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PLASTISCOPE

The Official Journal of the Organization of Plastics Processors of India

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FROM THE PRESIDENT's DESK

Mr. Mahendra Sanghvi

OPP

CONTENTS

Dear Members,

Greetings form Organization of Plastics Processors of India!

The Pandemic is receding in most parts of the country and the Industrial activity has picked up to Pre – Covid levels. Most of the Plastic Processors and Plastic Processing Machinery Manufacturers have reported good order book.

K–2022 is just 2 months away. There will be 3000 exhibitors from about 60 countries, representing the "Who's Who" of the Global Plastics Industry fully occupying over some 175,000 m2 of net exhibition space. The key topics of the K–2022 are: Circular Economy, Climate Protection and Digitalization. I hope you have booked for K–2022 through OPPI Secretariat.

As you are aware Ministry of Environment, Forest and Climate Change issued a Notification dated 12th August 2021 which mandated banning of identified SUP items and prescribed minimum thickness of carry bag with effect from 1st July 2022. In case, you are following the Notification dated August 2021 but are still facing problems with State Pollution Control Board/ Urban Development Department kindly informs us. We will compile all such issues and take up the same with Central Pollution Control Board and local authorities.

OPPI Secretariat will be organizing the following Webinars:

Title & Name of the Speaker of the Webinar	Topics to be covered	Date
Digitization of The Export Business – Trade Emerge Mr. Sanjay Sharma, AGM ICICI Bank	a) Digitization of the export life cycle from regulations, licencing, finding buyers, verification of buyers, logistics partners, banking & insurance services on single platform. b) Digitization of all trade transactions through Super Application	Friday 16th September 2022
Understanding Letter of Credit & Online Bank Guarantee Issuance and LCBD Mr. Krishnendu Das, Subject Matter Expert, Export Trade Group, ICICI Bank	a) What is LC and its need, Flow of LC in trade, Types of LCs, Advantage of Bank LC b) UCP Articles on LC c) Live interaction and Q & A session on LC	Thursday 6th October 2022

Seminar on - "Crucial Role of Maintenance in Plastics Processing Industry" is scheduled on 29th September 2022 at The Club Mumbai.

I am certain that you will find these Webinars and Seminars highly educative.

With Best Wishes,

Mahendra Sanghvi,
President

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OPP
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Seminar on -"Crucial Role of Maintenance in Plastic Processing Industry"
On Thursday 29th September 2022 at the Colonial Hall, The Club Mumbai, 197 D.N Nagar, Andheri (West), Mumbai 400053

Seminar Objectives:-

- Practices to achieve Zero breakdown
- Maintenance Cost Reduction
- Good Maintenance practices
- Reduction in servicing cost for Machinery Manufacturers
- Factors to be considered by designers of Processing Machines.

Participants shall include:-

Plant Heads, Design Engineers of Machinery; Operations and Maintenance In-Charge; Maintenance Engineers, Production Heads.

Participation Fees:

- Fees per participant: - Rs. 3000/- + GST @ 18%.
- Registration fee includes training documentation, lunch, tea/ coffee during the training.
- Payment is required with registration.

Group Registration:-

- 15% discount to OPPI and Members of the Partner Associations.
- If 3 or more delegates register from the same company, 10% discount will be applied.
- If 5 delegates register from the same company, 6th delegate registration is FREE.

PLEASE EMAIL TO secretarygeneral@oppindia.org;

Please Contact:-

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CALENDAR FOR 2022- 2023

Organization of Plastics Processors of India

Vietnam Print Pack 2022
21st to 24th September 2022
Saigon Exhibition Center, Vietnam

Vietnam Plas 2022
23rd to 26th November 2022
Saigon Exhibition Center, Vietnam

Myanmar PlasPrintPack 2022
9th to12th December 2022Yangon Convention Center (YCC) Myanmar

IPF Bangladesh 2023
22nd to 25th February 2023
International Convention City Bashundhara

OMAN PLAST 2023
29th to 31st May 2023
Oman Convention & Exhibition Center

Hanoi Plas 2023
8th to11th June 2023
ICE, HANOI VIETNAM

Contact:Deepak Lawale, Secretary General,
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E-mail secretarygeneral@oppindia.org; Website: www.oppindia.org

Coming up next is **K 2022 – International Trade Fair on Plastics and Rubber** - to be held in Messe Düsseldorf GmbH, Germany from **19th – 26th October 2022.**
In K 2022 it will once again be the most prestigious event on the industry's calendar and the starting point for decisions that shape future products, processes and solutions.

Organization of Plastic Processors of India has tied up with Tibro Tours Pvt. Ltd. for K 2022 packages. All Companies booking Tibro Packages for K 2022 through Organization of Plastic Processors of India will be eligible for discount.
Please find attached herewith Tibro's Standard Launched packages based on hotel options.
Kindly write to us to secure your travel arrangements on confirmed basis.

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ADVERTISEMENT IN OPPI DIRECTORY 2023

With the fast changing business environment and the growing competitive world, it becomes important for all those connected with the Plastics Industry to increase the visibility of their activities.

Organization of Plastics Processors of India will be publishing Membership Directory 2023. The directory will be distributed to all OPPI members, Plastic Associations in India, Major Chambers of Commerce and Industry/Industry Associations in India and abroad, Trade Promotion Organizations, Financial Institutions and Diplomatic Missions.

Unique features associated with OPPI Directory 2023:-

- OPPI Directory distributed in all International exhibitions promoted by OPPI. Advertisers get noticed by the importers in various countries.
- Advertisement in OPPI Directory gives wide publicity to products and services of advertising company.
- MNCs setting shop in India refer to OPPI Directory for outsourcing their requirement of plastic products from India.
- Multi-national Retail Chains refer to OPPI Directory for outsourcing their requirements of plastics based goods; flexible packaging material etc.

Advertisement tariff, mechanical data pertaining to printing of the advertisements, terms and conditions and advertisement booking form are attached herewith.

Please fill up the advertisement booking form attached herewith and email its scanned copy to secretarygeneral@oppindia.org

Please fill up the Registration Form attached herewith and send to:-

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ORGANIZATION OF PLASTICS PROCESSORS OF INDIA

OPPI DIRECTORY – 2023

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Sr. No.	Position	Indian Companies (Rs.)	Overseas Companies (US $)
(II)	**REGULAR PAGES**		
1	Full Page Coloured	Rs.18,000/-	US$ 400
2	Full Page B/W	Rs.12,000/-	US$ 250
3	Book Marks (4. Nos.)	Rs. 30,000/-	US $ 1000
4	Multi-Coloured Wrapper Strip (44 cms. length X 10 cms. Width	Rs. 20,000/-	US$ 640

GST @ 18% will be applicable

GST Registration No. 27AAATO0364M1ZD

Mechanical Data

PRINT AREA
Overall Size : 205 mm. (width) X 280 mm. (height)
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CD ROM HTML Format

For The Front Cover Only
Print Area:-205 mm. (width) X 235 mm. (height)

TERMS & CONDITIONS

1. Artwork for the advertisement should be in JPG/ Coral Draw/ Pdf format.
2. Art work should be sent to "Organization of Plastics Processors of India" at the earliest.
3. Advertisement charges once paid will not be refunded.
4. "Organization of Plastics Processors of India" reserves the right to accept or reject the advertisement.
5. All Government taxes as applicable are chargeable extra.
6. Advertisers in the Directory may please note that the advertisement can be incorporated in the CD Directory also, provided we get the matter on HTML FORMAT, or any other "Window Picture". Size of advertisement will be restricted to the size of the advertisement given in the paper Edition of directory.
7. The payment for Advertisement can be made directly in our Bank Account.
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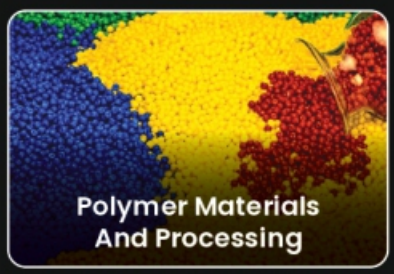

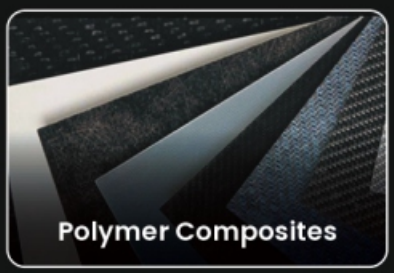

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INDIAN PLASTICS

INDUSTRY NEWS

RELIANCE INDUSTRIES LIMITED - CONSOLIDATED RESULTS FOR QUARTER ENDED 30TH JUNE, 2022

- ROBUST OPERATING AND FINANCIAL PERFORMANCE ACROSS ALL BUSINESSES
- RECORD QUARTERLY CONSOLIDATED EBITDA AT ₹ 40,179 CRORE ($ 5.1 BILLION), UP 45.8% Y-O-Y
- CONSOLIDATED PROFIT AFTER TAX AT ₹ 19,443 CRORE ($ 2.5 BILLION), UP 40.8% Y-O-Y
- HIGHEST EVER QUARTERLY REVENUE FOR O2C BUSINESS IN A VOLATILE ENVIRONMENT
- BEST EVER QUARTERLY REVENUE FOR RELIANCE RETAIL AT ₹ 58,554 CRORE ($ 7.4 BILLION), UP 51.9% Y-O-Y
- BEST EVER QUARTERLY REVENUE FOR JIO PLATFORMS AT ₹ 27,527 CRORE ($ 3.5 BILLION), UP 23.6% Y-O-Y

RESULTS AT A GLANCE (1Q FY23 COMPARED WITH 1Q FY22)

STANDALONE - RIL

- Gross Revenue for the quarter was ₹ 157,716 crore ($ 20.0 billion), higher by 66.4%
- EBITDA for the quarter was ₹24,539 crore ($ 3.1 billion), higher by 63.1%
- Net Profit for the quarter was ₹15,096 crore ($ 1.9 billion), higher by 75.6%
- Cash Profit for the quarter was ₹ 18,470 crore ($ 2.3 billion), higher by 69.4%
- Exports for the quarter were ₹ 96,212 crore ($ 12.2 billion), higher by 71.3%

Commenting on the results, Mr. Mukesh D. Ambani, Chairman and Managing Director, Reliance Industries Limited said: "Geopolitical conflict has caused significant dislocation in energy markets and disrupted traditional trade flows. This along with resurgent demand has resulted in tighter fuel markets and improved product margins. Despite significant challenges posed by the tight crude markets and higher energy and freight costs, O2C business has delivered its best performance ever.

Polymers

- Domestic polymer demand improved during the quarter with increased economic activities. During 1QFY23, Polymer demand improved by 9% Y-o-Y and was 8% above pre - COVID level with domestic markets witnessing healthy demand from sectors like agriculture, consumer durables, automotive, ecommerce food packaging and infrastructure.
- PE margin averaged $ 415/MT during 1Q FY23 as against $ 325/MT in 4Q FY22 and $ 508/MT in 1Q FY22. Sharp increase in Naphtha prices impacted delta on Y-o-Y basis. Naphtha prices averaged $ 827/MT in 1Q Fy23, up 39% Y-o-Y.
- PP margin averaged $ 421/MT during 1Q FY23 as against $ 412/MT in 4Q FY22 and $ 652/MT in 1QFY22. Higher feedstock prices impacted margin on Y-o-Y basis.

- PVC margin averaged $ 576/ MT in 1Q FY23 as against $ 450/MT in 4Q FY22 and $ 689/ MT in 1Q FY22. Y-o-Y decline in margin was led by reduction in PVC price and sharp increase in naphtha price

CPCB Undertakes Measures to Implement the Single Use Plastic Ban

CPCB has undertaken comprehensive measures to give effect to India's commitment to ban identified Single Use Plastic items from 1st July 2022, to realise Hon'ble PM's clarion call to phase out SUP.CPCB's multi-pronged approach as part of its Comprehensive Action Plan encompasses measures to reduce supply of raw materials, demand side measures to reduce plastic demand, enabling measures to promote alternatives to SUP, digital interventions for efficient monitoring and to create awareness, and guidance to State Boards for effective implementation of directions.

As per the Plastic Waste Management (PWM) Rules, 2016, there is a complete ban on sachets using plastic material used for storing, packing or selling gutkha, tobacco and pan masala. As per PWM (Amended) Rules, 2021, the manufacture, import, stocking, distribution, sale and use of carry bags made of virgin or recycled plastic less than seventy - five microns has been banned with effect from 30th September, 2021 as opposed to fifty microns recommended earlier under PWM Rules, 2016. Additionally, the notification of 12th August 2021, prohibits manufacture, import, stocking, distribution, sale and use of the following identified single use plastic items, which have low utility and high littering potential with effect from the 1st July, 2022:

I. ear buds with plastic sticks, plastic sticks for balloons, plastic flags, candy sticks, ice-cream sticks, polystyrene [Thermocol] for decoration.

ii. plates, cups, glasses, cutlery such as forks, spoons, knives, straw, trays, wrapping or packing films around sweet boxes, invitation cards, and cigarette packets, plastic or PVC banners less than 100 microns, stirrers

To curb the supply of identified items, directions have been issued at national, state and local level. For example, all leading petrochemical industries to not supply plastic raw materials to the industries engaged in banned SUP production. Additionally, directions have been issued to SPCB/PCCs to modify / revoke Consent to operate issued under Air/Water Act to industries engaged in banned SUP production. Customs Authority have been asked to stop the import of banned SUP items. To complete the loop, Local Authorities have been being directed to issue fresh commercial licenses with the condition that SUP items shall not be sold on their premises and the existing commercial licenses shall be cancelled, if entities are found to be selling banned SUP items.

As an alternative to the existing supply, enabling measures for promoting alternative to SUP are being actively pursued. CPCB has already issued one - time certificates to around 200 manufacturers of compostable plastic. These certificates do not require renewal which is in line with ease - of doing business policy of the Government. Further, an online portal has been developed to facilitate certification of these manufacturers. To support the MSMEs, CPCB in association with CIPET is organizing Workshops for MSMEs across the country to transition to alternatives to SUP. Three such Workshops have been held at Ranchi, Guwahati & Madurai. Development of alternatives to petro based plastics is also being pursued in collaboration leading technical institutions like IISc and CIPET.

On the demand side, directions have been issued to E-commerce companies, leading single use plastic sellers/users, and plastic raw material manufacturers with respect to phasing out of identified single use plastic items. To encourage citizens to partake in the efforts, SPCB's and local bodies are organizing large scale awareness drives with participation of all citizens – students, voluntary organizations, self - help groups, local NGOs/ CSOs, RWAs, market associations, corporate entities, etc. Previously, CPCB conducted surprise inspections of Gutkha / Pan Masala manufacturing industries across the country to check usage of plastic in packaging of their product.

To create an enabling support system, CPCB is handholding the State Boards to operationalize the advisories issued by conducting meetings so that all the Urban local bodies in the respective

states are able to effectively implement the guidelines with their help. Regional Workshops with SPCBs/PCCs in addition to a Central Workshop with Chairpersons of all SPCBs/PCCs is being organised in June 2022.

Finally, multiple digital interventions have been made to increase efficiency at scale. To enable citizen participation, an SUP Public Grievance App was launched by Hon'ble Minister EF&CC, Shri Bhupender Yadav. The app has geotagging features with facility to track complaints. An SUP Compliance Monitoring Portal for filing of Reports by State / UT Authorities in compliance with Comprehensive Directions issued by CPCB for a bird's eye view of progress and day - to - day monitoring.

