.	280	
RIL-Reliance Ind. Ltd.	Paraxylene (PX)	Patalganga, Maharashtra.	245	
RIL-Reliance Ind. Ltd.	L.L.D.P.E	Hazira , Gujarat.	220	
RIL-Reliance Ind. Ltd.	L.L.D.P.E	Hazira , Gujarat.	220	
RIL-Reliance Ind. Ltd.	P.E.T.	Hazira , Gujarat.	220	
RIL-Reliance Ind. Ltd.	Butadiene (C4)	Hazira , Gujarat.	140	
RIL-Reliance Ind. Ltd.	P.E.T.	Hazira , Gujarat.	80	
RIL-Reliance Ind. Ltd.	Benzene	Jamnagar , Gujarat.		500
RIL-Reliance Ind. Ltd.	Ethylene (C2)	Jamnagar , Gujarat.		1,500
RIL-Reliance Ind. Ltd.	HD / LLDPE swing	Jamnagar , Gujarat.		500
RIL-Reliance Ind. Ltd.	LDPE / EVA Swing	Jamnagar , Gujarat.		400
RIL-Reliance Ind. Ltd.	M.E.G.	Jamnagar , Gujarat.		700
RIL-Reliance Ind. Ltd.	Paraxylene (PX)	Jamnagar , Gujarat.		1,500
RIL-Reliance Ind. Ltd.	P.E.T.	Dahej , Gujarat.		540
RIL-Reliance Ind. Ltd.	P.P.	Jamnagar , Gujarat.		200
RIL-Reliance Ind. Ltd.	Propylene (C3)	Jamnagar , Gujarat.		200
RIL-Reliance Ind. Ltd.	P.T.A	Dahej , Gujarat.		1,150
RPIL-Reliance Petroinvestments Ltd.	Ethylene (C2)	Nagothane, Maharashtra.	400	

RPIL-Reliance Petroinvestments Ltd.	P.V.C.	Dahej , Gujarat.	345	
RPIL-Reliance Petroinvestments Ltd.	Ethylene (C2)	Dahej , Gujarat.	300	
RPIL-Reliance Petroinvestments Ltd.	HD / LLDPE swing	Nagothane, Maharashtra.	220	
RPIL-Reliance Petroinvestments Ltd.	H.D.P.E.	Dahej , Gujarat.	160	
RPIL-Reliance Petroinvestments Ltd.	Ethylene (C2)	Vadodara, Gujarat.	155	
RPIL-Reliance Petroinvestments Ltd.	P.P.	Nagothane, Maharashtra.	150	
RPIL-Reliance Petroinvestments Ltd.	Propylene (C3)	Vadodara, Gujarat.	110	
RPIL-Reliance Petroinvestments Ltd.	L.D.P.E.	Nagothane, Maharashtra.	80	
RPIL-Reliance Petroinvestments Ltd.	L.D.P.E.	Vadodara, Gujarat.	80	
RPIL-Reliance Petroinvestments Ltd.	P.P.	Vadodara, Gujarat.	75	
RPIL-Reliance Petroinvestments Ltd.	Propylene (C3)	Nagothane, Maharashtra.	63	
RPIL-Reliance Petroinvestments Ltd.	P.V.C.	Vadodara, Gujarat.	60	
RPIL-Reliance Petroinvestments Ltd.	Benzene	Vadodara, Gujarat.	55	
RPIL-Reliance Petroinvestments Ltd.	Butadiene (C4)	Vadodara, Gujarat.	55	
RPIL-Reliance Petroinvestments Ltd.	M.E.G.	Nagothane, Maharashtra.	50	
RPIL-Reliance Petroinvestments Ltd.	Paraxylene (PX)	Vadodara, Gujarat.	50	
RPIL-Reliance Petroinvestments Ltd.	Propylene (C3)	Dahej , Gujarat.	38	
RPIL-Reliance Petroinvestments Ltd.	P.P.	Vadodara, Gujarat.	25	
Solvay Advanced	PSU/PES/PPSU	Panoli,Gujarat	3	
Solvay Advanced	P.E.E.K.,	Panoli,Gujarat	1	
SPL - Supreme Petrochem Ltd	P.S.	Nagothane, Maharashtra.	272	
SPL - Supreme Petrochem Ltd	E.P.S	Manali	28	
SPL - Supreme Petrochem Ltd	E.P.S	Nagothane, Maharashtra.	24	
SPL - Supreme Petrochem Ltd	E.P.S	Nagothane, Maharashtra.	20	
Styrolution India Pvt Ltd	P.S.	Dahej , Gujarat.	45	
Styrolution India Pvt Ltd	P.S.	Dahej , Gujarat.	45	
Vishak Refinery	Propylene (C3)	Vishakhapatnam,A.Pradesh	50	
Total			**32,883**	**16,384**