CPCB is committed to facilitating the Single Use Plastic Ban of notified items through active collaboration with key stakeholders.

Cosmo Films Announces New Name — 'Cosmo First'

Cosmo Films, a global leader in films for packaging, labeling, lamination and synthetic paper and an emerging player in specialty chemicals, polymers, and pet care has declared its financial results for the quarter ended March 2022.

The Q4FY22 EBITDA has increased by 31% on the back of higher specialty sales, better-operating margins, and an uptick in performance by subsidiaries. Enhanced EBITDA together with a lower effective tax rate led to increasing in PAT by 45%.

Considering that the company's business activities have expanded beyond films into specialty chemicals (masterbatches, coatings, textile chemicals, and soon-to-launch adhesives), D2C pet care, and soon - to - launch films for consumer applications, the board of directors of the company at its meeting held on 9 May 2022 have recommended change in the name of the company from Cosmo Films Limited to Cosmo First Limited, subject to the approval of its shareholders. Cosmo First Limited stands for a four-decade young Indian business conglomerate that thrives on innovation to unlock value in diverse sunrise sectors such as films, consumer care, specialty chemicals, and D2C pet care (under Zigly brand)

The board of directors of the company has also recommended for approval by shareholders, a bonus issue of 1 equity share of Rs 10 each for every 2 equity shares of Rs 10 each held by shareholders of the company as on the record date. The bonus issue reflects management's confidence in the company's business strategy and growth prospects.

Mr. Pankaj Poddar, group CEO, Cosmo Films said "All through our journey, we have prided ourselves in our ability to provide industry - first niche solutions in the areas of packaging, lamination, industrial and labeling applications. We have made inspired diversifications into specialty chemicals, consumer care, and D2C retail, aiming to be a pioneer in previously fragmented industries. In coming years, the company's growth will be driven by films division (specialized polyester line, largest CPP and BOPP line) as well as growth into consumer care, specialty chemicals, and pet care business."

Cosmo Films Appoints Justin Glass as President for North American Operations

Cosmo Films has appointed Mr. Justin Glass as President for their business operations across North America. In his new role, Justin will be responsible for devising growth strategies and expanding business in the North American region for the organization. In this new role, Mr. Justin Glass will report to Mr. Kulbhushan Malik, senior vice president and head of International Operations, Cosmo Films.

A seasoned business leader with over 25 years of experience, Justin comes to Cosmo Films with diverse experience and expertise in plastics and packaging industry. Justin started his career in plastic industry as a Process Engineer for Bi-axially oriented polypropylene (BOPP) tape films in the extrusion & coating functions and moved on to various technical functions across several primary polymer markets.

Justin holds 15 years of expertise in handling commercial and finance related business strategies and planned execution for large multinational packaging manufacturers serving the food, consumer packaging, pharmaceutical and medical packaging verticals. In his past tenures, he has been associated with DS Smith as director Commercial Operations; Klöckner Pentaplast as commercial director Americas – Food & Consumer packaging; and other organizations.

PLASTIC PRODUCTS

ALPLA and Henkel Have Set another Milestone Together in Relation to Sustainable Packaging

ALPLA and Henkel have set another milestone together in relation to sustainable packaging. The bottle bodies produced in Germany for the dishwashing detergent Pril will now be produced from 50 per cent recycled material from yellow bag waste. Recycled beverage bottles are to be used for the remaining part, so the bottle bodies will consist of 100 per cent recycled PET.

Pril bottle bodies consist of 100 percent PET recyclate (rPET), 50 percent of which comes from the yellow bag. Photo credit: Henkel

Yellow bag waste is becoming increasingly important as a source of materials for sustainable packaging concepts in order to promote a closed-circle economy. However, the recycling rate of packaging materials collected via the dual system in Germany is still low. This is in part due to complexity of the sorting process and the reprocessing of this material. 'Packaging materials collected through yellow bag waste are significantly more diverse in nature than returnable bottles and are often very contaminated,' says Carsten Bertram, Head of International Packaging Development Dishwashing at Henkel. 'For a long time, high - quality recyclate from yellow bag waste was therefore not available in sufficient quantity. However, the collaboration with ALPLA is an important step forward.'

ALPLA has been cooperating with Henkel on innovative and sustainable packaging solutions for a number of years and has been continuously expanding its sorting and recycling technologies. At the beginning of last year, Henkel introduced packaging made from recycled material sourced from yellow bag waste for some of its products. Now, Henkel has switched all of its packaging for dishwashing detergent produced in Germany to premium PET recyclate (rPET) sourced from yellow bag waste. In the future, the volume of recycled material originating from yellow bag waste will be further increased. Henkel also plans to switch its packaging for other consumer products.

The project is another step on the way to a circular economy, which both companies are working towards through ambitious targets. ALPLA has set itself the goal of using 25 per cent recycled material in the total processed material in its products by 2025. Furthermore, all packaging solutions are to be fully recyclable by this time. ALPLA is investing at least €50 million per year to achieve this. Henkel is also aiming to make all of its packaging fully recyclable or reusable* by 2025. In addition, Henkel aims to reduce the volume of new plastics from fossil sources in its product packaging by 50 per cent, while increasing the volume of recycled material to over 30 per cent.

Berry Global Launches Nova Range of Hot Fill Sauce Bottles

US - based plastic packaging manufacturer Berry Global has launched a range of user - friendly hot fill sauce bottles. The Nova bottles are made

from clear polypropylene (PP) and manufactured with co-extrusion blow moulding technology. The bottles are designed to be suitable for both top-down and upright use.

In addition, Berry Global is supplying 38 / 400 flip - top closures in valved and valveless options to provide a complete pack solution. The Nova bottle is developed using PP/EVOH/PP to extend ambient shelf life for a wide range of sauce products.

The packaging comes with a modern curved design and large labelling space designed to offer high - impact product branding and easy handling. It also features a multilayer structure to improve product protection, while the top - down design and easy squeezability are intended to improve product evacuation, thereby reducing product waste.

The bottles are available in 250ml and 500ml sizes and can be used for both cold and hot filling at temperatures of up to 95°C. In addition to offering improved on - shelf appearance and consumer convenience, the bottles are intended to improve sustainability as they can be recycled in domestic recycling schemes.

The Nova bottles are now available worldwide. Berry Global Corby facility area sales manager Caroline Smith said: "These bottles offer an eye - catching shape and are also very tactile, which I believe will give them significant shelf appeal.

"It has been a joy to be involved in their development." Last month, Berry Global partnered with fast food chain Taco Bell to launch a 30oz cup featuring mechanically recycled post-consumer resin (PCR) and 10% recycled high - density polyethylene (HDPE).

The transparent, all - plastic cup is due to be trialled across Taco Bell's US restaurants later this year. By using the cup to replace virgin plastic cups and lid sets, the restaurant chain aims to divert waste from landfill and incineration while reducing its carbon footprint.

New Tower Flip - Top Closure Brings Cleanliness to the Chili Sauce Market

Aptar Food + Beverage is proud to introduce Tower, a dispensing solution designed to increase package cleanliness and improve the consumer experience.

From a packaging standpoint, one common consumer pain point that Aptar noticed through independent consumer studies, is a lack of package cleanliness throughout the product's life. With today's standard packaging formats, it is common for product to collect overtime on the closure deck resulting in a "crusty" appearance. This leaves consumers with an unpleasant visual and concerns with hygiene when continuing to use the product.

To combat this consumer challenge, Aptar Food + Beverage is delighted to introduce Tower. Unlike traditional twist - to - open closures used in this format today, Tower leverages a flip-top design. This allows consumers to open the cap without having to touch or view any leftover product residue. Its directional tip also encourages the familiar dashing gesture but reduces the likelihood that product will collect on the closure.

For a superior consumer dispensing experience and ensured cleanliness, Tower can be combined with Aptar's SimpliSqueeze® technology which offers advanced and market-proven flow control. The closure comes in two neck finishes: 28 - 410 or 28mm 1810. Tower is a global product offering currently on market in Southeast Asia, Europe, and North America.

Market - First Home Compostable Wet Food Container

Successful trials of TIPA's (Hod Hasharon, Israel) compostable packaging will see the company's films actas a liner for global leader of tray sealer equipment company G.Mondini's (Cologne, Italy) paper packaging solutions.

The market - first partnership will see G.Mondini offer paper - based, fully compostable Paperseal® packaging solutions optimized for wet, chilled, frozen and fresh food products. The TIPA film will then act as a liner to create a barrier against oxygen, moisture, and humidity.

TIPA and G. Mondini's collaboration has the potential to drastically reduce plastic waste and is a breakthrough innovation in the sustainable plastics industry and in packaging wet food products.

These compostable films and paper solutions carry food waste to compost in line with Italy's EU - leading regulatory regime, which sees compostable plastics collected with organic waste. This solution is addressing the urgent need to divert non-recyclable waste, that may contaminate the organic recycling stream, such as food - soiled containers and plastic packaging, out of landfills.

Research in the EU shows that 87% of Europeans are worried about the impact of plastic products on the environment.

Compostable packaging has the ability to reduce micro - plastic contamination of soils, by cutting the quantity of traditional plastic finding its way into food waste.

Tekniplex Introduces Pet Processor Trays

TekniPlex Consumer Products has launched a new line of 100% PET Processor Trays offering premium product display while addressing common packaging challenges prevalent in the poultry industry – particularly higher - end products such as those labeled organic, non - GMO or sustainably sourced.

Notably, TekniPlex's new trays are made of 100% PET, and contain up to 50% post - industrial recycled content. They also are 100% recyclable, appealing to consumers' heightened sustainability sentiments.

The trays' heightened sustainability and attractive shelf appeal are complemented by premium performance, as they are designed to survive the rigors of the case - ready environment. TekniPlex's PET trays are shatter - resistant even in harsh, cold environments – reducing breakage, product loss, leaks, and the risk of safety recalls.

During a year - long production campaign with a poultry processor, the trays showed no signs of cracking or breakage throughout the supply chain, providing outstanding protection.

TekniPlex's PET Processor Trays utilize a proprietary innovative technique called Hidden Rim Technology, which prevents the overwrap film from tearing and creates freight and shipping efficiencies. Because the trays pack denser, customers can increase shipping volume per truck, reducing the number of truck trips needed. In the poultry test customer example mentioned above, the rim technology also yielded a 30% reduction in the number of worker hours needed to unload trucks.

TekniPlex's PET Processor Trays are hassle - free to adopt, as they are a drop - in replacement for foam polystyrene trays. This means there is no need to update existing equipment or alter production processes.

The new PET Processor Trays are available in clear (natural), translucent colors, and opaque colors. Clear and translucent trays are accepted into the recycling stream at many material recovery facilities across the country. Additional tray sizes and hues are continuously in development to meet customer needs.

Packaging Buckets for Building Protection Products with Sealing Lids from the Jokey Group

The Jokey Group, one of the leading manufacturers of plastic packaging, has developed a bucket with a sealing lid for

filling dispersion paints together with its long - standing customer Meffert. The internationally active Meffert AG Farbwerke, headquartered in Bad Kreuznach, Germany, primarily produces paints and varnishes in addition to plasters and building protection products. The sealing technology ensures the quality characteristics of the product even more strongly than before and thus optimises the processing procedure.

JETO+ 150 with sealing lid – practical, safe, sustainable

In 2020, both companies started initial test series for the development of the sealing lids. For the buckets, Jokey relies on the oval JETO+, which has already proven itself millions of times over as packaging for paints, adhesives, and other building materials. The Jokey developers also drew on extensive experience: on the one hand, Jokey has decades of expertise in sealing food packaging; and on the other hand, the developers have also been experimenting for a long time with different approaches to sealing techniques in close cooperation with Jokey customers from the non-food sector. From the series of tests with Meffert, a sealing technology has now been developed for the first time for a customer from the paint industry: the SIFO technology. The acquisition of a high-performance, fully automatic filling line with bucket sealing enabled Meffert AG Farbwerke to start filling the first SIFO containers in December 2021. At the beginning of 2022, the 15-litre JETO+ 150 container with special sealing lid was successfully launched on the market. Other sizes are in the planning stage

The Jokey sealing lid is 100 percent liquid - tight. The safety film applied by Meffert between the lid and the bucket after filling prevents paint from sticking to the lid. The technology is particularly suitable for preservative - free paints. For users, handling is extremely easy: the film seal can be removed in one piece without any effort, and the paint can be used immediately. Thanks to the PP mono-material, the buckets, plastic handles, and sealing lids are 100 percent technically recyclable and can be returned to the material cycle through the existing collection systems.

Jokey Technical Service advises on sealing techniques and suitable filling equipment

Meffert is also highly satisfied with the result: "Up to now, no solution for avoiding paint adhesion on lids has been able to prove itself 100 per cent in practice," says project manager Dr Ronald Große, assistant to the board of directors for technology at Meffert AG Farbwerke. "Thanks to the many years of expertise at Jokey, we have now been able to jointly develop this innovative solution for the market. We are the first paint manufacturer to seal dispersion paint buckets with a safety film. This means that we also comply with the stricter guidelines on the use of preservatives, as we now seal our containers with a technology from the even more tightly regulated food industry. This combination is unique in our industry!"

Smurfit Kappa Introduces Water – Resistant Aquastop

Smurfit Kappa has developed an innovative and sustainable water-resistant paper. AquaStop™ is part of Smurfit Kappa's new TechniPaper® portfolio, which consists of an array of high-performance papers designed to handle even the most complex supply chains.

The AquaStop™ paper is water-resistant thanks to a special coating which is added to it during the manufacturing process. Unlike many other coatings, this does not compromise the recyclability of the product and can be recycled in the same way as standard paper - based packaging.

AquaStop™ is the latest innovation in Smurfit Kappa's Better Planet Packaging portfolio of products, which offer sustainable alternatives to single - use plastics. As it is designed to withstand exposure to water without being damaged, it is suitable for eCommerce packaging and packaging for products such as flowers, detergent and fruit and vegetables where temporary protection against water is needed.

It is also particularly suitable for use in humid conditions as the box remains intact while

protecting the contents, making it an excellent solution for the transport and storage of refrigerated products where there is exposure to condensation.

Speaking about the new product, Vice President of Product Development at the Smurfit Kappa Paper Division, Lars Henriksson, said: "We are very excited about AquaStop™ and believe it is a truly revolutionary paper. We're expecting AquaStop™ to interest many of our customers, particularly those who transport goods in more demanding environments, because of the peace of mind it will give them that their products will remain in perfect condition even if exposed to water.

"Our product development team, along with our colleagues in Spain, have created something very special that has superior functionality, whilst at the same time remaining 100% recyclable."

CEO of Smurfit Kappa Europe, Saverio Mayer, added: "We are continuously developing innovative and sustainable packaging solutions that are helping to meet our ever-growing customer needs, no matter how challenging or unusual the ask is.

"AquaStop™ is a must - have product for customers with complex supply chain requirements and is another example of how, at Smurfit Kappa, we have the brightest minds and most creative spirits working towards a common goal."

PLEXIGLAS® Creates Striking Illuminated Details in the Interiors of the New Seat Ibiza and Seat Arona

- SEAT equips the two popular models with colorfully illuminated air vents
- Röhm's wide range of PLEXIGLAS® molding compounds can be used to create individual ambient lighting in automotive design
- PLEXIGLAS® LED LD special molding compound enables colored edge lighting

Sometimes, it is the small surprising details that make people fall for a car – like a pleasant ambiance created by interior lighting. Spanish car manufacturer SEAT gave its popular Ibiza compact car and Arona compact SUV models a facelift in 2021. The most striking changes to the interior include round, colorfully illuminated air vents with light guides made from a light - scattering PLEXIGLAS® molding compound from Röhm.

Air, light and color

The contours of the air vents light up in different colors depending on the equipment line: deep red or cool white for the Ibiza; red, light green or honey yellow for the Arona. The lighting provides a splash of color and creates a pleasant ambiance when driving at night.

Alongside color, light is particularly well - suited to creating individual design with emotional appeal. It is becoming an increasingly important design factor in vehicle interiors, not just for backlit buttons and switches that need to be visible in the dark, but also for ambient lighting with changing moods, as well as for purely decorative purposes in illuminated trims and contours. Car manufacturers need high - quality light guiding materials, such as PLEXIGLAS® molding compounds.

"The best material for interplay with light"

The light guides on the air vents in the two SEAT models are made from PLEXIGLAS® LED 8N Ld12. Structures on the injection molded rings also ensure that the light spreads outwards radiantly. The manufacturer starts out with the clear version of the material and backs it with colored plastic depending on the model and equipment level.

Placon Announces New Fresh 'N Clear Tamper Evident Salad Bowl Family

Placon adds a new salad bowl family to its post - consumer content, tamper evident line up.

The new line is making a statement to set itself apart by offering a tamper - evident feature and supporting sustainability being made using a minimum 25% EcoStar® post-consumer (PCR) PET material.

Ten new products are available including a medium and a large footprint clamshell available with a dome or flat lid to provide merchandising flexibility. Plus, different depths and insert trays to keep ingredients separate from the main clamshell portion until ready to mix in for consumption. The tamper evident closure ensures the product inside stays safe until the consumer opens for consumption, and the crystal-clear PCR material allows for increased shelf visibility and helps meet sustainability goals.

Toyo - Morton Introduces Bio - based, High - solids Laminating Adhesives

Toyo - Morton Ltd., Japan's leading manufacturer of laminating adhesives and a member of the Toyo Ink Group, has developed the ECOAD™ EA-B3860/EA-B1290, a high - solids solvent-based adhesive for use in the dry lamination of multilayered films in flexible packaging structures. Containing over 40% coating solids by weight, the new formulations contain less solvent and thus brings down overall Co2 emissions during lamination by roughly 25% when compared to the company's general - purpose laminating adhesives. The high-solids design also leads to less waste recovery and disposal for greater operational efficiencies and a cleaner work environment. Moreover, the new ECOAD systems were formulated with bio - based or renewable content of 10% by weight at the dried adhesive layer, making them a more eco - friendly alternative in packaging materials.

Toyo-Morton engineers in Japan successfully raised the solids content of its laminating adhesive compositions to 40% in the coating process, while converting a portion of raw materials with those derived from natural sources. Typically, increasing the solids content causes the viscosity of the coating adhesive to increase, which can impair coating performance and degrade various physical properties. Toyo - Morton, by applying its proprietary polymer design technology, was able to eliminate these tradeoffs and achieve both high solids content and a bio-based content, without compromising on performance.

ECOAD EA - B3860/EA - B1290 systems have been certified with the “Biomass Mark” by the Japan Organics Recycling Association, which evaluates and certifies products using biomass resources.

New Flame - Retardant Adhesive Tapes Made By TESA

Self-extinguishing and halogen-free: tesa® flameXtinct improves fire protection in the transport industry and in passenger traffic. Norderstedt – tesa, the international manufacturer of innovative adhesive tapes and self - adhesive system solutions, is launching an assortment of flame-retardant adhesive tapes. The new tape tesa® flameXtinct, which is already used successfully in the construction industry, is now also employed in the transport industry and in passenger transport. The special features: In the event of a fire, these new adhesive tapes self-extinguish after a short time, and they are completely halogen-free.

Passive fire protection for the transport sector and passenger traffic

To guarantee public health and property protection, fire protection regulations are of particular importance in many sectors, including aviation, rail transport, shipping, and logistics. These regulations set precise standards for manufacturing processes and all integrated materials, such as adhesive tapes, used in sophisticated assembly applications of various components. The use of flame retardants is an essential part of the fire safety standard because they may delay or reduce the spread of fire.

Thus, the tesa® flameXtinct assortment was developed including targeted fire protection properties. The tapes meet all current requirements according to UL94 & FMVSS 302; they self-extinguish after a short time and are halogen-free. Therefore, in the event of a fire, less toxic smoke is produced, which is the main source of health hazards in fires. Also, by not using halogenated flame retardants, tesa® is fully in line with

international guidelines that are increasingly limiting the use of flame retardants containing bromine or chlorine.

A variety of tesa® flameXtinct products are available

tesa® flameXtinct is currently available as fleece and film carrier, PE foam adhesive tape or as an acrylate core adhesive tape in various thicknesses. The assortment is ideal for mounting lightweight elements or permanently bonding components such as mirrors or strips. With its flame - retardant properties, tesa® flameXtinct is a safe solution for a great variety of sectors and industries where fire protection plays an important role.

tesa® flameXtinct in brief:

- Certified according to UL 94 & FMVSS 302
- Halogen - free (REACH and ROHS compliance guaranteed)
- Available as fleece and foil backing, PE foam adhesive tape or as acrylic core adhesive tape
- Excellent adhesion to a variety of surfaces
- Elevated adaptation and damping properties

Oerlikon Balzers launches highly abrasion and corrosion resistant coating for injection moulding and extrusion of filled polymers

Oerlikon Balzers, a world leading Oerlikon brand that provides advanced surface solutions, has introduced BALINIT MOLDENA, a new coating for injection moulding and extrusion of filled polymers. Its superior abrasive and corrosion resistance makes it perfect for applications with glass fibre reinforced plastics (GFRPs) and fully recycled materials while ensuring a longer mould service life and delivering high - quality products.

In line with the Oerlikon's sustainability strategy, BALINIT MOLDENA is the optimum solution for processing new and recyclable plastics in order to improve energy efficiency and conserve resources. The coating also increases mould service life, while customers benefit from a stable production process and high - quality products.

The newly developed coating from the Oerlikon Balzers brand is just 7 μm thin and exceeds the hardness of almost all previous coatings for processing plastics. Its outstanding abrasion and corrosion properties make BALINIT MOLDENA the perfect coating for injection moulding and extrusion of abrasive materials such as GFRPs, and it is also ideal for injection moulding of corrosive materials such as fully recycled materials or those with a high flame retardant content.

BALINIT MOLDENA has already proved effective in various customer tests, showing less wear than all conventional abrasion - resistant coatings and significantly improving the corrosion resistance in neutral salt spray testing. When a standard coating was applied to injection moulds used to process unsaturated polyester (40%), the coating peeled off after 40,000 shots. With the new coating from Oerlikon Balzers, the same high - quality products continued to be delivered even after 200,000 shots.

Andreas Reiter, Head of Product Line Tools, says: “Our customers are increasingly using lighter and recycled plastics in order to improve energy efficiency and conserve resources. With BALINIT MOLDENA, we have succeeded in enhancing our existing solutions for processing plastics. We are delighted that we can offer our customers the optimum solution that enables a stable process and increases the service life of their polymer production lines.” Oerlikon Balzers' new BALINIT MOLDENA for injection moulding and extrusion of filled polymers provides superior abrasion and corrosion resistance for applications with glass fibre reinforced plastics (GFRPs) and fully recycled materials while ensuring a longer mould service life and delivering high-quality products.

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OPP
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Organization of Plastics Processors of India in Association with ICICI Bank Presents Webinar on- "LEVERAGING FTAS TO GROW EXPORTS"

Scheduled on **Friday 26 August 2022** **3.00 PM ONWARDS (IST)**

SPEAKER
MR. SUDHAKAR KASTURE
Consultant & Trainer in International trade

SPEAKER
MR. MIHIR SHAH
Trainer & Consultant for cross border business

THIS SESSION WILL COVER:-

- Overview of FTAs for exporters
- Challenges & Opportunities: Compliance
- Overview of Trade emerge for finding & verifying buyers

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Closer to the date we will email the link, Meeting ID and Password for joining the Webinar.

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The participation fees will be – **Rs. 500/-** + GST@18% per participant.

DEEPAK LAWALE, SECRETARY GENERAL
ORGANIZATION OF PLASTICS PROCESSORS OF INDIA

404/5, Golden Chambers, New Link Road, Andheri (W), Mumbai - 400 053 INDIA

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Organization of Plastics Processors of India
in Association with ICICI Bank Presents
Webinar on-

"DIGITIZATION OF THE EXPORT BUSINESS – TRADE EMERGE"

16th September 2022
3.00 PM Onwards (IST)

SPEAKER
MR. SANJAY SHARMA
AGM ICICI Bank

THIS SESSION WILL COVER:-

- Digitization of the export life cycle from regulations, licencing, finding buyers, verification of buyers, logistics partners, banking & insurance services on single platform
- Digitization of all trade transactions through Super Application

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6th October 2022
3.00 PM Onwards
(IST)

Organization of Plastics Processors of India
in Association with ICICI Bank
Presents Webinar on-

"UNDERSTANDING LETTER OF CREDIT"
&
"ONLINE BANK GUARANTEE ISSUANCE AND LCBD

SPEAKER
MR. KRISHNENDU DAS
Subject Matter Expert,
Export Trade Group,
ICICI Bank

THIS SESSION WILL COVER:-

- What is LC and its need, Flow of LC in trade, Types of LCs, Advantage of Bank LC
- CP Articles on LC
- Live interaction and QnA session on LC

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Lanxess and Advent to Buy DSM's Engineering Plastics Business

Specialty chemicals company LANXESS and Advent International ("Advent"), one of the largest and most experienced global private equity investors with a well - established track record in chemicals investings, are establishing a joint venture for high - performance engineering polymers. The two companies today signed an agreement to acquire the DSM Engineering Materials business (DEM) from Dutch group Royal DSM, which will become part of the new joint venture. The purchase price is around EUR 3.7 billion and will be financed by the joint venture via equity from Advent and external debt. The business represents sales of around EUR 1.5 billion with an EBITDA margin of approximately 20 percent. DEM is one of the leading global suppliers in high - performance specialty materials that address key market needs in electronics, electrical and consumer goods.

In addition, LANXESS will contribute its High Performance Materials (HPM) business unit to the joint venture. HPM is one of the leading suppliers of high - performance polymers, which are used primarily in the automotive industry. The business represents annual sales of around EUR 1.5 billion with EBITDA pre exceptionals of around EUR 210 million. Advent will hold at least 60 percent in the joint venture. LANXESS will receive an initial payment of at least EUR 1.1 billion and a stake of up to 40 percent in the future joint venture. Following the transfer to the joint venture, the HPM business will no longer be fully consolidated at LANXESS, but will be included in the consolidated financial statements at equity.

This move further sharpens LANXESS' business portfolio, which will consist of three specialty chemicals segments once the transaction is completed. LANXESS will use the proceeds of the transaction to reduce debt and to strengthen its balance sheet. In addition, the Group plans a share buy - back program with a volume of up to EUR 300 million.

LANXESS will have the possibility to divest its stake in the joint venture to Advent at the same valuation earliest after three years. EBITDA could then be significantly higher than today as Advent and LANXESS anticipate substantial synergies resulting from the combination of the two businesses.

The transaction is still subject to approval by the authorities. Closing is expected in the first half of 2023. LANXESS CEO Matthias Zachert: "LANXESS will once again become significantly less dependent on economic fluctuations. In addition, we as LANXESS will strengthen our balance sheet with the proceeds from the transaction and gain new scope for the further development of our Group. With the new joint venture, we are forging a strong global player in the field of high-performance polymers. The portfolios, value chains and global positioning of the two businesses complement each other perfectly. With its innovative products, the joint venture will be able to play a key role in shaping future developments - for example in the field of electromobility. In Advent, we have a strong and reliable partner with profound experience in the chemical industry and our customer industries."

Global set - up and high backward integration

DSM's Engineering Materials business comprises polyamides (PA6, PA66) as well as various specialty materials (PA46, PA410 and specialty polyesters as well as PPS). Around 2,100 employees work for the division at 8 production and 7 research sites in all relevant markets worldwide. In addition to Europe and the US, the business has a particularly strong presence in Asia.

LANXESS' High Performance Materials (HPM) business unit is one of the leading producers of Pa6 and PBT engineering polymers and thermoplastic fiber composites. A total of 1,900 employees at 10 production and 7 research sites worldwide work for HPM. The global production network is characterized by a high degree of backward integration. The backbone is the Antwerp/ Belgium site. There, HPM produces not only PA6 polymers but also relevant precursors such as caprolactam and glass fibers.

Sustainable product portfolio

Both DEM and HPM are pioneers in sustainability, offering bio - and recycled - based alternatives across their product portfolios.

For example, LANXESS recently launched a new high - performance polymer that is made from 92 percent sustainable raw materials. In producing the polymer, LANXESS uses “green” cyclohexane from sustainable sources such as rapeseed oil or other biomass as a raw material. It is reinforced with 60 percent by weight glass fibers recycled from industrial glass waste.

Future - oriented applications

The automotive industry is a focus customer sector for the new joint venture. There, the polymers are used, among other things, for lightweight elements in structural parts but also in the interior and often replace metal parts. In this way, weight can be saved and Co2 emissions reduced. An important growth area is electromobility. Here, polymers are used, for example, in the construction of battery and charging systems, electronic control systems and power electronics.

In addition, the materials are used in the electrical and electronics industry, for example in components for smartphones, IT and household appliances.

PP Compounds for Foam Injection Molding

SABIC's new mineral - reinforced PP compounds said to deliver excellent aesthetics for visible automotive interior parts with complex geometries.

Three new mineral - reinforced PP compounds from SABIC have been shown to deliver excellent aesthetics for visible automotive interior parts with complex geometries, such as door panels and trim, seat and trunk cladding, A/B/C/D pillar covers and center consoles. SABIC Ppc F9005, Ppc F9007 and Ppc F9015 grades, unlike standard foam injection molding (FIM) materials which typically exhibit surface defects, reportedly feature uniformly high surface quality similar to solid injection molded parts. The new SABIC PP compounds have launched in Europe, with upcoming availability in the Americas and Asia / Pacific.

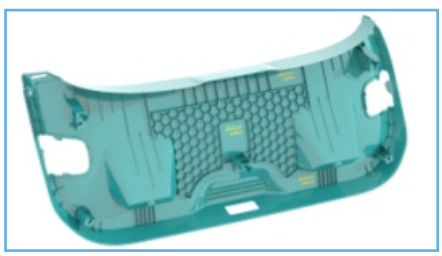
Compared to solid components, foamed parts made with SABIC PP compounds offer significant weight savings that can help cut emissions. According to a cradle - to - grave life cycle assessment study (pending third-party review), the advanced new materials can help OEMs lower carbon dioxide (CO2) emissions by as much as 15 %.

Previously, the FIM process was essentially limited to non - visible parts, restricting its usefulness in automotive applications. Foaming can underperform in surface aesthetics: silver streaking, swirl lines and dimples are common defects. The new SABIC PP compounds for foamed interior parts deliver low - gloss textured (grained) surfaces with uniformly high quality, including the elimination of streaking and swirling. Talc filler in these grades acts as a nucleator that promotes the generation of finer bubbles, which contribute to a consistent surface appearance. For enhanced aesthetics, these grades are currently available in selected automotive interior colors with custom coloring also available.