*KTPA: Kilo Tonne Per Annum

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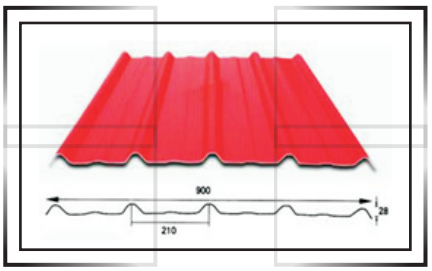
PVC and Wood + PVC foamed board making to replace plywood as above Evergreen demand for the boards and so plywood is to be replaced with this.

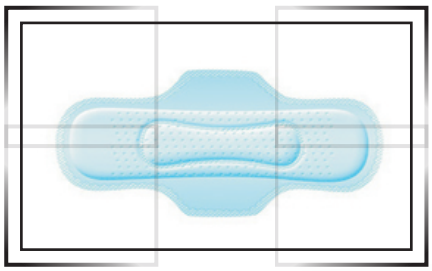
Marble look alike board and profiles as below.uPVC roofing

Sheets Making

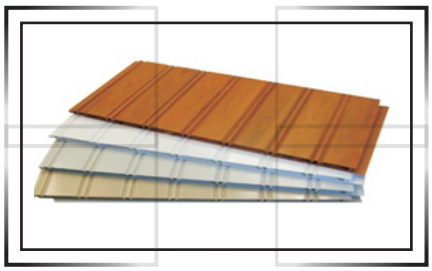


Polymer Pencil

Sanitary Napkin Making



PVC Wall & Ceiling



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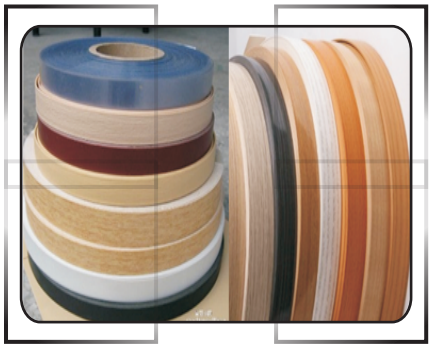
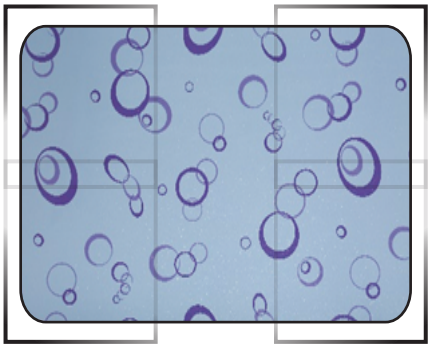
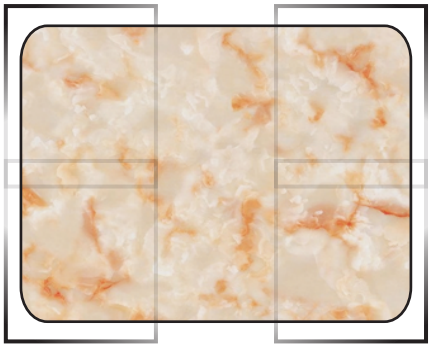
PVC Edge Bend / PVC laminate making: Investment in Machinery Rs. 1.736 Cr. Nest Business HIGH returns. Huge Market to replace Traditional Laminates

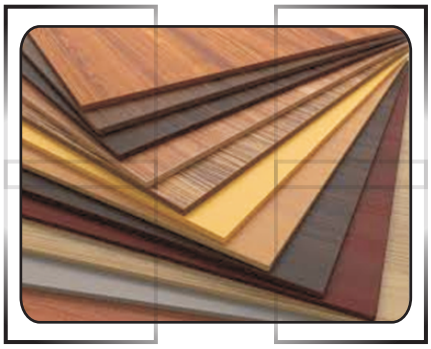
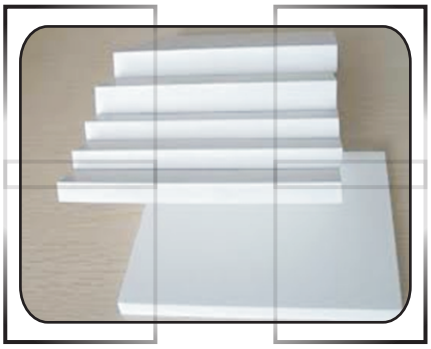
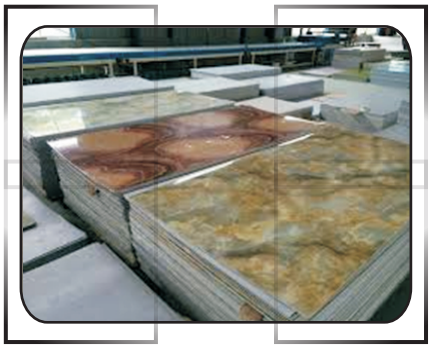




Marble Look-alike Board and profile making: Investment in the Machinery Rs. 2.75 Cr Complete with UV Line





PVC Foamed Boards and WOOD + plastic Boards Investment in Machinery Rs 1.88 Cr. Three layered board making with best Lamination plant also to make film laminated boards of 1 and 3 layers both.

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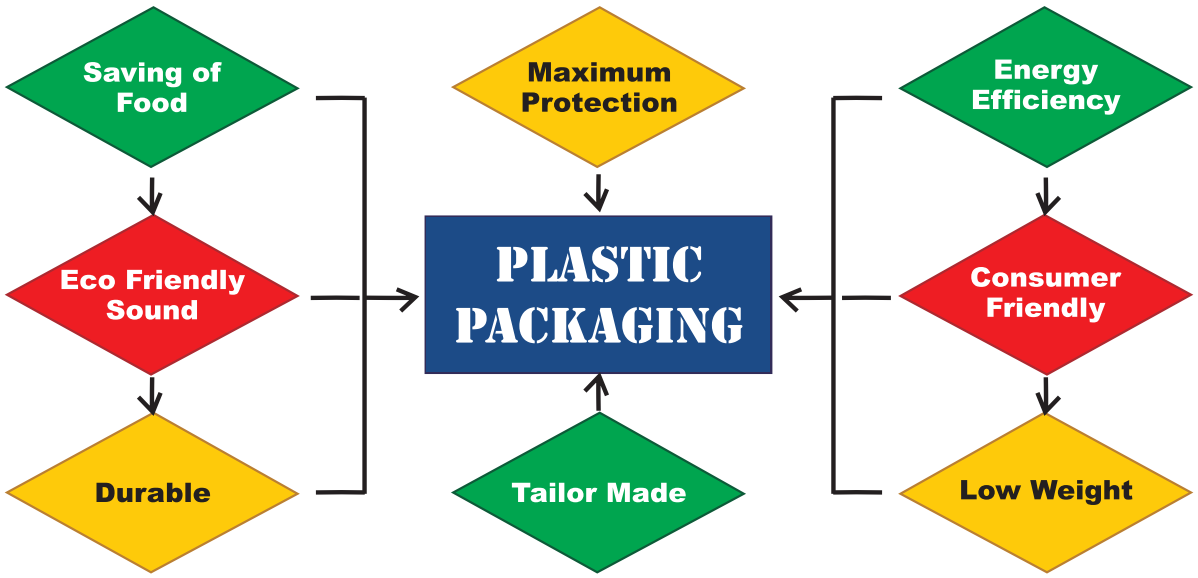
Dominating Factors of Plastics Packaging for a Global Market Penetration