Weight reduction results with SABIC PP compounds depend on several factors, including the type of FIM technique used. Short - shot molding, which

uses the same tooling as an injection molded part, can reduce weight by up to 10%. SABIC PPc 9007 is formulated for short - shot FIM and low - impact applications. Core - back molding, which requires part redesign and new tooling, can lower weight by as much as 30%. Both SABIC PPc 9005 and PPc 9015 grades are formulated for core - back molding and deliver medium stiffness and impact.

The choice between the short - shot and core - back techniques, with their different tooling requirements, also helps to determine whether FIM with SABIC PP compounds is cost neutral or delivers cost savings. Additional cost savings are possible from cycle time reductions from flow improvements inherent in FIM.



Another consideration is the foaming process, which can use chemical or physical agents. The new SABIC PP compounds are good candidates for use with chemical blowing agents, which are typically preferred for visible foamed parts. These agents are introduced to the molding machine in the form of a masterbatch, along with the plastic pellets, and activate during the melt phase to release gases for foaming.

SABIC fully supports its new PP compound portfolio with extensive expertise in foamed part design, development and processing, as well as predictive engineering capability. The company can provide guidance on the selection of the appropriate chemical blowing agent for each grade, and a SABIC team will collaborate with customers to achieve excellent aesthetics at the lowest possible part weight.

To drive future developments in polymer foams, SABIC operates a Foam Innovation Center in The Netherlands. This center, which is equipped with foam process capabilities as well as analytical equipment, enables the company to develop new foam solutions and technology innovations and collaborate with customers.

Glass Filled PP Compounds Replace Standard GF Nylons 66 and 6

Teknor Apex's modified GF PP compound replaces a GF nylon 66 in AdBlue tank cover for Mercedes, resulting in several processing advantages.

A family of glass - filled engineering PP compounds with E - modulus that reach 11,000 MPa/1,595,415 psi and a HDT that reaches 320 F/160 C developed by Teknor Apex Germany are getting a lot of play these days due to several processing advantage. The purpose of this development was to replace glass - filled nylons 66 and 6 with modified glass - filled PP, in an effort to offer customers alternative solutions that have similar properties to but are more economical than glass - filled nylons.

Among the key advantages of the Teknor Apex engineering glass - filled PP are: Easy to process material even through existing molds; similar shrinkage to nylons; a more environmentally conscious process as there is no need to pre - dry the material and the melting temperature, processing temperature, and mold temperature are all lower than those of nylon. Also cited are very good dimensional stability (no water or moisture absorption), temperature resistance (266 F/130 C/3000h) and UV stabilization, as well as superior surface aesthetics and laser marking ability.

To date, the Teknor Apex modified PP has replaced several glass filled nylon 66 and nylon 6 applications on existing molds. Here is one example of these nylon application replacements:

- Former material: Nylon 66 GF30
- Current material: Teknor Apex PPGF45
- Application: AdBlue Tank Cover for Mercedes

AdBlue, or diesel exhaust fluid, might be still unfamiliar to some motorists but owners of modern diesel cars with engines that are Euro 6 compliant will be familiar. AdBlue is a liquid used to reduce the nitrous oxide

emissions of diesel engines and is made up of a mixture of urea and deionized water that is sprayed into the exhaust system. Its widespread introduction coincided with the current Euro 6 emissions standards, which are part of ever more stringent emissions targets that car manufacturers are now required to meet. Without AdBlue, it would be much more difficult to lower the emissions of diesel cars and get them to comply with the latest standards. Economical and visual benefits were reportedly reaped with the modified glass-filled PP compound replacement.

Domo Chemicals and Hynamics Commit to Joint Project for the Production of Polyamides from Low - Carbon Hydrogen

DOMO Chemicals, a leading producer of engineered polyamide materials, and Hynamics, a 100% subsidiary of EDF Group specializing in the production of low - carbon hydrogen, have entered into a partnership project with the objective of achieving zero - carbon for 100% of the hydrogen used at the Belle - Étoile industrial site, in Saint - Fons (south of Lyon, France), in the heart of the French Vallée de la Chimie ("Chemistry Valley").

The project will eventually prevent the emission of 84 kilotons of carbon dioxide (CO2) each year. Hexamethylene diamine, and ultimately, durable and low-carbon polyamides, will be used in various applications in major industry sectors, such as automotive, electronics, and heating & cooling.

This project is a major step towards the decarbonization of industrial sites that use grey hydrogen (produced from fossil fuels). The location in the Vallée de la Chimie within the vicinity of major transport routes opens up opportunities for the creation of a more complete hydrogen ecosystem.

The first phase of the project will consist of building up and ascertaining technical concepts and integrating the low - carbon hydrogen production plant within the larger production process of hexamethylene diamine.

According to Christelle ROUILLÉ, CEO of Hynamics: "In line with the goals set out in the France 2030 investment plan for a resilient and decarbonized industrial sector, Hynamics is proud to support leading hydrogen - consuming industrialists in their decarbonization efforts. The scope of the project launched in partnership with DOMO Chemicals reflects Hynamics' expertise in developing industrial electrolytic hydrogen production projects with a strong environmental impact. In replacing the unit that currently produces hydrogen from natural gas, our project represents an important step towards industrial sovereignty and reaching our climate objectives".

According to Yves BONTE, CEO of DOMO Chemicals: "The reduction of Co2 emissions remains a major challenge for the industry, and DOMO's low carbon footprint solutions are designed to help customers achieve their own CO2 emission reduction targets. This joint investment in a low - carbon hydrogen unit to replace the existing natural gas - based production unit will provide the first hydrogen infrastructure in the Lyon area. This strategic partnership will help us - and hopefully an entire ecosystem in the Vallée de la Chimie - achieve DOMO's ambitious goals for 2030, focused on decarbonization, the use of renewable energy and delivering customer solutions."

Heartland Polymers Now Producing Polypropylene

Heartland Polymers has successfully commissioned its polypropylene (PP) plant and began initial production at the Heartland Petrochemical Complex in Alberta, Canada. Railcars are being loaded with North America's newest source of PP using Alberta, Canada - based propylene feedstock.

"A safe commissioning of our polypropylene plant is a crucial step towards commercial production of Heartland Polymers," said Jim Madro, Senior Vice President, Petrochemicals. "The PP Plant has been producing pellets since late June with polymer grade propylene (PGP) from our storage cavern. The entire Heartland Complex remains on schedule for an integrated start - up in the third quarter of this year, at which point Heartland will begin commercial production."

Heartland Polymers will initially produce homopolymers with plans to add random copolymers in 2023. Once commercial production is underway, Heartland is expected to produce 525,000 tonnes / 578,713 tons of PP annually, filling approximately 18 rail cars per day, seven days a week.

"Heartland Polymers is anticipated to be one of the most reliable, service - oriented polypropylene producers in the industry," says Yonas Kebede, director, polypropylene sales and marketing. "We have rail connections to every major shipping hub in North America, storage - in - transit to expedite delivery times, real - time GPS shipment tracking, and our geographic location means we are less vulnerable to extreme weather incidents that can cause downtime, additionally we have reliable access to one of the world's largest sources of propane feedstock."

The PP plant was commissioned using PGP feedstock from a cavern at its parent company, Inter Pipeline's Redwater Olefinic Fractionator. The primary source of feedstock will be an on - site PDH plant, which is expected to enter integrated service with the PP plant in the third quarter of this year making it the first integrated complex of its kind in North America. The optionality of both the storage caverns and direct on - site production of PGP ensures Heartland Polymers customers exceptional reliability.

Heartland's Complex is only the second PP plant to come online in the last decade. Deliberate design and technology choices paired with local feedstock means Heartland is expected to generate 65% less greenhouse gas than average of PP facilities around the world. Due to its integrated nature, the Complex is designed to utilize by - products ethane and hydrogen to fuel power production in the cogeneration unit (CUB) to make up approximately 32% of the operation's total fuel usage, reducing the total carbon footprint by approximately 130,000 tonnes /143,300 tons annually.

Additionally, the design choice to utilize air cooling instead of water cooling in the operation has a significant impact on the amount of water used. When fully in service, the Complex is expected to utilize 80% less make - up water than water cooled operations.

Ampacet Introduces New White Masterbatch for Medical Applications

Ampacet, a global masterbatch leader, introduces ProVital + 1101209 - EM, part of the medical - grade ProVital + masterbatch range designed for the healthcare market. Complete consistency of performance, traceability and control of raw materials used for fabrication of the ProVital + range is crucial for manufacturers of medical devices, primary packaging and in - vitro diagnostics equipment.

Produced under strict hygienic manufacturing conditions and consistent process parameter windows, ProVital + 1101209 - EM demonstrates safety, reliability and consistency, delivering peace of mind to manufacturers of medical equipment and pharmaceutical primary packaging.

Designed for the opacification and coloration of primary and secondary packaging, medical devices and in - vitro diagnostic equipment, ProVital+ 1101209-EM complies with the highest quality and performance requirements to enable the healthcare industry to meet stringent medical regulations. It has been formulated with selected raw materials pretested for biocompatibility, according to ISO 10993 and European Pharmacopeia (Ph. Eur.) monograph 3.1.

Borealis Introduces Borvida™, A Portfolio of Circular Base Chemicals, To Feed A Future That Is Circular In Both Plastic And In Carbon

- The Borvida™ portfolio introduces sustainable base chemicals to Borealis' range of product offering
- The range will initially be based on non - food waste biomass, and chemically - recycled waste; in the future it will also draw from atmospheric carbon capture
- The traceability of the content will be based on Mass Balance, which is ISCC PLUS certified
- This is the next step in an ambitious sustainability journey, which will see Borealis move away from traditional fossil-based feed

Borealis is strengthening its circular product offering with, a range of sustainable base chemicals.

The Borvida portfolio will offer base chemicals or cracker products (such as ethylene, propylene, butene and phenol) with ISCC Plus - certified sustainable content from Borealis sites in Finland, Sweden and Belgium. The move is part of Borealis' broader commitment to a Future-Positive Revolution, in which the unrivalled benefits of base chemicals and polymers can be enjoyed at minimal impact to the planet.

The portfolio will initially comprise Borvida B, from non-food waste biomass, and Borvida C, from chemically - recycled waste. In the future, the range will evolve to include Borvida A, sourced from atmospheric carbon capture. Borvida is complementary and is the building block to, a portfolio of polyolefins based on renewably - sourced second generation feedstocks, and, which offers circular polyolefins produced from mechanically - and chemically - recycled plastic waste.

Borealis produces a wide range of base chemicals for use in numerous industries based on various feedstock, such as naphtha, butane, propane and ethane. Through its olefin units (steam cracker and propane dehydrogenation), it converts these into the building blocks of the chemical industry : ethylene, propylene and C4 hydrocarbons (butylenes, ethyl tertiary - butyl ether (ETBE) and butadiene), and C5-6 hydrocarbons (pygas, phenol) among others.

The basis of the Borvida portfolio is, a Chain of Custody model that enables sustainable content to be tracked, traced, and verified through the entire value chain, offering sustainability - assured products from feedstock to end product. Using this model, circular alternatives can be offered in a cost - effective and environmentally - conscious way, which can be scaled up quickly without compromising on quality or efficiency.

Borvida can be used for a wide range of different polymer and chemical applications, also beyond polyolefins (PO). Non-PO polymers, such as polycarbonates, acrylonitrile butadiene styrene (ABS), super absorbant polymer (SAP) and other chemicals, are utilised for various end a pplications including coatings, plasticizers, adhesives, automotive, electronics, lubricants, detergents, appliances and sports equipment.

Together with key strategic partners, including Neste and Covestro, Borealis strives to provide a long - term solution in order to allow value - chain partners to meet their sustainability goals. Borvida will enable our customers to increase the sustainability of their products, keeping them ahead of forthcoming legislative changes, and meeting their customers' demands for climate - conscious products.

Introduced on a smaller scale in early 2020, early renewable base chemicals customers include. “The use of alternative sustainable raw materials is one important pillar of our strategic ambition to become fully circular”, comments Frank Dörner, Managing Director Covestro Procurement Services GmbH & Co. KG. “The new product line is a good example for joint solutions, another strategic pillar, in order to establish new and reliable supply chains creating benefits for our customers.”

Lanxess: New Halogen-Free, Flame - Retardant PBT Compound for High - Voltage Connectors

- Flame - retardant and hydrolysis stabilized
- Electrical properties hardly dependent on temperature and moisture
- High level of volume resistance, dielectric strength and tracking resistance
- Enormous potential for use in electromobility

In the powertrain or battery of electric vehicles, as well as in the charging infrastructure of electromobility, plastic components are often exposed to high temperatures along with very strong currents and high voltages. Plastic connectors, for example, must remain electrically insulating under these conditions and must not allow tracking to occur. For these high - voltage connectors, LANXESS has tailored a new PBT (polybutylene terephthalate) compound that is halogen - free flame - retardant and hydrolysis - stabilized. “One strength of the structural material is that its outstanding electrical properties are hardly dependent

on temperature and moisture in the typical operating conditions of high - voltage connectors. It can be used at temperatures of up to 150 °C," explains Dr. Bernhard Helbich, Technical Marketing Manager Key Accounts at LANXESS' High Performance Materials business unit.

Highest insulation class CTI A 600

The compound is a first representative of the new Pocan BFN HR product range and is characterized by a high level of volume resistance and dielectric strength. For example, the latter is well over 30 kilovolts per millimeter at temperatures of up to 140 °C (IEC 62431-1). In the CTI test (Comparative Tracking Index, IEC 60112), the material achieves CTI A 600, the highest class possible according to the standard. This makes it highly tracking - resistant, which reduces the risk of short circuits and defects caused by creepage currents and caters to the growing need for miniaturized connectors. "But it can also be used at voltages higher than 600 V. The connector design for direct current systems can be optimized for up to 1,500 V in accordance with the design guidelines of the standard IEC 60664 / VDE 0110-1," says Helbich. The tracking resistance of the compound also hardly diminishes after long - term thermal aging at 120 °C or after climate testing.

Hydrolysis - resistant and flame - retardant

The material, which is reinforced with 25 percent by weight of glass fibers, is very stable to hydrolysis. In specimen tests based on the stringent SAE / USCAR - 2 Rev. 6 long - term hydrolysis tests of the US Society of Automotive Engineers (SAE), it achieved Class 3 – a good rating. Its good flame-retardant properties are demonstrated by the fact that it passed the UL 94 flammability test of the US testing institute Underwriters Laboratories Inc. with the excellent classification V-0 with a test specimen thickness of 0.75 millimeters. With its mechanical properties, the structural material meets the common requirements that are set for high-voltage connectors.

Bright colors and permanently color - stable

The compound can also be colored in bright colors, such as orange. This color is increasingly being used in electric vehicles to identify live, plastic - encased components. "Our material and the colorants used remain permanently color - stable in high operating temperatures so that the identification is not lost," explains Helbich. LANXESS wants to have the thermoplastic listed under "All Colors" on the Yellow Card by UL. "In doing so, we will save the processor from the time - consuming UL certification process if they were to color the plastic themselves," explains Helbich. "They can simply use the compound that we have colored and thus reduce costs," he adds.