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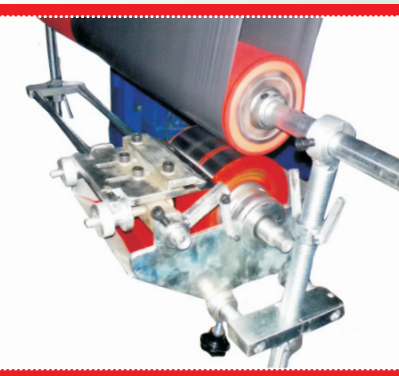

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TCI VC 15 TCI VC 30 TCI VC 60

Vacuum Cleaner

Model	TCI VC 15	TCI VC 30	TCI VC 60 (2 & 3)
Capacity	15Ltr	30 Ltr	60 Ltr
Power	1100 W	1100 W	2200 W - 3300 W
Voltage	220V-240V	220V-240V	220V-240V
Height	55cm	76cm	90cm
Tank Diameter	345mm	345mm	440mm
Mode of Cooling	Circulation air cooling		
Air Flow Rate	48 L/S	53 L/S	105 L/S
Vaccum Suction	210 mbar	230 mbar	250 mbar
Length of the Cable	7 Mtr.	7 Mtr.	8 Mtr.
House Diameter	36 mm	40 mm	40 mm
Packing	43x43x61 cm	43x43x81 cm	63.5x56x99cm

Soap Dispenser

Urinal Screen

Scrubber Dryer

Scrubber Dryer Specification

Voltage / Frequency	220-230 V / 50 Hz
Water Sucker	770 mm
Brush Diameter	455 mm
Rolling Brush Motor	220-240V / 1100W
Water Sucking Motor	220-230V / 1000W
Brush Rotating Speed	148 rpm
Cleaning Width	455 mm
Brush Pressures	30 Kg
Clean Water Tank capacity	28 Ltr
Dirty Water Tank Capacity	32 Ltr
cleaning Rate	1820m2/h
Cable	18m
Weight	75 Kg
Size	1060x650x1025 mm

Wet Mop Set

Caution Board

Manual Sweeper

Manual Sweeper Specification

Model	TCI FS 600
Hopper Capacity	40 Ltr.
Area Coverage	2600 Sq. Mtr. / Hour
Sweeping width with Main Brush	500 mm
Sweeping width with Main Brush	500 mm
Weight	27 Kg.
Dimension	30 x 29 x 17 Inch
Color	Yellow

Double Bucket Wringer Trolley with Caddy

Glass Cleaning Kit

Single Disc

Single Disc Specification

Model	SD 1100	SD 1500
Power	1100 W	1500 W
Voltage	220V	220V
Speed	154 rpm	154 rpm
Main Cable Length	12 mtr	12 mtr
Base Plate Diameter	17 inch	17 inch
Weight	48 Kg.	68 Kg.
Accessories	Main Bdy Handle Water Tank, Pad Holder, Hard Brush, Soft Brush	Main Body Handle Water Tank, Weighting Iron, Pad Holder, Hard Brush, Soft Brush

Scissor Mop Set for Large Area Clear

Hand Dryer

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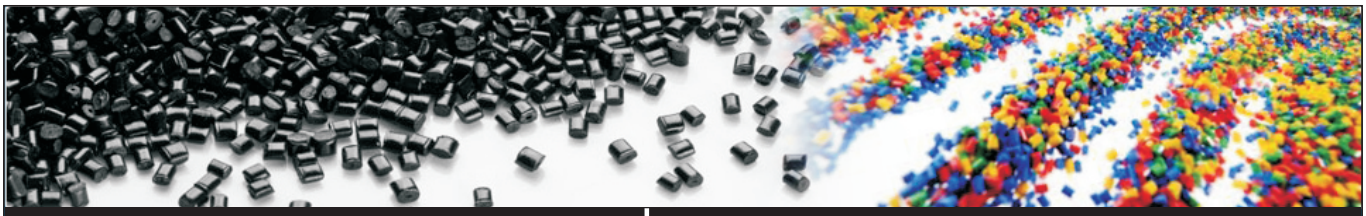

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