Beyond high-voltage connectors, Helbich sees even more possible applications for the new Pocan BFN HR product range in electromobility and in the manufacturing of miniaturized electrical and electronic assemblies: "We are thinking, for example, of miniature connectors, miniature circuit breakers, terminal blocks, and other similar applications," he says.

Graphene Masterbatches for Flexible and Rigid Polyolefin Packaging and Beyond

Brazilian start - up Gerdau Graphene joins a growing group of graphene additives suppliers with a focus on boosting properties of large volume commodity thermoplastics.

In less than a year, many there are new entrants in the arena of graphene additives for plastics and their benefits derived from graphene's mechanical properties such as reduced weight and friction, more efficient lubrication, and higher thermal and electrical conductivity, as well as increased barrier properties against liquids and gases, and protection from weathering oxidation and UV light.

NeoGraf Solutions and MITO Materials Solutions, as well as on ongoing developments from OCSiAL (U.S. office in Columbus, Ohio), the largest global manufacturer of single-wall carbon / graphene nanotubes and masterbatches for automotive, electronics, and other industries.

Earlier this year OCSiAL's launched Tuball Matrix 822, a graphene nanotube concentrate, which reportedly provides targeted conductivity to injection molded ABS, PC, filled PPS, and TPU automotive components at working loadings starting from 0.1 wt.% of nanotubes in the final system – an approach

that reportedly allows automakers to optimize the painting process and reduce the final production cost. It is said to enable in - line e - painting of exterior plastic parts together with metal components using electrophoresis, where previously, separate production line were required.

More recently, Gerdau Graphene, a company that was inaugurated by its 120 - yr - old parent company Gerdau last year – Brazil's largest steel producer, and one of the leading producers of long steel in the Americas and of special steel in the world. Now operating independently new startup nanotechnology company Gerdau Graphene is positioning itself as a major producer of graphene materials for industrial applications in the Americas.

The company has developed what it calls next - generation graphene - enhanced plastics at a Brazilian government - funded advanced materials center in São Paulo. The new graphene - enhanced polymeric resin masterbatch formulas for PE and PP were created in partnership with Brazil's Instituto SENAI Innovation in Advanced Materials and Nanocomposites, and are being piloted in a series of industrial applications within Gerdau's factories. The new thermoplastic products created using these formulas are expected to be stronger and offer greater overall performance while costing less to manufacture and producing significantly less waste across the value chain.

The first commercial deliveries were made last month, according to Gerdau Graphene CEO Alexandre. He noted that the company is developing graphene additive masterbatches for virgin resins as well as post-industrial and post - consumer recycled plastics and polymers, including PP, PE, PS, PC, and PVC. Having started sales of its graphene masterbatches in Brazil, the company plans to "move into North America" by end of this year. The company has an office in Tampa, Fla., and its parent company has 14 sites throughout the region.

Initially, the company's masterbatches are aimed at PE films but Côrrea, expands on their capabilities and goals, "Graphene masterbatches are suitable for application in several polymer processing methods, as we can develop different formulations for each scenario. Our masterbatch is not restricted to flexible film products only, and it can also be used for PE and PP rigid injection molded, blow molded, thermoformed, or extruded parts. For now, we are focusing on the main applications for PE and PP in the market, so when it comes to PE, most of our developments are related to flexible film extrusion, and as for PP, we have been developing solutions for parts produced by injection molding."

Corrêa notes that Gerdau Graphene works with companies in the commercial sector to help them integrate graphene into new or existing products. One such customer is 'piloting' the masterbatches for consumer packaging (CPG) film cases which are about 30% thinner without compromising on strength or durability.

"Plastic is a critical life - saving material that is now used in almost all products in every industry around the world — and its invention has radically transformed how humans live. The biggest challenge we face is how to make plastics better by improving its material qualities, reducing costs, and increasing sustainability throughout its lifecycle. We are now addressing all of these goals. By adding specialized graphene additives to thermoplastic recipes, plastic producers can create stronger, more durable plastic products at a fraction of the cost and with far less petroleum and fewer raw materials needed. Because less plastic is needed for final products, less plastic becomes post - consumer waste. There are also downstream effects, including reductions in manufacturing waste, energy consumption, transportation, and more. And, circularly, plastics can be recycled into graphene and then reused."

(Source: - Lilli Manolis Sherman - Senior Editor - Plastics Technology)

Specialty Purging Compounds Optimize Color and Material Changeovers

Selecting of the correct purging compound can speed up material and color changeover time and reduce scrap. You'll even save on material.

For many press operators of injection molding, packaging, extrusion, blown film, and extrusion blow molding machines, the traditional cleaning

methods used between color and material changeovers lead to a predictable and frustrating cycle:

1. Residue remains after cleaning
2. Even the smallest remnants create buildup over time
3. Production problems occur

Parts can come out streaked, spotted, and discolored, which results in unusable pieces, higher scrap rate, more downtime, lower - quality finished products, and machine damage that's compounded by daily use.

How can specialty purging compounds help?

All purging compounds are not created equal. Specialty purging compounds, like those available from Chem-Trend's Ultra Purge™ brand, are the result of years of shop - floor research coupled with advanced scientific development. They cover a wide array of polymers, operating temperatures, and equipment types to provide a remedy for common production issues and can add to the life of a press. Within the line, formulations can also be tailored to meet the needs of application processes such as extrusion as opposed to injection or blow molding, which present different challenges.

Purging compounds offer advantages that can produce long - term gains and value for producers. A significant plus of purging compounds is their high efficiency, which allows for the use of less product without requiring changes to existing machinery and equipment.

Following a tailored procedure in a specified order for your process can create predictable and seamless results, including greatly reduced scrap, an increase in mold-cleaning speed, fewer and shorter stoppages, and ultimately less daily wear on expensive equipment.

Some colors are easier than others

There are many things to consider when it comes to choosing the right purging compound for your process. The purge grade selected may differ between color change, removal of carbonized residues, or machine shut - down. The processing type also plays a role, and matching up polymer and viscosity is essential for successful purging. Processing temperature, length of production, and order also come into play.

Changeover from higher - temperature darker colors to lower - temperature lighter pigments will definitely require a purging compound like Ultra Purge™. Some types of pigments, such as dark blue, red, or purple, are more prone to “impregnate” the metal surfaces with which they come into contact. Use of a low-grade purging compound in such cases can result in hours of pigment removal, significant material waste, and more costly complications in the long run.

The use of white colorants after a darker pigment can be especially challenging due to the naturally abrasive nature of the former. They also contain heavy TiO2 pigments, which scrub every surface of the machine, releasing color residue that causes contamination. Purging compounds are often the only way to ensure that white parts can be generated without producing excessive scrap or increasing production time.

World - Scale Methyl Methacrylate Plant Planned in Bay City, Texas

Oman' OQ Chemicals (formerly Oxea), a global manufacturer of Oxo intermediates and Oxo performance chemicals such as alcohols, polyols, carboxylic acids, specialty esters, and amines has signed a final investment decision (FID) to build additional capacity of propionic aldehyde as well as infrastructure at its Bay City, Texas site. This is to support Röhm, one of the leading methacrylate producers, in constructing a world - scale methyl methacrylate (MMA) plant. MMA is the key monomer of acrylic resins.

The new MMA plant has a design capacity of 551 million lb/yr and will utilize Röhms' latest proprietary LiMA technology. OQ Chemicals will integrate the plant into its Bay City production site, and provide raw materials, utilities, and site services to Röhm. In 2021 both companies signed a Memorandum of Understanding in this regard.

PLASTIC MACHINERY

German Plastics and Rubber Machinery Industry Readjusts Forecast for 2022

Order intake in the German plastics and rubber machinery industry in the first quarter of 2022 fell significantly compared to the same period last year (- 27 percent). In the same period, turnover grew by only 3 percent compared to the previous - year period.

Shortage of materials slows down production and impacts turnover

On the one hand, this was down to a base effect, as the first quarter of last year was exceptionally good due to high demand in the packaging and medical sectors, and the other factor at play is that it is becoming increasingly difficult for companies to quickly process the high number of pre - orders and convert them into sales. “First and foremost, there is the poor availability of materials,” explains Thorsten Kühmann, Managing Director of the VDMA Plastics and Rubber Machinery Association. In addition, as a result of the Ukraine war and the strict zero-covid policy in China, many factors such as logistics problems and greater uncertainty in the market are having a negative impact on business.

Readjustment of 2022 forecast

Consequently, the trade association will no longer adhere to its original forecast of the beginning of 2022, when a growth figure of 5 to 10 per cent still seemed realistic for the current year. “Due to the ongoing developments on the procurement market, we only expect a sideways movement or, in the best case, a slight increase in turnover for 2022 – despite full order books. We expect a development of zero to 2 percent,” is how Kühmann describes the outlook.

Carbon Footprint of Injection Moulding Machines

(Courtesy: Angelica Buan , Plastic & Rubber Asia)

As a supplier of Allrounder injection moulding machines, German machine maker Arburg is evaluating climate protection activities along the entire value chain for its customers. On the basis of ISO TS 14067:2018 standard, which defines a product's greenhouse gas emissions or product carbon footprint (PCF), Arburg says it has investigated how the PCF and specific energy requirements of its machines can be calculated.

Under the European Union's Green Deal, the reduction of the carbon footprint of companies and their products is being strongly promoted. To be able to meet the strict legal requirements and achieve climate - neutral production by 2050, companies will have to significantly increase energy and resource efficiency in the future.

Meanwhile, the German Climate Protection Act calls for a 65% reduction in CO2 emissions by 2030 and carbon neutrality by 2045. The internationally recognised standard for CO2 accounting – the Greenhouse Gas Protocol – considers different emission areas.

Injection moulding machines are Scope 3 assets, which include indirect emissions from upstream and downstream business processes. Arburg says it is actively involved in carbon accounting in order to provide comparable indicators and meet the ambitious climate targets. This is also evidenced by its above - average “B” score in the Carbon Disclosure Project (CDP).

PCF – Product Carbon Footprint

In contrast to the corporate carbon footprint (CCF), which is calculated for an entire company on an annual basis, the product carbon footprint (PCF) includes the quantities of greenhouse gases emitted and removed over the entire service life of a product. Expressed as CO2 equivalent, the PCF is an important indicator in the life cycle assessment. The guidelines for quantification and reporting are provided by the international standard ISO TS 14067:2018.

For injection moulders, the main priority is the carbon footprint with which the machine produced by the manufacturer arrives at the plant. In its “cradle to gate” analysis, Arburg draws the associated system boundary from raw material extraction through the manufacturing phase to the factory gate. However, this period only accounts for around 5% of CO2 emissions. Over the entire product life cycle (cradle to grave), most of the PCF is generated during the use phase at the customer's premises, in addition to emissions during distribution and disposal.

Arburg says it records CO2 emissions up to the finished machine in four process steps: painting or coating, mechanical machining and processing, electrical production, and assembly. The raw materials used and the respective electricity requirement can be assigned to this sequence and the other phases in the product life cycle.

Raw material - related CO2 emissions

The parts list of an injection moulding machine can consist of up to 11,000 individual items, down to the individual screw. For better managing, Arburg groups raw materials into eight material groups. Accordingly, an Allrounder consists of more than 55% plastic - coated cast iron, and another 35% or so of steel and sheet metal (hot-treated, painted, plastic - coated, or untreated). Plastic components, drives and electronic components account for only about 7% of the total weight.

The material groups differ significantly in terms of the CO2 emissions generated during their production. However, a weighted mean value can be determined along the lines of the distribution. This so - called emissions factor is around 1.83 (kg CO2 equivalent per kg product) for an Allrounder. The CO2 equivalent for the complete injection moulding machine thus corresponds to the emissions factor multiplied by the product weight specified in the data sheet.

Carbon footprint – raw materials

Series*	Weight [in kg]	Emissions factor**	Co_2 equivalent raw materials [in kg]
ALLROUNDER 370 H	3300	1.83	6040
ALLROUNDER 470 H	4700	1.83	8600
ALLROUNDER 570 H	8300	1.83	15,190

- Hybrid Hidrive seres with 600 kN (370 H), 1,000 kN (470 H) and 2,000 kN (570 H) clamping force.
- Weighted mean value [kg CO_2 equivalent/kg product]

A hybrid Allrounder 570 H with a clamping force of 2,000 kN and a net weight of 8,300 kg therefore causes raw material - related emissions of around 15,190 kg of Co2 during its manufacture. For a 3,300 kg size 370 Allrounder with 600 kN clamping force, the CO2 equivalent is around 6,040 kg.

Electricity - related CO_2 emissions during production

In the manufacturing phase, the electricity requirement also contributes to the PCF. In relation to the year 2020, the basis for standardised calculations is an electricity requirement of 878.94 kWh per 1,000 kg of product and an emissions factor of 0.366 [kg CO2 equivalent per kWh] for the German electricity mix (Fig. 3).

Carbon footprint - manufacture

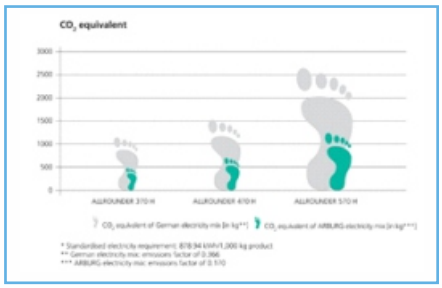
Series*	Weight [in kg]	Electricity Requirement* [in kWh]	Emissions factor**	Co_2 equivalent raw materials [in kg]
ALLROUNDER 370 H	3,300	2,900	0.366	1,160
ALLROUNDER 470 H	4,700	4,130	0.366	1,510
ALLROUNDER 570 H	8,300	7,295	0.366	2,670

- Standardised electricity requirement: 878.94 kWh/1,000 kg product.
- Basic: German electricity mix (2020)

On the basis of the German electricity mix, the electricity requirement is 2,900 kWh for the All - rounder 370H, with a Co2 equivalent of around 1,160 kg. For the Allrounder 570 H, the electricity requirement is therefore 7,295 kWh and the emissions around 2,670 kg Co2.

However, this example calculation cannot be applied 1:1 to Arburg, as the company manufactures around 60 per cent of its Allrounder components itself. Arburg makes its products exclusively at its central location in Lossburg, Germany. This involves the use of carbon - neutral renewable energies such as photovoltaics, wind energy and geothermal energy, as well as combined heat and power. Since 2016, electricity purchased

Eregionally has come entirely from ecological sources. This means that the emissions factor for the "Arburg electricity mix" is only 0.17 instead of 0.366. (Fig. 4).



In concrete terms, this means that the electricity-related CO2 equivalent for the Allrounder 370 H is actually only 490 instead of 1,160 kg, while for the Allrounder 570 the emissions amount to 1,240 instead of 2,670 kg Co2. Due to the high degree of in - house production depth and the sustainable electricity mix, this means that around 53 per cent fewer emissions are produced in terms of electricity during the manufacturing phase of an Arburg injection moulding machine than the German average.

If the raw material and electricity-related emissions are added, the total CO2 equivalent for a "cradle to gate" analysis is 6,530 kg for the Allrounder 370 H and 16,430 kg for the Allrounder 570 H (Fig 5).

Fig. 5: The carbon footprint (PCF) of the machines up to delivery to the customer is calculated from the sum of the raw material and electricity - related CO2 equivalents.

For comparison: In Germany, each person generates an average carbon footprint of around 12,000 kg per year, depending on factors such as consumption, mobility, housing and nutrition.

Application - related carbon footprint in use

Around 95 per cent of the PCF of an injection moulding machine is attributable to its use phase. How many emissions it actually produces in daily operation depends on a large number of factors. Already during the selection of the plastic, the product design and the construction of the injection mould, important decisions are made. An important application-related parameter here is the specific energy requirement [kWh per kg], which is calculated from power consumption per material throughput. As a rule of thumb, the shorter the cycle time and higher the shot weight, the smaller the specific energy requirement and better the CO2 equivalent.

Machine equipment crucial

A crucial aspect for the specific energy requirement is whether the injection moulding machine has an electric, hybrid or hydraulic drive. Whether one or two-circuit pump technology or hydraulic accumulators are used and options such as servo-electric dosing or ejection are part of the equipment also play a role.

Features that enable simultaneous, dynamic and fast movements and thus short cycle times have a positive effect on the carbon footprint during use. The same applies to the screw diameter and installed power – the greater the shot weight and the smaller the power consumption, the better. In summary: machine equipment that is precisely adapted to the requirements and processes can significantly improve the energy requirement. Arburg supports its customers in this task with a wealth of expertise in application and process technology and exploits the advantages of modular machine technology.

Measuring the energy requirement in accordance with EUROMAP 60.2

The EUROMAP 60.2 recommendation forms the basis for determining the energy requirements of injection moulding machines in a customer - specific process. To enable an objective comparison of different machine concepts, measurements are taken and documented at average power consumption under uniform specifications over a defined area. The values depend on the machine technology as well as the capacity utilisation and type of application. For example, the specific energy requirement for the production of technical moulded parts in smaller quantities is significantly greater per se than for the production of fast - moving packaging items (Fig. 6).

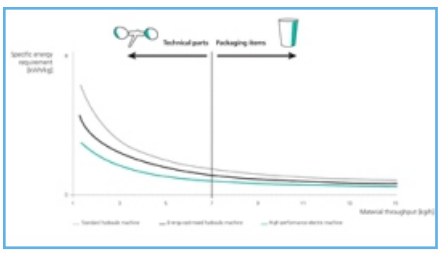


Fig. 6: The specific energy requirement of an injection moulding machine in the operating phase depends on the equipment, type of application,

and material throughput. Generally speaking, the better the machine's capacity utilisation, the more favourable its carbon footprint.

The measurement results show that, in comparison to standard hydraulic machines, electric machines require around 50 per cent less energy. The lower the material throughput, the more significant the differences. But energy - optimised hydraulic machines can also significantly reduce the carbon footprint.

Application example

Arburg examined various scenarios as part of a practical application: Hydraulic and electric Allrounders from the S and Alldrive series were used in the three sizes – 370, 570 and 820 – with clamping forces of 600, 2,000 and 4,000 kN. A distinction was made between hydraulic drive systems with two - circuit pump technology (T2) and electric drive systems in the "Comfort" performance variant.

Two items were produced: a technical item made of PA66 (Gf30) in a cycle time of 30 seconds at 50 per cent plasticising capacity, and a packaging item made of PP in a cycle time of five seconds at 100 per cent plasticising capacity (Fig. 7). The CO2 emissions were calculated on the basis of the German electricity mix.

Fig. 7: By way of example, Arburg investigated the CO2 emissions of Allrounders in three sizes and two drive types using measurements in accordance with EUROMAP 60.2. One technical part and one packaging item each were manufactured

Measurement according to EUROMAP 60.2

Machine		Product			
Size	Drive	Technical items		Packaging items	
		Material throughput [kg/h]	Emissions [kg CO2/kg PA66]	Material throughput [kg/h]	Emissions [kg CO2/kg PP]
370*	Hydraulic T2	4.2	4.43	10.08	2.87
	Electric Comfort	4.2	2.13	10.08	1.58
570**	Hydraulic T2	16.2	2.6	41.04	2.3
	Electric Comfort	16.2	1.39	41.04	1.23
820***	Hydraulic T2	45.6	1.72	115.2	1.69
	Electric Comfort	45.6	0.93	115.2	1.07

* Clamping force 600 kN, injection unit 170, screw Ø30
** Clamping force 2,000 kN, injection unit 800, screw Ø50
*** Clamping force 4,000 kN, injection unit 2100, screw Ø70

The electric Allrounder 820 A with a throughput of 115.2 kg/h produced emissions of 1.07 kg CO2 per kg of plastic material while injection moulding the packaging item. The size 370 electric machine emitted around twice as much (2.13) when injection moulding the technical article with a throughput of 4.2 kg/h. With the hydraulic All-rounder 370 S, this value was as high as 4.43.

So much for the sample study. Depending on the case of application, there may be deviations from this. In individual cases, the actual power consumed depends on the duty cycle, capacity utilisation, and efficiency of the connected loads. These factors are in turn influenced by the injection moulding process. However, it can generally be said that the energy requirement for both types of drive decreases as material throughput increases. In any case, an electric machine produces around 50 per cent fewer CO2 emissions. The same result can be seen when the Co2 emissions are calculated consistently on the basis of the material throughput.

The Co2 emissions for the production of the plastic granulate and other loads such as peripheral devices for temperature control of the moulds or hall air conditioning (waste heat and cooling) are not included in this analysis. The energy requirements and thus the CO2 emissions of the peripheral devices increase sharply, especially for technical items, and may even exceed those of the injection moulding machine on a proportional basis. The carbon footprint calculated for a single injection moulded part is another interesting parameter.

Conclusion

An meaningful "cradle to gate" carbon footprint can be determined for injection moulding machines. Raw materials have a roughly tenfold greater impact on the product carbon footprint than electricity consumption during the manufacturing phase. Local supply chains, a high degree of in - house production depth and the use of renewable energies can have a positive impact on the footprint.

The PCF during the use phase depends on many factors. A specific case study is required here. As a rule, the specific energy requirement of an injection moulding machine decreases with its capacity utilisation. In addition, electric machines generate up to around 50 per cent less CO2 emissions than hydraulically driven ones, depending on the equipment and material throughput.

The aim for the future is to be able to calculate a scientifically sound, holistic life cycle assessment for injection moulding machines. This will require a much greater effort. This is precisely what the Institute of Plastics and Circular Economy (IKK) at Leibniz University in Hanover, headed by Professor Hans-Josef Endres, is working on in collaboration with Arburg, among others.

Expanded PET Preform Molding Machine Line

At drinktec in September in Munich, Netstal will show the newest model in its PET-LINE of presses for molding PET preforms: the PET - LINE 3000 with 306 metric tons (m.t.) of clamp force and side removal for molded preforms. The PET - LINE range launched in the fall of 2020 with a 408 m.t. model capable of running molds up to 128 cavities. The PET - LINE 3000 can run preform molds up to 96 cavities with a lock-to-lock time of 1.9 seconds. Going forward, Renzo Davatz, Netstal CEO said in a release that a 510 m.t. model is already under development. Netstal branched out from top-entry preform removal systems in 2020, when it began to also offer side - entry systems, noting that this additional option differentiates the company in the preform space.

PET - LINE 3000 machines can be ordered now with the first models already running at customer sites, according to Netstal. In its own testing against unspecified competitive machines, Netstal reported that the new PET - LINE, running existing 96 - cavity molds and post - mold - cooling stations, achieved 20 - 25% energy use reductions and greater throughputs thanks to faster cycle times. These energy savings were achieved by applying the adaptive control and the latest generation of drives and inverters, in addition to an electric toggle, which doesn't use a ball screw.

The adaptive control that is part of the aXos machine controller allows the PET - LINE to learn the weight of the mounted take - out gripper and automatically optimize driving profiles for fast removal. The machine also estimates the mounted mold weight and optimizes closing and opening movement times. This reportedly means the drives are always equally loaded, boosting efficiency and power yield. Netstal says these optimizations occur automatically and do not require control expertise on the part of the process technician. The Smart Operation feature, which is standard, stores the entire sequence, which can be completed in four key strokes.

The optional Cycle Guard feature monitors power supply to the machine and can ensure sufficient energy is provided to the press to bridge power failures leading to short shots, even in the millisecond range. For a prolonged power outage, the feature allows the current cycle to be completed, with preforms finished and ejected, with production halted in a controlled fashion to avoid mold and/or machine damage.

Real - Time Inspection

The integrated Pecolux inspection system from IMD Vista monitors and documents preform quality in real time, as quality deviations are checked in continuous inline operation. In addition to key physical features of the preform, such as the gate and the thread, the system also checks the preforms for color differences, black specs, bubbles and crystallinity.

Sustainable Preforms With Tethered Caps Molded

At drinktec, Netstal is molding 10.5 g CSD preforms for 0.5-liter PET bottles. The 72-cavity mold is supplied by MHT Mold & Hotrunner Technology. Austria's Eisbär Trocknungstechnik handles material preparation and the dehumidifier, with the chiller provided by Swiss company ef cooling. Equipped with a GME 30.40 thread, the preform already meets the new EU requirement for tethered caps. This standard dictates that starting in July 2024, caps must remain attached to the bottle after opening. PET granulate from the Neogroup company is processed, which consists of 25% chemically recycled PET.

PAC380K3 High - Speed Injection Molding Machine by Yizumi: Upgrade to Be More Competitive

To keep up with fast - changing business environment, companies are eager to find ways to upgrade processes to improve production efficiency. Especially in the thin-wall packaging industry, cycle time shortened by one second may reduce production capacity by 20%, or even more than 50%. Therefore, high - speed molding and mass production are of great importance to thin - wall plastic packaging molding.

YIZUMI always react quickly to current marketing situation and provide customers with more competitive integrated solution for PAC380K3 high - speed injection molding machine. It has brought stable and high - speed solution for thin - wall products in the industry of the disposable packaging, IML food packaging, medical packaging, and disposable consumable.

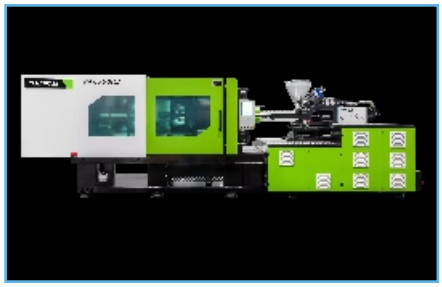
Performance Upgrade to ensure quality

Provide Economic Benefits for Customers

Considering the development trend of individualization and high production efficiency of thin - wall containers, YIZUMI PAC - K3 series high - speed injection molding machines are suitable for molding multi - cavity thin - wall packaging products, with the advantages of high rigidity, high injection rate, high precision, etc.

The maximum system pressure of the PAC380K3 high - speed injection molding machine is increased by more than 10% and thus reaches 19MPa, and its overall mold clamping rigidity is increased by more than 25%, which facilitates the molding of thin - wall and deep - cavity products

While realizing the increase in production capacity, customers also care about product quality. Adhering to YIZUMI's design concept for high-speed molding, PAC380K3 adopts platen, tie bar, frames of better mechanical performance, and increases the length - diameter ratio of the screw and barrel to 24:1 for better plasticizing quality, more stable product size and higher flexibility.



In the production process, a high-rigidity and stable machine frame is a strong guarantee for the continuous high - speed operation of the machine. The frame design of the PAC380K3 high - speed packaging injection molding machine completely considers user - friendliness, daily maintenance, safety performance and other functional requirements, thereby bringing better customer experience.

Four steps to effective part handling after injection moulding

Given the diverse nature of plastic components, handling the finished or semi - finished parts requires gripping solutions which can be tailored specifically to the individual component and the material from which it is produced. Automation firm Schmalz explains why it has developed technology that specifically addresses the challenges of the plastics sector.

Specially developed high - temperature - resistant materials allow handling directly from the mould tool, leaving few marks even when workpieces are still hot, whilst a range of extremely compact vacuum generators provide maximum dynamics and process reliability. Here are four steps to ensuring reliable and effective part handling after injection moulding.

1. Heat resistance

At the end of the moulding cycle, plastic parts are often still very hot when they are removed from the injection moulding machine. This means that it's not possible to use conventional suction cups. Schmalz suction cups are manufactured from a specially developed HT1 high - temperature - resistant material which is heat - resistant up to 170°C.

2. No marks

Suction cups can also often leave invisible marks on surfaces during handling, which then prevent coatings from adhering properly to the part during subsequent operations. The special suction cup materials used by Schmalz allow workpieces to be coated completely, even after handling.

3. Delicate handling

The diversity of components manufactured from plastic mean that in certain cases the

components will be delicate, as is the case with thin - walled workpieces. These items require particularly gentle handling to avoid any potential for distortion. Schmalz flat SGPN suction cups operate at a very low volume and incorporate a supporting surface on the bottom to prevent marking and distortion on the workpiece.

4. Access to the mould

With limited access a characteristic feature of de - moulding operations, it is often the case that conventional vacuum generators are too large to be mounted directly on the gripper. In these instances, the extended hose length required usually results in increased compressed air consumption. In order to avoid these losses, Schmalz inline ejectors can be integrated directly into the hose line and used in confined spaces.

(Source: Interplas Insight)

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3 – Component Technology from Wittmann Battenfeld

Since February this year, Wirthwein has been producing technical parts for the automotive industry with 3 - component technology at its plant in Crimmitschau. The equipment used is a MacroPower XL 700 from WITTMANN BATTENFELD.

Wirthwein Crimmitschau GmbH & Co. KG is a company of the Wirthwein Group founded in 1949 by Walter Wirthwein in Creglingen. What started off at that time with the production of octagonal wooden pegs for railroad superstructure is today a family - owned and owner - managed company with more than 3,500 workers on 22 production sites worldwide. The company's entry into plastics processing took place in 1967 with the production of dowels for track fastening. Today's product portfolio of the Wirthwein Group includes components and assemblies for the automotive industry, railroad superstructure, the electrical and household appliances industries, medical technology and interior construction.

In Crimmitschau, fan propellers and frames for the automotive industry have been manufactured since 1993, since 2012 in the name of the newly established Wirthwein Crimmitschau GmbH & Co. KG. Today, this company manufactures technically advanced components for the automotive industry with 120 associates on corporate premises of about 21,000 m^2, of which almost half is used as storage and production area, with fan propellers and fan frames still constituting the company's core competences. The range of fans includes both axial ventilators for thermal motor control and radial ventilators for conditioning systems in cars. These components are very demanding in terms of tolerances. The balancing requirements for radial ventilators are particularly stringent, since here even the slightest imbalance will cause unpleasant noises in car interiors.

Wirthwein Crimmitschau uses a variety of technologies to manufacture its components, such as compact injection molding, physical foaming, multi - component injection molding, automation, fully automatic greasing and pre - conditioning of parts, right up to assembling complete structural components. Of the 33 injection molding machines operating at Wirthwein Crimmitschau and ranging from 250 to 15,000 kN in clamping force, nine have come from WITTMANN BATTENFELD. Since 2018, exclusively machines from the servo - hydraulic SmartPower series and the MacroPower series from WITTMANN BATTENFELD have been added. The matching parts removal robots have also come from the WITTMANN Group.

Apart from their compactness and user - friendliness, the servo - hydraulic machines from WITTMANN BATTENFELD stand out primarily by their intelligent, economical energy utilization. Their high level of energy efficiency is primarily due to the combination of a fast - response, speed - controlled, air - cooled servo motor with a highly efficient constant displacement pump, known as the “Drive on Demand” system.

The machine most recently delivered is a 3 - component model from the MacroPower series with 7,000 kN clamping force and enlarged clamping plates. This MacroPower XL 700/3400H/350S/210V was installed at Wirthwein Crimmitschau in February of this year. The machine is used to manufacture a component for a car window regulator consisting of PA, TPE and POM. The machine is equipped with a W843 pro robot from WITTMANN, which removes the

finished parts and deposits them on a conveyor belt. Moreover, this machine comes with the HiQ Flow application software, which serves to detect and compensate viscosity fluctuations in the material. A special feature of the MacroPower XL 700 installed at Wirthwein is its direct control of the mold's index plate by way of complete integration of the mold's servo motor in the machine's Unilog B8 control system. This enables high - precision rotary movements of the large - sized, heavy index plate and thus ensures an extremely safe production process.

Great attention was also paid to the cycle time. Independent, parallel movements of the three injection units are a standard feature of the MacroPower Combimould machine. Each injection unit has its own servo - hydraulic drive. The screw drives of the injection units are also equipped with servo motors. This enables dosing of all three aggregates parallel to the movement of the mold. So, an optimized cycle time is ensured even together with an extremely short cooling time.

Dr. Maike Gruschwitz, Plant Manageress of Wirthwein Crimmitschau GmbH & Co. KG, and Marco Windrich, Managing Engineer, are very pleased with the machines from WITTMANN BATTENFELD. Particularly positive features are the user - friendly, self - explanatory control system, as well as the height of the machines. “Our machine setters like working with the WITTMANN BATTENFELD equipment”, reports Dr. Maike Gruschwitz. Moreover, the service provided by WITTMANN BATTENFELD is said to be excellent. “The commissioning of this most recently delivered machine took a very positive course. All tasks were solved immediately, customers' wishes fulfilled straight away”, Gruschwitz says. And Marco Windrich adds: “The machines from WITTMANN BATTENFELD are less prone to failure than others, and in the event of any problems, these can very often be solved by telephone, or if not, the WITTMANN BATTENFELD engineers are also quickly on site.” According to Windrich, especially the equipment's low susceptibility to failure and the fast troubleshooting service are important for Wirthwein Crimmitschau, since with more than 300 active products every machine standstill involves complex challenges.

Apart from the high quality and easy operation of the machines and the excellent service, the good energy balance of the machines is another important feature for Wirthwein. Marco Windrich comments: “The Wirthwein Group is currently working on a 'cost over lifetime' evaluation of its entire machine fleet at all of its production facilities worldwide. In addition to the purchase price, the calculation of these costs also includes technical availability and support, as well as the equipment's energy consumption and CO2 footprint. We expect that the WITTMANN BATTENFELD machines will get good results here, due to their high energy efficiency and low susceptibility to failure.” The WITTMANN Group is a globally leading manufacturer of injection molding machines, robots and auxiliary equipment for processing a great variety of plasticizable materials – both plastic and non - plastic.

Wittmann Battenfeld with Smart LSR Application at the DKT in Nuremberg

From 27 to 30 June 2022, WITTMANN BATTENFELD presented state - of - the - art injection molding technology for LSR processing to visitors of the German Rubber Conference DKT in Nuremberg.

WITTMANN BATTENFELD has already been active in the field of LSR processing for a number of years. The DKT is an important platform for the WITTMANN Group to demonstrate its expertise in this field to a wide professional audience.

Two exhibits were showcased at this year's DKT. Firstly, liquid silicone processing was shown on a machine from the servo - hydraulic SmartPower series. Apart from their compact footprint and user - friendliness, the machines of this series stand out primarily by their intelligent and economical energy utilization achieved by a fast - response, speed - controlled, air - cooled servo motor combined with a highly efficient constant displacement pump. Secondly, the production of a micro part with a silicone membrane was presented on a multi - component MicroPower machine specially designed for manufacturing micro parts.

With a multi - component machine from the servo - hydraulic *SmartPower series, a*

SmartPower 120 / 130H / 130S COMBIMOULD LSR, a mobile phone holder will be manufactured from PC and LSR, using a 1+1 transfer mold with a needle shut - off cold runner supplied by Elmet, Austria. The machine will be equipped with a W921 robot, a TEMPRO plus D2 140 dual-circuit temperature controller and an ATON plus 30 dryer, all from WITTMANN, as well as a Top 5000P metering pump from Elmet. The LSR used from Momentive is Siloprene LSR 2759, a material characterized by excellent adhesion to the PC provided by Covestro. The material loading system for the thermoplastic component is geared to handling extremely small quantities, to avoid remoisturizing after transport.

LSR processing in the area of micro parts was demonstrated by producing a support ring with a silicone membrane on a MicroPower 15 / 10H / 10H COMBIMOULD LSR. This micro part, manufactured in a 2C process, is used in industrial measurement technology. The 8 - cavity mold used to manufacture these parts was produced in cooperation with Nexus. The materials used are polycarbonate (Macrolon) supplied by Covestro and a self - adhesive LSR (Siloprene) from Momentive. The silicone membrane of the support ring, no more than 20 μm thick, makes it possible to transmit accurately even the most minute pressure variations between two different media. The LSR is fed to the machine from cartridges, the material flows are measured by a liquid dosing unit designed for quantities in the microliter range. Simultaneously, the high material quality is documented and transmitted to the machine's B8 control system via an OPC - UA interface (Euromap 82.3). The "Servomix X1" liquid dosing unit contributed by Nexus completes the package.

Professional Hot - Runner Diagnosis with the ProfiTEMP from Meusburger

The new profiTEMP TM hot runner diagnosis device by Meusburger is especially designed for electrical testing of heaters and sensors as well as preheating and heating up the hot runner.

The main function of the profiTEMP TM is the MoldCheck, a complete and professional diagnosis of the condition of the heaters and sensors as well as the wiring of a hot runner. No specialist electrical knowledge is required for use. The diagnostic result can be saved as a PDF file on a USB flash drive. The range of functions and operation are especially tailored to the requirements of mould makers as well as maintenance and service departments. The heating fuses are easily accessible from the outside which is a great advantage if there is a fuse failure. In addition, the profiTEMP TM offers the option of heating up and preheating the hot runner. As usual, Meusburger offers the device from stock.

ADVANTAGES AT A GLANCE

- Compact and lightweight
- Logical and intuitive navigation requires almost no training
- Cost reduction due to short testing times and the self - sufficient MoldCheck
- Reduction of set - up times through the MoldCheck and preheating of the hot runner
- Targeted support for troubleshooting and detailed correction tips

CHARACTERISTICS

- Checks 12 zones as well as heating and preheating
- 15 amp heating outputs
- Operation via a 7" touchscreen, user interface in 15 languages
- USB port for data export and update of firmware
- Dimensions: 200 x 260 x 400 mm

Stratasys Launches Two New F123 Composite - Ready 3D Printing Systems

Stratasys has announced the expansion of its F123 Series of FDM 3D printers with the launch of the F190 CR and F370 CR machines. Alongside this announcement, the company has also introduced the new carbon fibre - reinforced FDM Nylon - CF10 material.

The new composite 3D printers have been designed for manufacturers and industrial machinists to produced end - use components, as well as jigs, fixtures and workholding tools. Both systems include integrated GrabCAD Print software, as well as enterprise application connectivity through the MTConnect standard and it's GrabCAD Software Development Kit. They also include reusable build trays, a built - in camera for remote monitoring and an auto - changeover of materials capability, meaning builds don't have to be interrupted to replace materials.

The F190 CR machine has a maximum build size of 305 x 254 x 305 mm and can process ABS-M30, ASA, FDM TPU 92A, ABS-CF10 and the new FDM Nylon - Cf10. The F370 CR, meanwhile, has a maximum build volume of 355 x 254 x 355 mm and can process PC-ABS, Diran 410MF07 and ABS-ESD7, in addition to the materials compatible with the F190 CR.

Stratasys' FDM Nylon - CF10 material is more than 60% stronger and nearly three times as stiff as its base nylon material, and helps to build 'any geometry without restriction' when paired with Stratasys soluble support material. The new machines and material are available order immediately and expected to ship in June.

“Stratasys is providing manufacturers with the 3D printers and materials to support the growth of additive manufacturing on the factory floor, including these new printers that give manufacturers the ability to build stronger, print stiffer and print more accurately,” commented Dick Anderson, Senior Vice President, Manufacturing for Stratasys. “We have the verified and published data that proves these new printers have dimensional repeatability of up to 99% regardless of part size or geometric complexity. That, together with 99% uptime and unique service and support, gives manufacturers the confidence to accelerate their adoption of additive manufacturing.”

“I've been working in engineering for over 35 years, and I love to innovate – not just in new product development but also in the processes and tools we use to develop our products. For more than 20 years, Stratasys has allowed me to do just that through 3D printing,” added Dave Thompson, Vice President of Worldwide Engineering and Customer Care – Contractor Equipment Division for Graco, Inc., a global leader of fluid handling equipment based in Minneapolis and F370CR beta customer. “Over the years we have grown our fleet of Stratasys printers and expanded our applications beyond prototyping to tooling, fixtures and grippers for our robots. The new Stratasys F370CR printer will allow us to bring our AM applications to a new level, extend the life of our tools and even provide for a better surface finish.”

Husky launches new second - generation control algorithm that elevates performance of Altanium mould controller

Husky Technologies has announced the launch of a second - generation control algorithm for its line of Altanium mould controllers. The Advanced Reasoning Technology (ART 2.0) software delivers greater speed, accuracy, precision, and repeatability compared to today's existing temperature control systems.

ART 2.0 incorporates advanced auto - tuning and heat - up strategies which deliver higher out - of - the - box performance. It consistently delivers high accuracy and control precision, significantly reducing variability in the moulding process shot - after - shot and mould - after - mould. Test results show that ART 2.0 delivers up to 42 per cent faster heat - up times with 30 per cent less energy use.

Aurelien Bastien, Husky's President of Hot Runners, Controllers & Medical, said: “The all - new tuning and control solution enhances performance while increasing productivity and significantly impacting a moulder's bottom line.”

ART 2.0 includes two complementary heating solutions that upgrade Husky's original ART Classic control solution. The primary heating strategy is UniStart which offers uniform and homogeneous heating while promoting even thermal expansion of components in the hot runner. UniStart distinguishes itself by finding the right balance between applying full power to the slowest heating zone and controlling overshoot to minimise heat - up and stabilisation time.

CIRCULAR ECONOMY/ BIO-PLASTICS/ RECYCLING

Global Plastic Watch: How Satellite Technology is Helping Fight Pollution

Global Plastic Watch is a digital platform featuring an interactive map that provides access to information intended to help associations, NGOs and governments in the fight against plastic pollution. This tool allows actors in the domain to identify areas of plastic pollution around the world through the use of satellite images and artificial intelligence. Taking a few (giant) steps back in order to accelerate and optimize the fight against plastic pollution. This is the idea behind the Global Plastic Watch (GPW) Global Plastic Watch (GPW) platform, which maps areas of the world “in near real - time." Using satellite data from the European Space Agency, the interactive map is able to identify all kinds of areas where plastic pollution is spreading.

In a few clicks, it's possible to map out China where 415 sites are listed or India where 690 sites polluted with plastic appear, indicated by yellow markers on the map.

Upon closer look, the number of square meters or the proximity to bodies of water provide more precise indications of the locations. A timeline allows users to visualize changes from year to year. It's possible to make out a clean-up in an area like Pakur in the state of Jharkhand in India for example. The land - based plastic pollution represented more than 35,000 square meters in April 2016, while in June 2020, the GPW recorded only 5,000 square meters.

Southeast Asia is one of the most documented parts of the world. When eyes turn to Europe, for example, only Albania or Turkey are referenced. “So far, we have detected and confirmed 2,802 sites in 25 countries using the Global Plastic Watch tool. They include all of South - East Asia, Australia and the top 20 countries in annual plastic leakage into the oceans, according to the scientific publication 'Science Advances'," the Minderoo Foundation, which created the interactive GPW map, explains on its website.

All this information is essential in the fight against plastic pollution. By identifying sites, the platform helps governments, NGOs and associations in enforcing laws, cleaning up polluted areas, and making progress in waste management and recycling.

“We incubate innovations to reduce recycling costs, create alternatives to plastic and recover plastic that is already polluting our environment — particularly the ocean. Our aim is to enable businesses, governments, and consumers to take effective actions that end plastic pollution in a generation," outlines the Minderoo foundation.

(Source: News 18)

Dow Expands Its Project Reflex - Into New Markets

Dow has announced the expansion of its Project Reflex initiative in Egypt and Guinea, following a successful pilot phase

in Nigeria. The initiative aims to increase flexible packaging recycling in Africa to establish a market for recycled content. The project aims to improve waste management while providing job opportunities for local communities.

The project, which launched in 2020, targets explicitly flexible packaging such as plastic water sachets that ensure local communities have access to clean water, showing that it can be collected and recycled into new quality packaging applications.

Closed - loop system

Dow says the post - consumer recyclate (PCR) created in the pilot phase is currently being trialed by a large brand owner for use in some of their non - food packaging applications. If successful, this will be a live example of a closed - loop system for plastics in Africa, and further prove the commercial viability of PCR materials from flexible packaging waste.

Through Project Reflex, Dow aims to divert 10,000 metric tons of flexible packaging waste by 2025, which would otherwise end up in landfill or the environment, while also creating direct employment opportunities for over 50,000 waste collectors in Nigeria, Egypt and Guinea through innovative waste management company, Wecyclers.

So far, the project has diverted 520 metric tons of flexible packaging waste into mechanical recycling streams and new applications. The funding for Project Reflex comes from Dow's Business Impact Fund, a competitive grant program that allocates corporate contributions toward shared value projects to help address social problems through the company's technology and expertise.

Cross - level partnerships

The expansion into Egypt began in December 2021 with the company entering an 18 - month partnership with the international non - governmental organization, WasteAid, which shares waste management and recycling skills in lower - and middle - income countries to advance plastic waste recovery and recycling in Aswan.

Dow says the expansion strategy for Project Reflex will see similar partnerships with public, private and community - level actors in Egypt and Guinea to increase the collection and valorization of flexible plastic.

Socio - economic focus

The project is said to have a strong socio - economic focus, so in addition to providing expertise, funding and technology to bolster efforts to divert plastics waste from the environment, Dow and Wecyclers want to ensure that local communities in Africa are aware of the value these materials have and the income opportunities they can provide through collection, sorting and recycling.

By collaborating with individuals and organizations that are already supporting waste management infrastructure and recycling, Project Reflex is driving and scaling local, sustainable solutions for Nigeria, Egypt and Guinea. This project is aligned to Dow's global Stop The Waste environmental sustainability target which will enable the collection, reuse or recycling of one million metric tons of plastic globally by 2030.

Collaboration Creates Recycling Loop for Multilayer PET

The European Green Deal requires all packaging to be reusable or recyclable by 2030. The regulation is perceived as particularly challenging for multilayer packaging, since its layers first need to be separated before entering recycling streams.

A multilayer film produced by Evertis, comprising PET and PE layers, laminated with a BASF Epotal water - based adhesive and processed with a Bobst coating system, is produced for various applications, including thermo - formed food trays. After use, collected product can be used as a raw material by Sulayr. Sulayr has a process for separating the layers, recovering the PET for delivery to Evertis and other film producers. The process can be applied to both post - consumer and post - industrial product.

Sulayr has been able to separate multilayers since 2009, but the speed and cost - effectiveness

depends on the debonding of the films. The new Epotal® water-based adhesive from BASF simplifies the process, enabling quicker and easier separation than is possible with solvent-based adhesives.

BASF has another new adhesive type currently under development, which promises to make the delamination process even easier under certain conditions.

Chemical Recycling Of Plastic: Neste Acquires European Rights to Alterra Energy's Thermochemical Liquefaction Technology

Alterra Energy's industrial-scale waste plastics liquefaction unit in Akron, Ohio. Photo: Alterra Energy

Neste has purchased the European rights to Alterra Energy's liquefaction technology, further solidifying the company's efforts to advance chemical recycling. Alterra Energy is a US-based company that has developed a proprietary thermochemical solution for liquefaction of hard-to-recycle plastic. In Akron, Ohio, the company is already running an industrial-scale facility that transforms end-of-life plastics into an intermediate product, which can be further refined into raw material for new plastics and other petrochemical products.

In 2020, Neste acquired a minority stake in Alterra Energy. Neste has further processed liquefied waste plastic sourced from, among others, Alterra Energy in a series of trial runs at its refinery in Finland. Together with Ravago, Neste also plans to set up a joint venture to deploy the Alterra Energy technology in Vlissingen, the Netherlands. Furthermore, to scale up processing capacities for liquefied waste plastic at its Porvoo refinery in Finland, Neste is currently conducting a feasibility study to examine investing in proprietary pretreatment and upgrading capabilities. Through chemical recycling, the company aims to reduce dependence on virgin fossil resources and accelerate circularity in the production of polymers and chemicals.

Bringing together partners along the value chain.

With the clear target to process more than one million tons of waste plastic per annum from 2030 onwards, Neste continues engaging with companies along the plastics value chain. This includes upstream partners such as recycling companies and technology developers, but also chemicals production partners and brand owners looking for more sustainable, circular solutions.

The ongoing joint technology development between Neste and Alterra Energy and the continued processing of mixed plastic feeds in the Akron facility have given Neste confidence that the Alterra Energy technology is among the winning solutions for the liquefaction of waste plastic material.

While Neste has acquired the European rights to the technology, Alterra Energy will continue to operate independently in the rest of the world with the aim of commercializing the technology through licensing. As a partner and shareholder, Neste is committed to supporting the continuous development of Alterra Energy's technology, establishing it as one of the leading solutions in chemical recycling of plastic waste on a global level.

Plastic-eating enzyme 'takes plastic waste and makes it disappear'

There are more than 30 million tons of plastic waste sitting in American landfills. Those plastics can take hundreds of years to break down naturally.

A scientific breakthrough could help clean it up much faster. Through the use of plastic-eating enzymes, "we are able to take that plastic waste and make it disappear," according to Hal Alper, a researcher at the University of Texas at Austin.

"We have engineered an enzyme, which is a protein that can actually chew up P.E.T. plastic" Alper said. P.E.T. stands for polyethylene terephthalate.

"It's a major plastic found in containers, water bottles and the like," Alper said. "This enzyme goes in, chews it, and breaks it down to its monomers, which we can then use in various different ways."

In one study, researchers placed a large piece of plastic in a bath of enzyme solution. The enzyme broke down the plastic in less than 48 hours.

In one study, researchers placed a large piece of plastic in a bath of enzyme solution. The enzyme broke down the plastic in less than 48 hours.

"By breaking it back down to its starting points" with the enzyme, Alper said, "you can build it back up each and every time. You're making fresh P.E.T. plastic each and every time."

The idea of breaking down plastics with enzymes dates back to the 1990s. Until now, plastic - eating enzymes have worked at higher temperatures, which makes it difficult to consider them as a cost - effective solution on a large scale.

Alper and his team developed an enzyme that works at temperatures of -50 degrees Celsius. "The bigger challenge now is how to implement that," Alper said.

Unlike a sterile laboratory environment, landfills are recycling facilities are filled with "the gunk that's sitting in the recycling bin with food residue and other types of residues on it," Alper said. "How do you clean them up or separate the plastics so that we can then run a process on them?"

Solving these challenges could take several years. When these enzymes are ready for widespread use, they are expected to be a game changer. One study claims the enzymes will cut emissions from plastic facilities without raising the cost of production.

(Source: The Denver Channel)

Turning Waste Plastics into Resources: LG Chem- Sampyo Cement - Hyundai Rotem and More to Join Hands

- **On the 30th, LG Chem - Sampyo Cement - Hyundai Rotem - Korea Engineers Alliance - Korea Cement Association sign an MOU to establish an ecosystem with a virtuous cycle of converting waste plastics into resources.**

- **Using waste plastic byproducts for cement calcination process. To localize the materials, the companies attempt to develop fertilizers and semiconductor cleaning materials that are entirely dependent on imports**

- LG Chem: supports technology used to convert waste plastics into resources, develop high value - added products such as fertilizer ingredients.

- Sampyo Cement: increases the use of waste plastics as an alternative fuel to bituminous coal, promotes zero waste landfill.

- Hyundai Rotem: establishes a production facility that uses byproducts during cement manufacturing.

- Korea engineer Alliance: proposes and advertises effective policies to facilitate resource circulation.

- Korea Cement Association: expands a platform of converting waste plastics into resources to the entire Korean cement industry.

LG Chem will join hands with Sampyo Cement and other partners in the engineering industry to build an ecosystem of virtuous resource cycle that uses waste plastics.

On the 30th, LG Chem announced that it signed an MOU with Sampyo Cement- Hyundai Rotem - Korea Engineers Alliance - Korea Cement Association regarding "Establishing an ecosystem of virtuous resource cycle by using waste plastics as alternative fuels to produce cement"

Through the MOU, it is expected that byproducts from waste plastic incineration can be converted into raw materials for high value - added products. As of now, most cement companies use bituminous coal as its primary raw material. In recent days, waste plastics are gaining momentum as an alternative fuel as it contains high biomass and solves waste issues.

When waste plastics are burned, chlorine dusts are produced as byproducts. Chlorine dusts is classified as waste and difficult to recycle, therefore relying mainly on landfill. It comes with environmental burden and costs. The chlorine components hamper with the movement of raw materials as they get attached to the inner wall of cement preheater, thereby reducing facility utilization. The companies including LG Chem, Sampyo Cement, and Hyundai Rotem joined their hands to overcome the limits of existing processing technology on recycling chlorine dust.

Per MOU, Hyundai Rotem will convert chlorine dust into potassium chloride (KCl) by applying conversion technology that it secured through its

collaboration with Anytech Co., Ltd, a company that specializes in environmental facilities. The conversion technology will use carbon dioxide emitted during cement manufacturing processes so that it not only reduces greenhouse gas but resolves chlorine's attachment issues to increase the stability of cement manufacturing facility. Hyundai plans to supply chlorine dust processing facilities and potassium chloride production lines at Sampyo Cement's Samcheok factory.

By grafting chemical and physical technologies, LG Chem will support process technology that prevents chlorine from getting attached to the inner wall of heating furnace. The company will also provide technology to enhance stability of a facility that converts chlorine dusts into resources. By increasing the purity of potassium chloride that is produced through conversion process that turns it into a resource, the company plans to produce and localize high value-added products including potassium hydroxide (KOH) and potassium carbonate (K2CO3) that serve as raw materials for semiconductor washing materials. Potassium chloride, a raw material for KOH and K2CO3, is entirely dependent on imports as it is facing difficulties in localized manufacturing.

Sampyo Cement will actively use waste plastics as an alternative fuel to bituminous coal. The company will also promote zero waste landfill by optimizing both mineralization process of carbon dioxide and chlorine dust emitted from cement manufacturing process and operations of evaporative concentration process to produce potassium chloride.

Korea Engineers Alliance will propose effective policies to central and local governments as well as public institutions to facilitate resource circulation. Through lectures and such, the alliance will continue to promote the importance and necessity of resource circulation.

Korea Cement Association will expand its new platform of converting waste plastics into resources to the entire Korean cement industry. By advising the government on policies, it will seek improvements in various regulations that hinder the creation of new businesses.

New South West Implements Ban on Sup Bags Effective June

The Australian state of New South Wales (NSW) is implementing a ban on lightweight plastic bags from 1 June. The state government approved its Plastic Reduction and Circular Economy Act 2021 in November last year, followed by the introduction of the Plastics Action Plan.

The ban on lightweight plastic bags is part of NSW's wider plan to eliminate single - use plastic items and packaging, which currently account for 60% of all litter in the state. Over the next 20 years, NSW will be able to remove nearly 2.7 billion items of plastic litter from polluting the environment through this initiative.

Later this year, the state will extend the ban to several other plastic items, including single-use plastic straws, stirrers, cutlery, plates, bowls, cotton buds, expanded polystyrene food ware and cups, as well as rinse - off personal care products containing plastic microbeads.

Mozambique to Ban Use of Plastic Bags by 2024

The Mozambican government will ban the use of plastic bags by 2024, aiming to guarantee a better solid waste management in the country, said the Minister of Land and Environment Ivete Maibaze.

The policy making process should have started in 2020 but was postponed due to the COVID-19 pandemic, according to the minister who was speaking at a seminar on the socio - economic impact of the banning of plastic bags in Maputo.

Australia Reduces Plastics Litter on Beaches by 29 Per Cent Over Six Years

Plastic rubbish on Australia's beaches has declined by 29 per cent over six years thanks to a range of local council initiatives.

They found 29 per cent less plastic litter on average when they surveyed the beaches in 2019 compared with their previous survey in 2013. Some areas had even more impressive results, reducing the amount of plastic rubbish by up to 73 per cent. A minority went in the other direction, though, and had up to 93 per cent more litter.

The beaches with the biggest reductions were in areas where local councils had put in place certain initiatives. These included installing more bins, putting up

signs to remind people not to litter, setting up hotlines to allow reporting of illegal dumping, providing different bins for households to sort their waste, having schemes to pay people for handing in plastic bottles for recycling and organizing community clean-up activities.

New Bottle Bill Presented to Governor in Lowa for Approval

Iowa lawmakers have approved container deposit legislation that triples the bottle handling fee but allows grocery stores and other retail entities to opt out of the collection system, a fact that could significantly reduce redemption access.

The current deposit law allows consumers to return all carbonated and alcoholic beverage containers to grocery stores and other retailers, as well as redemption centers, to get back a 5 - cent deposit. Redemption centers and retailers currently get a 1-cent handling fee for any container they take in.

Henkel to Launch Plastic-Free Packaging

Germany - based chemical and consumer goods company Henkel has revealed plans to launch plastic - free blister packaging for its consumer adhesives portfolio worldwide. Made from at least 85% recycled paper, the plastic - free blister packs will be initially used for Henkel's Pritt glue brand.

The company will roll out the Pritt glue sticks with the new packaging at the start of its annual Back - to - School edition under the core theme of the sea over the coming months. Pritt also plans to launch the Back - to - School special edition glue sticks in metallic blue and orange colours.

Henkel will expand the sustainable packaging to its entire brand portfolio worldwide throughout the rest of this year. The initiative is in line with the company's sustainability and packaging targets for 2025 and aims to improve the recyclability of products to help create a circular economy.

It is expected to reduce 1,000t of plastic every year. Traditional Pritt sticks are made with 97% natural ingredients, including water, and have up to 65% recycled plastic in the stick.

Polymerman: How the UK plastics tax could impact recycled material prices

Mike Boswell looks at the new reality facing UK packaging firms post - April 1st, and asks how it might affect pricing. The UK was the first European country to implement a plastics packaging tax on April 1st 2022. Other countries including Italy and Spain have delayed the implementation of similar tax regimes until 2023 and other governments are likely to implement similar levies in the near future. In the case of the UK Packaging Tax, there has been widespread criticism that none of the substantial tax income received by HM Treasury will be directly applied to supporting the recycling of UK plastics packaging waste. Instead, HM Treasury has put forward the argument that the tax itself will serve as a sufficient incentive, and that if this is not the case then the tax will be increased further in order to achieve higher rates of recycling. This article considers the economics of this argument, and the risks that higher rates of tax applied by other countries may deprive UK plastic converters wishing to incorporate 30%+ of recycled content of UK produced recycled feedstock.

The question of the packaging tax itself being a significant incentive can be considered using the following equation:

Total Cost[1] of including 30% recycled material </= Cost of virgin material + tax[2]

1. Total Cost needs to include the cost of the recycled material taking account of any productivity gains or losses and any other associated cost premiums or savings.
2. Packaging Tax is currently £200 per tonne

In the event that demand for recycled material exceeds supply (this is already evident, and a situation that is likely to persist)

the price of recycled materials relative to virgin materials could increase significantly, which would mean that HM Treasury is correct in its assertion that the tax in and of itself is an incentive to increase recycling rates.

Higher packaging tax rates in other countries may lead to a 'recycled material drain', depriving UK plastic converters of recycled content.

Where recycled content is not suitable for applications, converters will simply pay the tax and pass the premium down through the supply chain.

The packaging tax will almost certainly cause an incremental cost increase for plastics packaging, irrespective of reaching a 30% recycled threshold, or not.

Nova Chemicals Expands its HDPE Resins for Oriented Film Structures to Advance a Plastics Circular Economy

NOVA Chemicals Corporation ("NOVA Chemicals") is introducing new resin technology for machine direction oriented (MDO) and biaxially oriented (BO) processes to help its customers and brand owners meet their sustainability goals. NOVA Chemicals' innovative technology marks a major advancement in the pursuit of a plastics circular economy, as it enables recyclable all - polyethylene (PE) packaging. NOVA Chemicals' highly specialized HDPE resin, SURPASS® HPs153-A, is now available to produce 100% high - density MDO films. Due to the broad orientation window, HPs153-A exhibits exceptional stability during production run or manufacturing on commercial scale inline MDO blown film equipment. MDO - HDPE films can be used to replace BOPP and BOPET to produce fully recyclable all - PE laminates with high stiffness to maintain registration for printing and converting, excellent heat resistance to minimize shrinkage during packaging conversion, and outstanding clarity.

Advancing a Circular Economy

Oriented film structures allow easy-to-recycle all-PE packaging to replace traditional mixed material packaging which is not recyclable. In addition, orientation of PE films allows for property improvements otherwise not attainable in blown or cast films such as enhanced stiffness, toughness, and optical properties. Oriented films are ideal for use in food packaging, heavy duty shipping sacks, e-commerce and other demanding applications.

"NOVA Chemicals has a bold ambition to create a circular economy for plastic materials," said Owen Lightbody, application development and circular economy leader, NOVA Chemicals. "Being able to produce HDPE - based oriented films is a significant step towards our industry's goal of 100% recyclable packaging."

Ineos Olefins and Polymers Europe Joins the HolyGrail 2.0 Initiative for Recycling Plastic Waste

The company has joined the Digital Watermark Initiative to improve the sorting and recycling of plastic waste.

Ineos Olefins and Polymers Europe has joined the Digital Watermarks Initiative HolyGrail 2.0 to significantly improve the sorting and recycling of plastic packaging waste. The initiative aims to address and improve how plastic waste is sorted into different types, making the recycling of household plastic waste far more efficient.

The Digital Watermarks Initiative HolyGrail 2.0 is pioneering a ground - breaking technology. Digital watermarks are imperceptible codes which cover the surface of the packaging. They are around the size of a postage stamp, imperceptible to the human eye, but detectable by special cameras linked to high - speed waste sorting systems.

The HolyGrail 2.0* initiative will provide the whole packaging value chain with a robust, cost-effective, and easily scalable system to optimise the sorting of post - consumer plastics packaging and improve the quality of the recycled product.